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Principal & Director

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February 4, 2023

Mr. Scott D. Fogelsanger
Senior Manager - Business Development
Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

RE: UVE Market Value Appraisal of Butler Area Sewer Authority (BASA)'s Wastewater Collection and Treatment System

Enclosed is Weinert Appraisal and Depreciation Services, LLC's (WAD Consultants) fair market value appraisal report for Butler Area Sewer Authority (BASA)'s Wastewater Collection and Treatment System (System) as of October 11, 2022, prepared for Pennsylvania American Water Company (PAWC). The report was prepared based on the 2020-2021 Uniform Standards of Professional Practices (USPAP)[1] and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) Paragraph 1329 "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

Based on our appraisal the Fair Market Value of BASA's wastewater System's property, plant, and equipment operating as a Pennsylvania rate regulated wastewater utility is $246,178,265 determined based on the cost, income, and market approaches to value, as detailed in the following table:

[1] The Appraisal Foundation has extended the applicability of the 2020-2021 Edition of USPAP until December 31, 2023.

Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022
Fair Market Value Appraisal

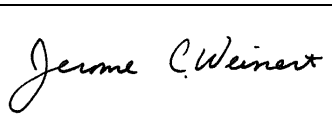
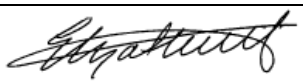
Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		144,573,880		
Depreciated Original Cost ($OCLD)		90,190,859		
Intangible Assets (Treatement contracts)		-		
Cost Approach of all assets Conclusion		90,190,859		
Replacement Cost				
Replacement Cost New (COR)		525,870,564		
Depreciated Replacement Cost New (CORLD)	**$**	**240,895,239**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	**$**	**240,895,239**		
Intangible Assets (Treatement contracts)	$	-		
Cost Approach of all assets Conclusion		**240,895,239**		
Cost Approach Conclusion		**240,895,239**	**50%**	**120,447,620**
Income Approach				
Required Rate Increases: 65% period 2, 50% period 4, 10% period 6, 20% period 8, 10% period 10 and 6% every 2nd year beginning in period 12 (Input 6)		259,277,679		
Income Approach Conclusion		**259,277,679**	**40%**	**103,711,072**
Market Approach				
Market Comparables (to)				
OCLD		162,091,011		
CORLD		205,628,176		
Customers		238,398,093		
Cash Flows (EBITDA) Periods 1-5		285,929,876		
Cash Flows (EBITDA) Periods 1-13		264,979,858		
Market Financials (to)				
OCLD		164,147,363		
Market Approach Conclusion		**220,195,730**	**10%**	**22,019,573**
Appraisal Conclusion	**$**	**246,178,265**	**100%**	**246,178,265**
Conclusion (cost approach)	$	**240,895,239**		

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As the purpose of this appraisal was to fulfill the requirements of Act 12 in the establishment of value for rate making of the BASA's wastewater collection system's property, plant and equipment the appraisal's conclusion of $246,178,265 is consistent with the purpose of this appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

Respectfully Submitted,
WAD Consultants, Depreciation & Valuation
February 4, 2023

By:

	
Jerome C. Weinert, ASA, P.E., CDP Principal and Director	Elizabeth A. Weinert Associate

ASA: Accredited Senior Appraiser in the Machinery and Equipment (Public Utilities) discipline of the American Society of Appraisers
P.E.: Registered Professional Engineer State of Wisconsin
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Butler Area Sewer Authority's
Wastewater Collection and Treatment System

Fair Market Value Appraisal Report
As of October 11, 2022
for
Pennsylvania American Water Company

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February 4, 2023

Pennsylvania American Water Company
Mechanicsburg, Pennsylvania

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RE: UVE Market Value Appraisal of Butler Area Sewer's Wastewater Collection and Treatment System

Enclosed is Weinert Appraisal and Depreciation Services, LLC's (WAD Consultants) fair market value appraisal report of the Butler (Pennsylvania) Area Sewer Authority's wastewater collection and treatment system (System) as of October 11, 2022, prepared for our client Pennsylvania American Water Company (PAWC). The report was prepared based on the 2020-2021 Uniform Standards of Professional Practices (USPAP)[2] and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated (PA CS) Statues Section 1329 "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

Based on our appraisal, the Fair Market Value of the BASA's wastewater system's property, plant, and equipment operating as Pennsylvania rate regulated wastewater utility is $246,178,265 determined based on the cost, income, and market approaches to value, as detailed in the following table:

[2] The Appraisal Foundation has extended the applicability of the 2020-2021 Edition of USPAP until December 31, 2023.

Butler Area Sewer Authority (BASA)
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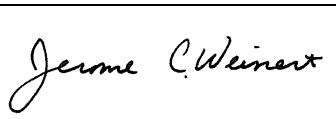
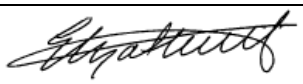
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Appraisal Conclusion	**$**	**246,178,265**	**100%**	**246,178,265**
Conclusion (cost approach)	**$**	**240,895,239**		

WAD CONSULTANTS

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the BASA's wastewater system's property, plant and equipment this appraisal's conclusion of $246,178,265 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property, this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

Respectfully Submitted,
WAD Consultants, Depreciation & Valuation
February 4, 2023

By:

	
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P.E.: Registered Professional Engineer State of Wisconsin
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APPRAISAL CERTIFICATION
for the Fair Market Appraisal of
Butler Area Sewer Authority's
Wastewater Collection and Treatment System
As of October 11, 2022
Prepared for
Pennsylvania American Water Company

WAD Consultants, Depreciation & Valuation, certifies that, to the best of its knowledge and belief:

- The statements of fact contained in this report are true and correct.

- Prior to this appraisal during the last three-year period, WAD Consultants has previously appraised these properties.

- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.

- Neither WAD Consultants, Depreciation & Valuation, nor its professional staff has no present or prospective interest in the property that is the subject of this report and has no personal interest with respect to the parties involved.

- Neither WAD Consultants, Depreciation & Valuation, nor its professional staff has any bias with respect to the property that is the subject of this report or to the parties involved.

- Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

- Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice 2020-2021 Edition.

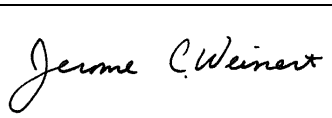
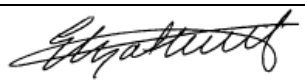
- The signers of this report have not made personal inspections of the property that is the subject of this report.

- No individuals provided significant professional assistance to the persons signing this report. However, Scott Fogelsanger of Pennsylvania American Wastewater Company provided assistance in obtaining information and data from the Butler Area Sewer Authority and the Engineer's Assessment report prepared by Herbert, Rowland, & Grubic, Inc. Engineers which was the inventory starting point of the Cost Approach.

WAD CONSULTANTS

WAD Consultants, Depreciation & Valuation
Febuary 4, 2023

By:

	
Jerome C. Weinert, AM, P.E., CDP Principal and Director	Elizabeth A. Weinert Associate

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WAD CONSULTANTS

NARRATIVE REPORT

EXECUTIVE SUMMARY

The purpose of this value appraisal is the determination of the fair market value of the property plant and equipment of the Butler Area Sewer Authority's (BASA) wastewater collection and treatment system (System) for our client Pennsylvania American Water Company (PAWC). The report was prepared based on the 2020-2021 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues Paragraph 1329: "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12) and the Pennsylvania Public Utility Commission's Final Implementation Order M-2016-2543193 adopted October 27, 2016. The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission (PA PUC).

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress." The Appraisal of Real Estate, 14th Edition, page 58.*

In arriving at our opinion of value of the System's property, plant, and equipment as it is operated as an investor-owned Pennsylvania PUC rate regulated wastewater utility the cost, income, and market approaches to value were considered. Detailed explanations of each approach to value are included below in the section "Appraisal Procedures and Results". The following summarizes the data, analysis and conclusions of each of those valuation approaches.

Cost Approach - The philosophy in the cost approach to value is that the maximum value of a property's tangible assets is established by the cost to acquire or build a similar property. In this appraisal, the cost approach to value was analyzed using reproduction/replacement cost approach.

Reproduction cost and replacement cost are defined as:

> Reproduction cost – "Reproduction cost is the estimated cost to construct, as of the effective appraisal date, an exact duplicate or replica of the building [property] being appraised, insofar as possible, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, super-adequacies, and obsolescence of the subject improvements [property]."[3]
>
> Replacement cost – "Replacement cost is the estimated cost to construct, as of the effective appraisal date, a substitute for the building [property] being appraised using contemporary materials, standards, design and layout. When this cost basis is used, some existing obsolescence in the property may be cured. Replacement cost may be the only alternative if reproduction cost cannot be estimated"[4]
>
> In the wastewater industry the property's reproduction costs and replacement costs are quite similar; therefore, the most of the property's cost new was determined based on its reproduction/replacement cost new. However, for the easements and land the replacement cost were developed based on current costs.

The trended original cost method was utilized in preparing the replacement cost new. "Trending is a method of estimating a property's replacement cost new in which an *index* or *trend factor* is applied to the property's *historical costs* to convert the known historical costs into an indication of current (appraisal date) costs. Simply put, trending reflects the movement of price over time."[5] In the trended original cost method, BASA's investment in wastewater collection plant and equipment is restated to costs reflective of the appraisal date, by the application of cost trends to the property's original investment. WAD Consultants utilized the Engineer's Assessment performed by Herbert, Rowland, & Grubic, Inc. Engineers Assessment (Engineer's Assessment tab) as the starting point of the Cost Approach. Utilizing the Engineer's Assessment WAD Consultants developed the System's original cost less depreciation (OCLD) and replacement cost new less depreciation (CORLD) in property, plant and equipment on October 11, 2022 (Cost Approach tab).

[3] The Appraisal of Real Estate, 14th Edition. pages 569-570
[4] Ibid, page 570
[5] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Third Edition. Page 50

The cost trends were applied to each of the System's various investment categories (NARUC plant accounts) by original year of placement for that investment. The cost indexes used in these studies were the Handy-Whitman Index of Public Utility Construction Costs for the water industry in the northeastern region of the United States which includes the Commonwealth of Pennsylvania, the AUS General Plant Indexes, and various United States Bureau of Labor Statistics (US BLS) indexes as detailed in the following table:

1	2	3	4	5	6	7
Pennsylvania American Water Company **Butler Area Sewer Authority (BASA)** **Wastewater System** **Investor-Owned Utility** **October 11, 2022**						

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(3)				
		(3a)	(3b)	(3c)	(3d)	(3e)
Account Number	Description	Costing Parameters				Reproduction to Replacement Cost Factor
		Index Series	Table	Line Reference	Lookup	AUS Input
353.00	Land & Land Rights	USBLS	PPI	3.00	USBLS3	1.00
354.00	Stuctures & Improvements	HW	W-1	15.00	HWW-115	1.00
354.30	Stuctures & Improvements - Pumping	HW	W-1	8.00	HWW-18	1.00
355.00	Generating Equipment	USBLS	PPI	4.00	USBLS4	1.00
355.10	Generating Equipment - Pumping	USBLS	PPI	4.00	USBLS4	1.00
360.10	Collection Sewers - Force - Mains - CIP	HW	W-1	35.00	HWW-135	1.00
361.10	Collection Sewers - Gravity - Mains	HW	W-1	44.00	HWW-144	1.00
361.12	Collection Sewers - Gravity - Mains Relined	HW	W-1	44.00	HWW-144	1.00
361.15	Collection Sewers - Gravity - Mains Relining	HW	W-1	38.00	HWW-138	1.00
361.20	Collection Sewers - Gravity - Manholes	HW	W-1	45.00	HWW-145	1.00
363.00	Service Laterals	HW	W-1	39.00	HWW-139	1.00
364.00	Flow Measuring Devices	HW	W-1	40.00	HWW-140	1.00
371.00	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
371.10	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
380.00	Treatment and Disposal Equipment	HW	W-1	17.00	HWW-117	1.00
380.10	Equipment Pump Stations	HW	W-1	9.00	HWW-19	1.00
390.10	Office Computer Equipment	AUS	T-1	14.00	AUST-114	1.00
390.20	Office Printers	AUS	T-1	13.00	AUST-113	1.00
390.30	Office Equipment	AUS	T-1	13.00	AUST-113	1.00
391.00	Transportation Equipment	AUS	T-1	4.00	AUST-14	1.00
395.00	Power Operated Equipment	AUS	T-1	8.00	AUST-18	1.00
396.00	Communications Equipment	USBLS	PPI	2.00	USBLS2	1.00
397.00	Miscellaneous Equipment	AUS	T-1	8.00	AUST-18	1.00

Using the trended original cost method, the System's investment in plant, property, and equipment of $144,573,879.71 was determined to have a reproduction cost new of $525,870,564 and a replacement cost new of $525,923,396 as summarized in the following table:

1	2	3	9	10	13	14	15	16

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15) Reproduction Cost New (RCN) to Replacement Cost New (COR)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)		Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt NARUC Code	AUS Input NARUC Code	Borough of Baldwin Asset Description	Eng Assmnt Original Cost	AUS Input Cost Index Table	Translator	RCN	AUS Input COR / RCN Factor	Col (14) * (15) COR
353.00	353.00	Land & Land Rights	592,540.92	USBLS3	23.772	14,085,768	1.00	14,138,600
354.00	354.00	Stuctures & Improvements	18,861,944.91	HWW-115	4.237	79,912,801	1.00	79,912,801
354.00	354.30	Stuctures & Improvements - Pumping	31,007,896.11	HWW-18	1.491	46,218,129	1.00	46,218,129
355.00	355.00	Generating Equipment	590,906.80	USBLS4	1.612	952,830	1.00	952,830
355.00	355.10	Generating Equipment - Pumping	1,112,785.36	USBLS4	1.244	1,384,612	1.00	1,384,612
360.00	360.10	Collection Sewers - Force - Mains - CIP	4,583,561.30	HWW-135	3.370	15,447,522	1.00	15,447,522
361.00	361.10	Collection Sewers - Gravity - Mains	31,448,751.16	HWW-144	5.030	158,177,377	1.00	158,177,377
361.00	361.12	Collection Sewers - Gravity - Mains Relined	568,769.65	HWW-144	35.215	20,029,223	1.00	20,029,223
361.00	361.15	Collection Sewers - Gravity - Mains Relining	10,584,527.19	HWW-138	1.349	14,275,316	1.00	14,275,316
361.00	361.20	Collection Sewers - Gravity - Manholes	7,337,651.29	HWW-145	3.563	26,147,473	1.00	26,147,473
363.00	363.00	Service Laterals	8,568,747.97	HWW-139	5.488	47,022,674	1.00	47,022,674
364.00	364.00	Flow Measuring Devices	300,000.00	HWW-140	2.316	694,650	1.00	694,650
371.00	371.00	Pumping Equipment	467,574.00	HWW-19	3.427	1,602,159	1.00	1,602,159
371.00	371.10	Pumping Equipment	6,954,252.19	HWW-19	6.071	42,215,985	1.00	42,215,985
380.00	380.00	Treatment and Disposal Equipment	15,729,809.83	HWW-117	3.093	48,645,641	1.00	48,645,641
380.00	380.10	Equipment Pump Stations	2,675,250.00	HWW-19	2.036	5,445,824	1.00	5,445,824
390.00	390.10	Office Computer Equipment	43,961.00	AUST-114	0.649	28,524	1.00	28,524
390.00	390.20	Office Printers	43,201.00	AUST-113	1.036	44,755	1.00	44,755
390.00	390.30	Office Equipment	12,178.00	AUST-113	1.020	12,425	1.00	12,425
391.00	391.00	Transportation Equipment	784,172.00	AUST-14	1.133	888,145	1.00	888,145
395.00	395.00	Power Operated Equipment	1,134,169.60	AUST-18	1.293	1,466,657	1.00	1,466,657
396.00	396.00	Communications Equipment	1,111,618.35	USBLS2	0.994	1,104,536	1.00	1,104,536
397.00	397.00	Miscellaneous Equipment	59,611.08	AUST-18	1.133	67,538	1.00	67,538
		Grand Total	144,573,879.71		3.637	525,870,564	1.00	525,923,396

Easement - For easement, the appraisal date cost to obtain and register an easement was developed as follows:

Current cost of Easements

Activity	Engineer	Legal	Fees	Total
Determine the facilities for which a Easment is need	1	0	0	
Locate the Land owner for the property needing a easement	1	1	0	
Develop a diagram o the Property, the facilities, and the easement	2	0	0	
Develop the easement document	1	1	0	
Visit the property owner to obtain permission for the easement and sign the easment documentation	4	0	0	
Register the easement with the Municipal Clerk	0	1	250	
Total	9	3	250	
Labor Costs per Hour	60.48	112		
Total Cost	544.32	336	250	1,130

Land - For the land associated with the BASA's wastewater system appraisal date value was determined based on $181,263 per acre based on market sales and offerings in the Butler Pennsylvania area.

Butler Area Sewer Authority	Report Date	Low	1/30/2023 Average	Median	High	Count
Price						
For sale & UC/Pending	$	99,900	$ 1,069,079	$ 850,000	$ 2,950,000	45
Sold Transactons	$	65,000	$ 1,366,978	$ 725,000	$ 12,250,000	29
Parcel Size (acres)						
For sale & UC/Pending		1	10.62	4.55	90	57
Sold Transactons		1	8.7	4.7	40	33
Price per Acre						
For sale & UC/Pending	$	8,833	$ 116,565	$ 182,672	$ 696,721	45
Sold Transactons	$	3,750	$ 185,526	$ 181,263	$ 1,195,648	24
Days on the Market						
For sale & UC/Pending		7	1,565	948	6,020	57
Sold Transactons		41	1,035	748	3,359	22
Sale Price to Asking Price Ratio						
Sold Transactons		45.54%	83.95%	86.17%	100.00%	11.00

The individual land sales are contained in the Costing section of the workpapers.

Replacement Cost New Less Depreciation - The replacement cost described above reflects the cost of new property; however, BASA wastewater system property is not new and has experienced normal depreciation and potentially functional and/or economic obsolescence. These various forms of depreciation are defined as follows:

> Normal depreciation/deterioration, akin to physical deterioration, is "loss in value caused by wear, tear, age and use."[6]
>
> Functional obsolescence is "the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient of less costly replacement property that new technology has developed."[7]
>
> Economic, or external, obsolescence is defined as "a loss in value caused by factors outside a property"[8] and is most often indicated by insufficient earning.

Based on our experience in regard to water and wastewater depreciation studies and our analysis of BASA's wastewater system operating performance; we found that the wastewater utility's property experiences normal depreciation but not any significant functional obsolescence; economic obsolescence is best evaluated after the results of the income and market approaches to values are determined (see Cost Approach Revisited).

The service lives used in the depreciation and functional obsolescence calculations were developed based on the property and its use, WAD Consultants' experience in developing depreciation studies for the water and wastewater industries and depreciation studies filed with PAWC and Aqua America rate cases. With each of their recent rate case filings PAWC and Aqua America have filed depreciation studies in support of their depreciation service lives and associated depreciation expenses

[6] The Dictionary of Real Estate Appraisal, 4th Edition
[7] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 67.
[8] The Appraisal of Real Estate, 13th Edition, page 442.

contained within their revenue requirements. The depreciation studies were prepared by Gannett Fleming Rate Consultants a recognized firm in the depreciation consulting area. WAD Consultants has reviewed the PAWC studies which are summarized in the following table:

9 10 11 12 13

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)	(4a)	(4b)	(5)	(6)	(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve		Normal Service Life	Economic Obsolescence	Tax Depreciation		
				years	% of CORLD	Table		Life
353.00	Land & Land Rights	ZNonDep		0.00	0.00%	Non-Depr		0.00
354.00	Stuctures & Improvements	R4.0		55.00	0.00%	MACRS		25.00
354.30	Stuctures & Improvements - Pumping	R4.0		45.00	0.00%	MACRS		25.00
355.00	Generating Equipment	R3.0		35.00	0.00%	MACRS		25.00
355.10	Generating Equipment - Pumping	R3.0		35.00	0.00%	MACRS		25.00
360.10	Collection Sewers - Force - Mains - CIP	R3.0		75.00	0.00%	MACRS		25.00
361.10	Collection Sewers - Gravity - Mains	R2.5		80.00	0.00%	MACRS		25.00
361.12	Collection Sewers - Gravity - Mains Relined	R2.5		140.00	0.00%	MACRS		25.00
361.15	Collection Sewers - Gravity - Mains Relining	R2.5		60.00	0.00%	MACRS		25.00
361.20	Collection Sewers - Gravity - Manholes	R2.5		80.00	0.00%	MACRS		25.00
363.00	Service Laterals	R3.0		50.00	0.00%	MACRS		25.00
364.00	Flow Measuring Devices	S2.0		30.00	0.00%	MACRS		25.00
371.00	Pumping Equipment	R3.0		35.00	0.00%	MACRS		25.00
371.10	Pumping Equipment	R3.0		35.00	0.00%	MACRS		25.00
380.00	Treatment and Disposal Equipment	R2.0		45.00	0.00%	MACRS		25.00
380.10	Equipment Pump Stations	R3.0		35.00	0.00%	MACRS		25.00
390.10	Office Computer Equipment	R3.0		8.00	0.00%	MACRS		12.00
390.20	Office Printers	R3.0		12.00	0.00%	MACRS		12.00
390.30	Office Equipment	R3.0		12.00	0.00%	MACRS		12.00
391.00	Transportation Equipment	R3.0		15.00	0.00%	MACRS		10.00
395.00	Power Operated Equipment	R3.0		15.00	0.00%	MACRS		15.00
396.00	Communications Equipment	R3.0		12.00	0.00%	MACRS		12.00
397.00	Miscellaneous Equipment	R3.0		20.00	0.00%	MACRS		20.00

Normal Depreciation – The extent of the normal depreciation in the property was evaluated using age-life depreciation techniques. In age-life depreciation, the property's depreciation or condition is estimated using the following formulas:

$$\text{Depreciation (\%)} = \frac{\text{Age (years) x100\%}}{\text{Service Life (years)}}$$

$$\text{Condition (\%)} = \frac{\text{Remaining Life (years) x (100\%)}}{\text{Service Life (years)}}$$

where: the property's Service Life = Age + Remaining Life and
Remaining Life = *f*(Survival Characteristic, Service Life, and Age)

However, due to the age of some of the assets the extent of the depreciation was limited to 85% of the asset's original cost and its replacement cost new.

When the above depreciation lives are used to quantify the property's depreciation is applied to the replacement cost new (COR) of $525,923,396 the resultant COR less normal depreciation (CORLD) was found to be $240,895,239 detailed as follows:

18	19	21	22	23	24	28	29	30	31
Pennsylvania American Water Company **Butler Area Sewer Authority (BASA)** **Wastewater System** **Investor-Owned Utility** **As of October 11, 2022**									
Replacement Cost New less Depreciation (RCNLD)									
(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at October 11, 2022 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Borough of Baldwin		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.00	Land & Land Rights	3.98	14,138,600	ZNonDep	-	-	-	-	14,138,600
354.00	Stuctures & Improvements	40.34	79,912,801	R4.0	55.00	18.92	59.26	55.00	26,702,596
354.00	Stuctures & Improvements - Pumping	9.43	46,218,129	R4.0	45.00	35.63	45.06	45.00	36,625,003
355.00	Generating Equipment	19.77	952,830	R3.0	35.00	17.07	36.83	35.00	443,498
355.00	Generating Equipment - Pumping	11.20	1,384,612	R3.0	35.00	24.55	35.75	35.00	954,182
360.00	Collection Sewers - Force - Mains - CIP	34.25	15,447,522	R3.0	75.00	43.82	78.07	75.00	8,730,174
361.00	Collection Sewers - Gravity - Mains	48.80	158,177,377	R2.5	80.00	38.86	87.65	80.00	71,152,734
361.00	Collection Sewers - Gravity - Mains Relined	90.74	20,029,223	R2.5	140.00	63.22	153.96	140.00	8,227,166
361.00	Collection Sewers - Gravity - Mains Relining	12.88	14,275,316	R2.5	60.00	48.28	61.16	60.00	11,275,266
361.00	Collection Sewers - Gravity - Manholes	48.53	26,147,473	R2.5	80.00	39.61	88.14	80.00	12,072,354
363.00	Service Laterals	54.14	47,022,674	R3.0	50.00	13.67	67.82	50.00	12,204,228
364.00	Flow Measuring Devices	22.02	694,650	S2.0	30.00	11.52	33.54	30.00	240,801
371.00	Pumping Equipment	22.60	1,602,159	R3.0	35.00	14.98	37.58	35.00	640,612
371.00	Pumping Equipment	39.31	42,215,985	R3.0	35.00	8.42	47.73	35.00	10,087,975
380.00	Treatment and Disposal Equipment	30.65	48,645,641	R2.0	45.00	21.85	52.50	45.00	21,299,805
380.00	Equipment Pump Stations	8.22	5,445,824	R3.0	35.00	26.93	35.15	35.00	4,172,881
390.00	Office Computer Equipment	2.85	28,524	R3.0	8.00	5.41	8.26	8.00	18,982
390.00	Office Printers	8.95	44,755	R3.0	12.00	4.44	13.40	12.00	15,309
390.00	Office Equipment	2.38	12,425	R3.0	12.00	9.73	12.11	12.00	9,989
391.00	Transportation Equipment	7.84	888,145	R3.0	15.00	8.00	15.84	15.00	461,896
395.00	Power Operated Equipment	12.73	1,466,657	R3.0	15.00	7.66	20.39	15.00	739,488
396.00	Communications Equipment	7.77	1,104,536	R3.0	12.00	6.84	14.62	12.00	622,435
397.00	Miscellaneous Equipment	3.54	67,538	R3.0	20.00	17.61	21.15	20.00	59,265
	Grand Total	40.11	525,923,396		61.72	29.07	69.08	45.80	240,895,239

The preliminary cost approach to value of BASA's tangible wastewater system property was found to be $240,895,239.

Income Approach

The income approach to value establishes the value of the property based on its economic returns. There are two generally accepted procedures in performing an income analysis: the direct capitalization of anticipated income, and the discounted cash flow procedures.

In the direct capitalization approach, anticipated earnings are capitalized directly into value using a market-required capitalization rate. The BASA's wastewater system's operation will be moving from a municipal operation, wherein economic returns are not the primary objective of the operation to a private (investor owned) rate regulated sewer utility operation in which economic returns are one of the objectives of the operation; therefore, the direct capitalization of earnings approach was not utilized in this appraisal.

In the discounted cash flow (DCF) approach, the property's economic returns are forecast for future periods. The cash flows (debt-free after-tax net cash flows) from operations are discounted to the appraisal date using a market derived discount rate resulting in the DCF approach's income indicator of value. Use of the DCF approach allows the appraiser to address the property's historical operating experience and its migration, in future periods, to an operation as a rate regulated income taxed (local, state, and federal) operation; thus, making the DCF approach preferable in this case.

In preparing this appraisal's DCF analysis (Income Approach tab), first the results from the Basa's wastewater system's operations were evaluated based on an analysis of historical operating performances over the period 2015 through budgetary 2023 (Financials tab) resulting in operating statistics such as revenues and their growth, various operating expenses stated as function of their typical drivers (revenues, plant investment, income from operations, etc.). Next, the results of future periods operations were forecast for a period of 20 years based on the migration of the BASA's historical operations over time to operations of the wastewater operation similar to a public investor-owned water/wastewater utility. Finally, the resultant cash flows from future period operations on the System were discounted to the appraisal date using a market derived discount rate for a public investor-owned water/wastewater utility. The following

table details the market discount rate developed using the weighted average cost of capital (WACC) of the market debt and equity:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	32%	Market	5.32%	Market	28.89%	71.11%	1.21%
Equity	68%	Market	9.75%	Market	0.0%	100.0%	6.63%
Total Capital r	**100.0%**						**7.84%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**4.76%**

The following table presents the results of the discounted cash flow analysis:

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Discounted Cash Flow Analysis

Discount Rate: 7.84%
Capitalization Rate: 4.76%

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	12,752,000	12,830,907	9,178,847	(78,907)	(9,257,754)	(2,674,565)	10,830,864	-	(8,235,206)	0.963	(7,930,503)	(7,930,503)
2	1.5	21,040,800	12,764,804	9,582,429	8,275,996	(1,306,433)	(377,428)	11,075,651	339,841	(2,762,068)	0.893	(2,466,526)	(10,397,029)
3	2.5	21,040,800	12,742,504	10,004,884	8,298,296	(1,706,588)	(493,033)	11,322,571	-	(2,531,242)	0.828	(2,095,868)	(12,492,897)
4	3.5	31,561,200	12,780,373	10,447,070	18,780,827	8,333,757	2,407,622	11,575,526	431,336	4,366,343	0.768	3,353,352	(9,139,545)
5	4.5	31,561,200	12,869,473	10,909,720	18,691,727	7,782,007	2,248,222	11,834,672	-	4,608,833	0.712	3,281,489	(5,858,056)
6	5.5	41,029,560	12,935,902	11,393,593	28,093,658	16,700,065	4,824,649	12,100,168	388,203	10,780,638	0.660	7,115,221	1,257,165
7	6.5	41,029,560	13,047,580	9,982,089	27,981,980	17,999,891	5,200,169	5,660,003	-	17,121,808	0.612	10,478,546	11,735,711
8	7.5	49,235,472	12,914,338	10,161,694	36,321,134	26,159,440	7,557,462	5,702,453	336,443	22,724,776	0.568	12,907,673	24,643,384
9	8.5	49,235,472	12,853,388	10,344,325	36,382,084	26,037,759	7,522,308	5,745,220	-	23,114,556	0.526	12,158,256	36,801,640
10	9.5	54,159,019	12,879,562	10,530,018	41,279,457	30,749,440	8,883,513	5,788,309	201,865	26,405,770	0.488	12,886,016	49,687,656
11	10.5	54,159,019	12,874,551	10,718,808	41,284,468	30,565,659	8,830,419	5,831,721	-	26,622,328	0.453	12,059,914	61,747,570
12	11.5	57,408,560	12,934,011	10,910,732	44,474,549	33,563,817	9,696,587	5,875,459	133,231	28,769,272	0.420	12,083,094	73,830,664
13	12.5	57,408,560	12,977,199	11,022,671	44,431,361	33,408,690	9,651,771	5,919,527	-	28,860,063	0.389	11,226,565	85,057,229
14	13.5	60,853,074	13,117,643	11,219,639	47,735,431	36,515,793	10,549,413	5,963,923	141,225	31,080,870	0.361	11,220,194	96,277,423
15	14.5	60,853,074	13,185,707	11,419,827	47,667,367	36,247,540	10,471,914	6,008,651	-	31,186,802	0.335	10,447,579	106,725,002
16	15.5	64,504,258	13,323,552	11,576,158	51,180,706	39,604,548	11,441,754	6,053,717	149,698	33,535,537	0.310	10,396,016	117,121,018
17	16.5	64,504,258	13,401,365	11,782,049	51,102,893	39,320,844	11,359,792	6,099,119	-	33,643,982	0.288	9,689,467	126,810,485
18	17.5	68,374,513	13,554,963	11,991,261	54,819,550	42,828,288	12,373,093	6,144,863	158,681	36,142,913	0.267	9,650,158	136,460,643
19	18.5	68,374,513	13,776,850	12,203,830	54,597,663	42,393,833	12,247,578	6,190,950	-	36,159,135	0.247	8,931,306	145,391,949
20 and beyond	19.5	72,476,984	13,929,152	12,419,791	58,547,832	46,128,041	13,326,391	6,237,381	168,201	38,815,859	2.934	113,885,730	259,277,679
								151,960,748					

Age	19.5						
PW(Age) = 1/(1+Discount Rate)$^{(Age)}$	0.230		Net Plant		200,273,788		
PW to Perpetuity = 1/Capitalization Rate	12.755		ADIT		(10,143,833)		
$PW_{(20and Beyond)}$ = PW to Perpetuity * PW Factor$_{(19.5)}$	2.934		Rate Base		190,129,955	0.230	43,729,890	189,121,839
			Annual Plant Construction Inflation Rate		0.0422 Input			
			Plant Inflation over 19.5 years		434,582,189	0.230	99,953,903	245,345,852
			PP	231,500,000				
			OCLD	90,190,859				
			PP/OCLD	2.567				
			RCNLD	240,895,239				
			RCNLD/PP		1.040584186			
					197,846,224.88	0.230	45,504,632	190,896,581
			Average					221,160,488

Based on the above-described discounted cash flow analysis, the Income Approach to value of the System's property operating as a rate regulated wastewater utility under the regulation of the Pennsylvania Public Utility Commission (PA PUC) was determined to be $259,277,679. To ensure that the above-described forecast captured the entire economic returns of the property an additional 40-year period beyond the original 20-year forecast was made. This additional forecast indicated the reasonableness of the initial forecast results.

Market Approach

The market or comparable sales approach to value looks to market sales of comparable properties in order to arrive at value. In this appraisal, the market approach was addressed from a comparable sales approach of Pennsylvania water and wastewater systems and market value to book value ratios based on investor-owned water utilities' financial performance as reported in Value Line Investment Survey (October 7, 2022).

Market Sales – In the comparable sale market approach, the sales of Pennsylvania municipal water and wastewater systems to investor-owned water/wastewater utilities were used to insure comparability. As the purpose of this appraisal is to define the value of BASA's wastewater system under Section 1329 of the PA CS the market comparable sales were limited to sales subsequent to the passage of Section 1329 in 2016. The following sales were considered:

Water and Wastewater System Sales
Comparable Sales Approach

Market Sales Data post Section 1329

RowID	Pennsylvania Public Utility Commission Case	Approximate Date	Buyer	Seller	Type of Purchase Process	County	Type of Facility	Initial Purchase Price	Final Purchase Price[1]	Number of Total Customers	Relationship to the passage of Section 1329
1	A-2017-2606103	9/1/2016	PA American Water	City of McKeesport		Allegheny	Wastewater Collection and Treatment	156,000,000	159,000,000	21,953	Post
2	A-2016-2580061	8/1/2016	Aqua PA	New Garden Twp. SA		Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	Post
3	A-2017-2605434	11/16/2016	Aqua PA	Limerick Township		Montgomery	Wastewater Collection and Treatment System	75,100,000	64,373,378	5,434	Post
4	A-2018-3001582	12/10/2017	Aqua PA	East Bradford Township		Chester	Wastewater Collection and paid for treatment Capacity	5,000,000	5,000,000	1,248	Post
5	A-2018-3003519	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Water Distribution System	4,734,800	4,734,800	1,186	Post
6	A-2018-3003517	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Wastewater Collection	4,765,200	4,765,200	1,451	Post
7	A-2019-3008491	6/1/2018	Aqua PA	Cheltenham	Competitive 3 bidders	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500	Post
8	A-2019-3006880	11/14/2018	PA American Water	Steelton	Competitive 4 bidders	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325	Post
9	A-2018-3002437	1/1/2017	PA American Water	Sadsbury		Chester	Wastewater Collection	9,250,000	8,600,000	998	Post
10	A-2018-3004933	5/28/2018	PA American Water	Exeter		Berks	Wastewater Collection and Treatment	96,000,000	93,500,000	9,000	Post
11	A-2019-3009052	10/29/2018	Aqua PA	East Norriton	Competitive 3 bidders: Aqua, P	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950	Post
12	A-2019-3014248	9/30/2018	PA American	Kane		McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2,006	Post
13	A-2020-3019634	12/10/2019	PA American	Royersford		Montgomery	Wastewater Collection and Treatment	13,000,000	13,000,000	1,596	Post
14	A-2020-3019859	12/17/2019	PA American	Valley		Chester	Water Treatment and Distribution System	7,325,000	7,325,000	1,459	Post
15	A-2020-3014248	12/17/2019	PA American	Valley		Chester	Wastewater Collection System	13,950,000	13,950,000	1,644	Post
16	A-2019-3015173	12/31/2019	Aqua PA	Delaware County Regional Water Quality Authority (DELCORA)		Delaware	Wastewater Collection and Treatment	276,500,000	276,500,000	16,473	Post
17	A-2020-3021460	4/28/2020	PA American Water	Upper Pottsgrove	Competitive 2 bidders PAWC & Aqua	Montgomery	Wastewater Collection	13,750,000	13,750,000	1,428	Post
18	A-2021-3024267	9/17/2020	Aqua PA	Lower Makefield	Competitive 3 bidders 2 IOUs AQUA & PAWC & 1 Muni	Bucks	Wastewater Collection and Purchased Treatment Capacity	53,000,000	53,000,000	11,151	Post
19	A-2021-3026132	1/8/2021	Aqua PA	East Whiteland Township		Chester	Wastewater Collection and Purchased Treatment Capacity	54,930,000	54,930,000	3,918	Post
20	A-2021-3027268	1/20/2021	Aqua PA	Willistown Township		Chester	Wastewater Collection and Treatment	17,500,000	17,500,000	2,294	Post
21	A-2021-3024681	4/6/2021	PA American Water	City of York		York	Wastewater Collection and Treatment	235,000,000	235,000,000	15,851	Post

In order to arrive at a measure of comparability these system sales were analyzed in relationship of the purchase price to the properties' depreciated original cost (OCLD), depreciated replacement cost (CORLD), customers, and cashflow (EBITDA) for an average 5-year and 13-year periods (Market Approach tab).

Financial Market Ratios – In the market approach based on market financial ratios the market data of companies (nine) in the water/wastewater industry as reported in Value Line Investment Surveys (October 7, 2022) were analyzed. In the analysis the

companies' stock (market) and debt (book value) per share are compared as a ratio to the book investment value per share.

The following table summarizes both the comparable sales and financial market ratio analysis and the Market Approach conclusion of this appraisal:

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Comparable Sales Approach

Market Sales Data

Central Tendancy and Reliability Analysis

Market Sales Analysis - PP/OCLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	1.7632	1.9465	
Standard Deviation	0.5729	0.5187	
Median	1.5069	1.5126	
Mode	1.4418	1.4418	
Water Treatment & Distribution			
Mean	1.4069		
Median	1.3639		
Wastewater Collection & Treatment			
Mean	1.7972		
Median	1.6166		
Wastewater Collection			
Mean	1.8733		
Median	1.4935		
Wastewater Treatment Only			
Mean	-0.0761		
Median	0.1231		
AUS Conclusion		1.7972	AUS Input
Butler Area Sewer Authority (BASA) OCLD		90,190,859	Cost Approach - OCLD
Market Value Indication		**162,091,011**	

Market Sales Analysis - PP/CORLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	0.8171	0.8985	
Standard Deviation	0.1812	0.1546	
Median	0.881	0.9133	
Mode	0.6918	0.6918	
Water Treatment & Distribution			
Mean		0.6897	
Median		0.628	
Wastewater Collection & Treatment			
Mean		0.8536	
Median		0.9424	
Wastewater Collection			
Mean		0.8077	
Median		0.7548	
Wastewater Treatment Only			
Mean		0.0459	
Median		0.1876	
AUS Conclusion		0.8536	AUS Input
Butler Area Sewer Authority (BASA) CORLD		240,895,239	Cost Approach - CORLD
Market Value Indication		**205,628,176**	

Comparable Sales Approach

Market Sales Analysis - PP/Customer

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	-	7,502	
Standard Deviation		5,040	
Median	-	8,492	
Water Treatment and Distribution			
Mean	6,123		
Median	5,021		
Wastewater Collection & Treatment			
Mean	10,200		
Median	9,572		
Wastewater Collection			
Mean	6,507		
Median	6,636		
Watewater Treatment Only			
Mean	3,693		
Median	2,936		
Conclusion			
Butler Area Sewer Authority (BASA) Customers		23,372	AUS Input
Water Treatment and Distribution $PP/Customer		10,200	AUS Input
Collection and Treatement Customers Market Value Indication		**238,394,400**	
Treatement Only Market Value Indication			
Treatment Only PP/customer		3,693	AUS Input
Treatment Only Customers		-	AUS Input
Market Value Indication Treatment Only		-	
Total Market Value Indication		**238,398,093**	

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	2.89	
Market to Book (equity and debt)	1.82	
Use (equity and debt)	1.82	AUS Input
Butler Area Sewer Authority (BASA) OCLD	90,190,859	Cost Approach - OCLD
Market Value Indication	**164,147,363**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	16.89	15.15	
Standard Deviation	6.10	5.15	
Median	17.18	18.13	
Mode	10.79	10.79	
Forecast			
Conclusion		18.00	AUS Input
Water Treatment and Distribution			
Mean	16.06		
Median	15.00		
Wastewater Collection & Treatment			
Mean	16.26		
Median	17.41		
Wastewater Collection			
Mean	18.56		
Median	16.44		
Watewater Treatment Only			
Mean	(2.30)		
Median	0.97		
Conclusion			
Butler Area Sewer Authority (BASA) Cash Flows		17,584,863	Income Approach
Water Treatment and Distribution		16.26	
Market Value Indication		**285,929,876**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	11.43	11.43	
Standard Deviation	3.20	2.73	
Median	11.67	12.27	
Mode	9.55	9.55	
Forecast			
Conclusion		12.00	AUS Input
Water Treatment and Distribution			
Mean	9.38		
Median	7.82		
Wastewater Collection & Treatment			
Mean	11.28		
Median	11.91		
Wastewater Collection			
Mean	12.77		
Median	12.65		
Watewater Treatment Only			
Mean	(1.49)		
Median	(0.74)		
Conclusion			
Butler Area Sewer Authority (BASA) Cash Flows		23,491,122	Income Approach
Water Treatment and Distribution		11.28	
Market Value Indication		**264,979,858**	

Summary of Market Analyses

Indicators	
OCLD	162,091,011
CORLD	205,628,176
Customers	238,398,093
Cash Flows	
EBITDA Periods 1-5	285,929,876
EBITDA Periods 1-13	264,979,858
Value Line	164,147,363
Mean	220,195,730
Median	222,013,135
Conclusion	**220,195,730**

The market approach conclusion of this appraisal was determined to be $220,195,730.

Cost Approach Revisited – Before concluding this appraisal's fair market value, the preliminary cost approach conclusion of $240,895,239 needs to be reviewed in light of the above-described income and market analyses in order to evaluate if external obsolescence exists in the preliminary replacement cost new less depreciation conclusion. The appraisal literature in regard to developing a cost approach states:

> "The last step in the implementation of the cost approach is to estimate *economic obsolescence*. Economic obsolescence (sometimes called "external obsolescence") has been previously defined as the loss in value or usefulness of a property caused by factors external to the asset. These factors include increased cost of raw materials, labor, utilities (without an offsetting increase in product price); reduced demand for the product; increased competition; environmental or other regulations; or similar factors.
>
> The difficulty in measuring the full effect of economic obsolescence is one of the weaknesses of the cost approach. Because economic obsolescence is usually a function of outside influences that affect an entire business (i.e., all tangible and intangible assets) rather than individual assets or isolated groups of assets, it is sometimes measured using the income approach or by using the income approach to help identify the existence of economic influences on value. However, the cost approach can be used to measure some forms of economic obsolescence."[9]

The above-described income approach value conclusion of $259,277,679 and the market approach conclusion of $220,195,730 for the BASA's future wastewater system compared to the preliminary cost approach conclusion of $240,895,239 indicates no significant external obsolescence exists in the cost approach conclusion of $240,895,239 detailed as follows:

[9] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition, pp. 96-97.

36	37	39	40	41

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Fair Market Value

(36)	(37)	(39)	(40)	(41)

Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD $s	% of Preliminary Cost Approach	Appraisal Date Value $s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.00	Land & Land Rights	14,138,600	0.00%	14,138,600
354.00	Stuctures & Improvements	26,702,596	0.00%	26,702,596
354.30	Stuctures & Improvements - Pumping	36,625,003	0.00%	36,625,003
355.00	Generating Equipment	443,498	0.00%	443,498
355.10	Generating Equipment - Pumping	954,182	0.00%	954,182
360.10	Collection Sewers - Force - Mains - CIP	8,730,174	0.00%	8,730,174
361.10	Collection Sewers - Gravity - Mains	71,152,734	0.00%	71,152,734
361.12	Collection Sewers - Gravity - Mains Relined	8,227,166	0.00%	8,227,166
361.15	Collection Sewers - Gravity - Mains Relining	11,275,266	0.00%	11,275,266
361.20	Collection Sewers - Gravity - Manholes	12,072,354	0.00%	12,072,354
363.00	Service Laterals	12,204,228	0.00%	12,204,228
364.00	Flow Measuring Devices	240,801	0.00%	240,801
371.00	Pumping Equipment	640,612	0.00%	640,612
371.10	Pumping Equipment	10,087,975	0.00%	10,087,975
380.00	Treatment and Disposal Equipment	21,299,805	0.00%	21,299,805
380.10	Equipment Pump Stations	4,172,881	0.00%	4,172,881
390.10	Office Computer Equipment	18,982	0.00%	18,982
390.20	Office Printers	15,309	0.00%	15,309
390.30	Office Equipment	9,989	0.00%	9,989
391.00	Transportation Equipment	461,896	0.00%	461,896
395.00	Power Operated Equipment	739,488	0.00%	739,488
396.00	Communications Equipment	622,435	0.00%	622,435
397.00	Miscellaneous Equipment	59,265	0.00%	59,265
	Grand Total	240,895,239	0.00%	240,895,239

Value Conclusion

The Fair Market Value of the BASA's wastewater collection system's property, plant and equipment and its operation was determined to be $246,178,265 as follows:

Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		144,573,880		
Depreciated Original Cost ($OCLD)		90,190,859		
Intangible Assets (Treatement contracts)		-		
Cost Approach of all assets Conclusion		90,190,859		
Replacement Cost				
Replacement Cost New (COR)		525,870,564		
Depreciated Replacement Cost New (CORLD)	$	**240,895,239**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	$	**240,895,239**		
Intangible Assets (Treatement contracts)	$	-		
Cost Approach of all assets Conclusion		**240,895,239**		
Cost Approach Conclusion		**240,895,239**	**50%**	**120,447,620**
Income Approach				
Required Rate Increases: 65% period 2, 50% period 4, 10% period 6, 20% period 8, 10% period 10 and 6% every 2nd year beginning in period 12 (Input 6)		259,277,679		
Income Approach Conclusion		**259,277,679**	**40%**	**103,711,072**
Market Approach				
Market Comparables (to)				
OCLD		162,091,011		
CORLD		205,628,176		
Customers		238,398,093		
Cash Flows (EBITDA) Periods 1-5		285,929,876		
Cash Flows (EBITDA) Periods 1-13		264,979,858		
Market Financials (to)				
OCLD		164,147,363		
Market Approach Conclusion		**220,195,730**	**10%**	**22,019,573**
Appraisal Conclusion	$	**246,178,265**	**100%**	**246,178,265**
Conclusion (cost approach)	$	**240,895,239**		

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the BASA's property, plant and equipment this appraisal's conclusion of $246,178,265 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

PURPOSE AND SCOPE OF WORK

The purpose of this appraisal of the BASA's wastewater collection and treatment system is the determination of the fair market value of the property plant and equipment of wastewater utility. The report was prepared based on the 2020-2021 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) Paragraph 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are our client Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."* *The Appraisal of Real Estate, 14th Edition, page 58.*

In conducting this appraisal, we utilized several sources of data:

- Annual (year-ending July 31) BASA (Pennsylvania) wastewater collection and treatment operational financial statements cover the period 2015 through 2022 and budgets for 2022 and 2023.

- The Herbert, Rowland, & Grubic, Inc. Engineers' Engineer's Assessment and inventory of the BASA's wastewater system's property dated January 19, 2023.

- The Handy-Whitman (water industry) Index of Public Utilities Construction Costs for northeastern United States, AUS Consultant General Plant Cost Indexes for the period 1912 through July 1, 2022, and various cost indexes published by the United States Bureau of Labor Statistics (US BLS).

In preparing this fair market value appraisal of the System's property, plant and equipment, and its operations: the cost, income, and market approaches to value were considered. Primary reliance was placed on the cost approach for the property, plant and equipment, with the income approach and market approaches being utilized to confirm the overall value of the sewer system's operation. A detailed explanation of each approach to value is included below in the section "Appraisal Procedures and Results".

WATER/WASTEWATER INDUSTRY NATIONALLY AND IN PENNSYLVANIA
AND
BUTLER AREA SEWER AUTHORITY'S WASTEWATER COLLECTION AND TREATMENT SYSTEM

Water/wastewater Industry

The water and wastewater industry in the United States consist of both municipal authorities (literally thousands) and private investor-owned companies. Of the investor owned there are nine which are large enough to be tracked by Value Line Investment Surveys, of which, two are major players in the northeast portion of the United States, American Water Works Company, Inc. and Aqua America, Inc. (on February 3, 2020, Aqua's name changed to Essential Utilities, Inc.) American and Aqua have been particularly active in the acquisition of municipal water and wastewater systems.

Pennsylvania Water / Wastewater Industry

The water and wastewater industry in Pennsylvania also consist of both municipal and investor-owned systems. Over last several years the need for infrastructure improvements has led the Pennsylvania legislature to pass legislation facilitating the acquisition of municipal water and/or wastewater systems to a private investor-owned rate regulated companies such as American Water and Aqua America. This legislation was Act 12 of the Pennsylvania legislator's 2016 legislative session (Act 12). The Act 12 legislation added a section (1329) modifying Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) adding Section 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12. This appraisal was developed to meet the valuation criteria established by Section 1329 and the PA PUC's subsequent Implementation Orders in the valuation of acquired water and wastewater systems.

BASA's SEWER SYSTEM

The Authority's Sewer System serves the City of Butler and Butler Township and its environs with a public sanitary sewer collection and treatment system. Other

municipalities served are Center Township, Summit Township, and East Butler Borough and portions of Connoquenessing and Oakland Townships.

Description and History

The City of Butler constructed the original wastewater treatment plant facilities in 1938 on the same site in Butler Township as the present-day treatment plant. In 1962, the City of Butler and Butler Township created the Butler Area Sewer Authority for the purposes of providing a non-political municipal body for solving sewage issues in the City of Butler and Butler Township through the expansion of the collection sewer system and the treatment plant facilities.

During 1963 and 1964, the Authority spent almost $3,000,000 to expand the collector sewer system and to expand and repair the original 1938 wastewater treatment facilities to a capacity of 5.0 million gallons per day (MGD). The facilities built by this 1963 Project served as the basis for a major expansion and upgrade of the facilities which was completed under the 1978 Construction Project. The 1978 Construction Project required the expenditure of $58,500,000,

The 1978 Construction Project involved rehabilitation of existing sewage collection and interceptor lines, the construction of new sewer collection systems, interceptor lines, pumping stations and force mains, and the construction of substantial additions to expand the capacity of the wastewater treatment plant and upgrading of the treatment plant processes to provide a tertiary treatment of the sewage.

In 2010, the Authority began a series of capital projects that included the construction of four (4) new wet weather flow diversion pump stations with associated pipelines, diversion structures and other related machinery and equipment, the construction of seven (7) new flow equalization/storage tanks on three sites (totaling over 22 million gallons of storage capacity), the upsizing of two interceptor sewers, and other renovations to the Authority’s main office and treatment facilities. The cost of these construction/rehabilitation projects was approximately $38,759,000.

APPRAISAL PROCEDURES AND RESULTS

The purpose of this appraisal of the BASA's wastewater collection and Treatment system is the determination of the fair market value of the wastewater's property plant and equipment as of October 11, 2022. The report was prepared based on the 2020-2021 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PS CS) Section 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12 of the Pennsylvania legislator's 2016 legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission (PA PUC).

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress." The Appraisal of Real Estate, 14th Edition, page 58.*

In conducting this appraisal, we utilized several sources of data:

- Annual (year-ending July 31) BASA's wastewater system's operational financial statements cover the period 2015 through 2022 and budgetary 2022 and 2023.

- The Herbert, Rowland, & Grubic, Inc. Engineers' Engineer's Assessment and inventory of the BASA's wastewater system's property date January 19, 2023.

- The Handy-Whitman (water industry) Index of Public Utilities Construction Costs for northeastern United States, AUS Consultant General Plant Cost Indexes for the period 1912 through July 1, 2022, and various cost indexes published by the United States Bureau of Labor Statistics (US BLS).

In preparing this fair market value appraisal of the System's wastewater system's property, plant and equipment, and its operations; the cost, income, and market approaches to value were considered. Primary reliance was placed on the cost approach for the property, plant and equipment, with the income approach and market approaches being utilized to confirm the overall value of the sewer system's operation. Detailed explanation of each approach to value is included below.

Cost Approach (Cost Approach tab) - The philosophy in the cost approach to value is that the maximum value of a property's tangible assets is established by the cost to acquire or build a similar property. In this appraisal, the cost approach to value was analyzed using reproduction/replacement cost approach.

Reproduction cost and replacement cost are defined as:

> Reproduction cost – "The estimated cost to construct, at current prices as of the effective date of the appraisal, an exact duplicate or replica of the [property] being appraised, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, super-adequacies, and obsolescence of the subject [property]."[10]
>
> Replacement cost – "The estimated cost to construct, at current prices as of the effective appraisal date, a substitute for the [property] being appraised using modern materials and current standards, design and layout."[11]
>
> In the wastewater industry the property's reproduction costs and replacement costs are quite similar; therefore, the most of the property's cost new was determined based on its reproduction/replacement cost new. However, for the easements and land the replacement cost were developed based on current costs.

The trended original cost method was utilized in preparing the replacement cost new. "Trending is a method of estimating a property's replacement cost new in which an *index*

[10] The Appraisal of Real Estate, 13th Edition. Page 385
[11] ibid

or *trend factor* is applied to the property's *historical cost* to convert the known cost into an indication of current cost. Simply put, trending reflects the movement of price over time."[12] In the trended original cost method, the System's investment in wastewater plant and equipment is restated to costs reflective of the appraisal date, by the application of cost trends to the property's original investment. WAD Consultants utilized the Engineer's Assessment performed by HRG Engineers (Engineer's Assessment tab) as the starting point of the Cost Approach. Utilizing the Engineer's Assessment of the System's original cost in property, plant and equipment WAD Consultants developed the plant's depreciated original cost (OCLD) and depreciated replacement cost (RCNLD) on October 11, 2022 (Cost Approach tab).

The cost trends are applied to each of the various investment categories (NARUC plant accounts) by original year of placement for that investment. The cost indexes used in these studies were the Handy-Whitman Index of Public Utility Construction Costs for the water industry of the northeastern region of the United States which includes the Commonwealth of Pennsylvania (HW), the AUS Consultants of General Plant Indexes AUS), and various United States Bureau of Labor Statistics (US BLS) indexes. The following table details the costing parameters using in the trending costing procedures:

[12] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 59

1 2 3 4 5 6 7

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
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Investor-Owned Utility
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Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(3)				
		(3a)	(3b)	(3c)	(3d)	(3e)
Account Number	Description	Costing Parameters				Reproduction to Replacement Cost Factor
		Index Series	Table	Line Reference	Lookup	AUS Input
353.00	Land & Land Rights	USBLS	PPI	3.00	USBLS3	1.00
354.00	Stuctures & Improvements	HW	W-1	15.00	HWW-115	1.00
354.30	Stuctures & Improvements - Pumping	HW	W-1	8.00	HWW-18	1.00
355.00	Generating Equipment	USBLS	PPI	4.00	USBLS4	1.00
355.10	Generating Equipment - Pumping	USBLS	PPI	4.00	USBLS4	1.00
360.10	Collection Sewers - Force - Mains - CIP	HW	W-1	35.00	HWW-135	1.00
361.10	Collection Sewers - Gravity - Mains	HW	W-1	44.00	HWW-144	1.00
361.12	Collection Sewers - Gravity - Mains Relined	HW	W-1	44.00	HWW-144	1.00
361.15	Collection Sewers - Gravity - Mains Relining	HW	W-1	38.00	HWW-138	1.00
361.20	Collection Sewers - Gravity - Manholes	HW	W-1	45.00	HWW-145	1.00
363.00	Service Laterals	HW	W-1	39.00	HWW-139	1.00
364.00	Flow Measuring Devices	HW	W-1	40.00	HWW-140	1.00
371.00	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
371.10	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
380.00	Treatment and Disposal Equipment	HW	W-1	17.00	HWW-117	1.00
380.10	Equipment Pump Stations	HW	W-1	9.00	HWW-19	1.00
390.10	Office Computer Equipment	AUS	T-1	14.00	AUST-114	1.00
390.20	Office Printers	AUS	T-1	13.00	AUST-113	1.00
390.30	Office Equipment	AUS	T-1	13.00	AUST-113	1.00
391.00	Transportation Equipment	AUS	T-1	4.00	AUST-14	1.00
395.00	Power Operated Equipment	AUS	T-1	8.00	AUST-18	1.00
396.00	Communications Equipment	USBLS	PPI	2.00	USBLS2	1.00
397.00	Miscellaneous Equipment	AUS	T-1	8.00	AUST-18	1.00

The following table presents the development of the cost approach for the flow meters (Accounts 364) portion of BASA's wastewater service area this example will be used to describe the entire cost approach process:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Average Year Installed	Average Year Installed	Units	Quantity	Replacement cost per unit	Original Cost	Costing Parameter	Placement Date Cost Index	Appraisal Date Cost Index	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
								OC $s					RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Borough of Baldwin	Eng Assmnt	AUS Input	Eng Assmnt	Eng Assmnt	AUS Input	Eng Assmnt	AUS Input	Cost Indices Lookup Cols(10) & (5)	Cost Indices Lookup Cols(10) & Study YR	Col (12) / (11)	Col (5) * (13)	AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Service Date	Year Installed	Units	Quantity	COR Cost	Original Cost	Cost Index Table	YearIndex	APPCostIndex	Translator	RCN	COR / RCN Factor	COR
		Account 363- Sanitary Sewer Service Connections													
364.00	364.00	26 Flow Meters	1999	1999				250,000.00	HWW-140	198	498.2	2.516	629,000	1.000	629,000
364.00	364.00	Additional Flow Meters	2012	2012				50,000.00	HWW-140	379.3	498.2	1.313	65,650	1.000	65,650
		Subtotal 364 Flow MetersGravity Mains						**300,000.00**					**694,650**		**694,650**

Using the trended original cost method, BASA's investment in this example of $300,000 was determined to have a replacement cost new of $694650.

When the trended cost method is applied to each of BASA's investment in plant, property and equipment of $144,573,879.71 was determined to have a reproduction cost new of $525,870,564 replacement cost new of $525,923,396 detailed as follows:

1	2	3	9	10	13	14	15	16

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Borough of Baldwin	Eng Assmnt	AUS Input			AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Original Cost	Cost Index Table	Translator	RCN	COR / RCN Factor	COR
353.00	353.00	Land & Land Rights	592,540.92	USBLS3	23.772	14,085,768	1.00	14,138,600
354.00	354.00	Stuctures & Improvements	18,861,944.91	HWW-115	4.237	79,912,801	1.00	79,912,801
354.00	354.30	Stuctures & Improvements - Pumping	31,007,896.11	HWW-18	1.491	46,218,129	1.00	46,218,129
355.00	355.00	Generating Equipment	590,906.80	USBLS4	1.612	952,830	1.00	952,830
355.00	355.10	Generating Equipment - Pumping	1,112,785.36	USBLS4	1.244	1,384,612	1.00	1,384,612
360.00	360.10	Collection Sewers - Force - Mains - CIP	4,583,561.30	HWW-135	3.370	15,447,522	1.00	15,447,522
361.00	361.10	Collection Sewers - Gravity - Mains	31,448,751.16	HWW-144	5.030	158,177,377	1.00	158,177,377
361.00	361.12	Collection Sewers - Gravity - Mains Relined	568,769.65	HWW-144	35.215	20,029,223	1.00	20,029,223
361.00	361.15	Collection Sewers - Gravity - Mains Relining	10,584,527.19	HWW-138	1.349	14,275,316	1.00	14,275,316
361.00	361.20	Collection Sewers - Gravity - Manholes	7,337,651.29	HWW-145	3.563	26,147,473	1.00	26,147,473
363.00	363.00	Service Laterals	8,568,747.97	HWW-139	5.488	47,022,674	1.00	47,022,674
364.00	364.00	Flow Measuring Devices	300,000.00	HWW-140	2.316	694,650	1.00	694,650
371.00	371.00	Pumping Equipment	467,574.00	HWW-19	3.427	1,602,159	1.00	1,602,159
371.00	371.10	Pumping Equipment	6,954,252.19	HWW-19	6.071	42,215,985	1.00	42,215,985
380.00	380.00	Treatment and Disposal Equipment	15,729,809.83	HWW-117	3.093	48,645,641	1.00	48,645,641
380.00	380.10	Equipment Pump Stations	2,675,250.00	HWW-19	2.036	5,445,824	1.00	5,445,824
390.00	390.10	Office Computer Equipment	43,961.00	AUST-114	0.649	28,524	1.00	28,524
390.00	390.20	Office Printers	43,201.00	AUST-113	1.036	44,755	1.00	44,755
390.00	390.30	Office Equipment	12,178.00	AUST-113	1.020	12,425	1.00	12,425
391.00	391.00	Transportation Equipment	784,172.00	AUST-14	1.133	888,145	1.00	888,145
395.00	395.00	Power Operated Equipment	1,134,169.60	AUST-18	1.293	1,466,657	1.00	1,466,657
396.00	396.00	Communications Equipment	1,111,618.35	USBLS2	0.994	1,104,536	1.00	1,104,536
397.00	397.00	Miscellaneous Equipment	59,611.08	AUST-18	1.133	67,538	1.00	67,538
		Grand Total	144,573,879.71		3.637	525,870,564	1.00	525,923,396

Easement - For easement, the appraisal date cost to obtain and register an easement was developed as follows:

Current cost of Easements

Activity	Engineer	Legal	Fees	Total
Determine the facilities for which a Easment is need	1	0	0	
Locate the Land owner for the property needing a easement	1	1	0	
Develop a diagram o the Property, the facilities, and the easement	2	0	0	
Develop the easement document	1	1	0	
Visit the property owner to obtain permission for the easement and sign the easment documentation	4	0	0	
Register the easement with the Municipal Clerk	0	1	250	
Total	9	3	250	
Labor Costs per Hour	60.48	112		
Total Cost	544.32	336	250	1,130

Land - For the land associated with the wastewater system, appraisal date value was determined based on$181,263 per acre based on market sales and offerings in the Butler Pennsylvania area based on the following statistics:

Butler Area Sewer Authority	Report Date	1/30/2023			
	Low	Average	Median	High	Count
Price					
For sale & UC/Pending	$ 99,900	$ 1,069,079	$ 850,000	$ 2,950,000	45
Sold Transactons	$ 65,000	$ 1,366,978	$ 725,000	$ 12,250,000	29
Parcel Size (acres)					
For sale & UC/Pending	1	10.62	4.55	90	57
Sold Transactons	1	8.7	4.7	40	33
Price per Acre					
For sale & UC/Pending	$ 8,833	$ 116,565	$ 182,672	$ 696,721	45
Sold Transactons	$ 3,750	$ 185,526	$ 181,263	$ 1,195,648	24
Days on the Market					
For sale & UC/Pending	7	1,565	948	6,020	57
Sold Transactons	41	1,035	748	3,359	22
Sale Price to Asking Price Ratio					
Sold Transactons	45.54%	83.95%	86.17%	100.00%	11.00

The individual sales statistics are contained in the Costing section of the work papers.

Replacement Cost New less Depreciation - The replacement cost described above reflects the cost of new property; however, the BASA's wastewater system property is not new and has experienced normal depreciation and potentially functional and or economic obsolescence. These various forms of depreciation are defined as follows:

> Normal depreciation/deterioration, akin to physical deterioration, is "loss in value caused by wear, tear, age and use."[13]
>
> Functional obsolescence is "the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient of less costly replacement property that new technology has developed."[14]
>
> Economic, or external, obsolescence is defined as "A loss in value caused by factors outside a property"[15] and is most often indicated by insufficient earning.

Wastewater Depreciation Service Life Experience in Pennsylvania

The service lives used in the depreciation and functional obsolescence calculations were developed based on the property and its use, WAD Consultants' experience in developing depreciation studies for the water and wastewater industries and depreciation studies filed with PAWC and Aqua America rate cases. With each of their recent rate case filings PAWC and Aqua America have filed depreciation studies in support of their depreciation service lives and associated depreciation expenses contained within their revenue requirements. The depreciation studies were prepared by Gannett Fleming Rate Consultants a recognized firm in the depreciation consulting area. WAD Consultants has reviewed the PAWC studies which are summarized in the following table:

[13] The Dictionary of Real Estate Appraisal, 4th Edition
[14] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 67.
[15] The Appraisal of Real Estate, 13th Edition, page 442.

Summary of PAWC Depreciation Studies Prepared for Rate Case

Account	Account Description	Iowa Curves		Service Life		Remaining Life	
		12/31/2016	12/31/2019	12/31/2016	12/31/2019	12/31/2016	12/31/2019
				years	years	years	years
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	45	45	39.1	33.3
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	50	55	45.2	32.6
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	65	55	56.6	31.7
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	35	35	33.3	23.2
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5	35	35	29.7	19.3
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	70	75	53.1	52.5
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	70	80	56.9	54.8
361.20	MANHOLES	S1.5	S2.5	50	50	41.3	32.2
363.00	SERVICES	R3	R3	38	47	22.9	30.2
364.00	FLOW MEASURING DEVICES	L3	L2.5	20	15	13.3	5.1
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2	30	25	23.1	10.8
370.00	RECEIVING WELLS	R3	R3	50	50	42.7	33.7
371.00	PUMPING EQUIPMENT	SO	S0.5	40	30	35.5	18.2
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	45	35	37.1	20.1
381.00	PLANT SEWERS	R3	R3	50	50	43.1	32.7
382.00	OUTFALL SEWER LINES	R3	R3	50	50	37.8	28.3
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	52.5	S2.5	20	20	13.6	11.3
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	20	5	12.3	3.5
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	15	20	9.5	10.1
391.00	TRANSPORTATION EQUIPMENT	SQ	L4	25	14	19,9	9.8
392.00	STORES EQUIPMENT	SQ	SQ	20	25	16.4	17.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	15	20	11,3	15.4
394.00	LABORATORY EQUIPMENT	L2.5	SQ	16	15	8.7	10.4
395.00	POWER OPERATED EQUIPMENT	SQ	R2	15	22	10.3	13.2
396.00	COMMUNICATION EQUIPMENT	SQ	SQ	15	15	9.6	6.9
397.00	MISCELLANEOUS EQUIPMENT		SQ		15		12.8
398.00	OTHER TANGIBLE PLANT		SQ		25		21.5
	TOTAL DEPRECIABLE PLANT						

It is of particular importance in the above table the service life extension of the mains plant categories between the 2016 and the 2020 studies. The mains service lives increased as follows:

Account	Description	Service Life	
		2016	2020
360.10	COLLECTION SEWERS - FORCE MAINS	70	75
361.10	COLLECTION SEWERS - GRAVITY MAINS	70	80

WAD Consultants believe this increase in service lives is attributable to the widespread use of relining older mains instead of replacing mains which are in need of repair. The practice of relining mains with a cured in place plastic liner not only repairs specific main but has the effect of extending the life of the original mains by the length of time which the relining can be expected to last. Most relining vendors warranty their product and procedure for 50 years. Thus, in essence the original main's service life will be extended by 50 plus years at the date the relining occurred. For those mains associated with

relining their installation date was established at the date of their relining and their depreciation parameters were established the same as the depreciation parameters of the relining, i.e., R2.5 – 60 years.

The following table details the lives used in the depreciation portion of the replacement cost new less depreciation analysis:

9	10	11	12	13

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)	(4a)	(4b)	(5)	(6)	(6a)	(6b)
Account Number	Description		Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence		Tax Depreciation	
				years	% of CORLD		Table	Life
353.00	Land & Land Rights		ZNonDep	0.00	0.00%		Non-Depr	0.00
354.00	Stuctures & Improvements		R4.0	55.00	0.00%		MACRS	25.00
354.30	Stuctures & Improvements - Pumping		R4.0	45.00	0.00%		MACRS	25.00
355.00	Generating Equipment		R3.0	35.00	0.00%		MACRS	25.00
355.10	Generating Equipment - Pumping		R3.0	35.00	0.00%		MACRS	25.00
360.10	Collection Sewers - Force - Mains - CIP		R3.0	75.00	0.00%		MACRS	25.00
361.10	Collection Sewers - Gravity - Mains		R2.5	80.00	0.00%		MACRS	25.00
361.12	Collection Sewers - Gravity - Mains Relined		R2.5	140.00	0.00%		MACRS	25.00
361.15	Collection Sewers - Gravity - Mains Relining		R2.5	60.00	0.00%		MACRS	25.00
361.20	Collection Sewers - Gravity - Manholes		R2.5	80.00	0.00%		MACRS	25.00
363.00	Service Laterals		R3.0	50.00	0.00%		MACRS	25.00
364.00	Flow Measuring Devices		S2.0	30.00	0.00%		MACRS	25.00
371.00	Pumping Equipment		R3.0	35.00	0.00%		MACRS	25.00
371.10	Pumping Equipment		R3.0	35.00	0.00%		MACRS	25.00
380.00	Treatment and Disposal Equipment		R2.0	45.00	0.00%		MACRS	25.00
380.10	Equipment Pump Stations		R3.0	35.00	0.00%		MACRS	25.00
390.10	Office Computer Equipment		R3.0	8.00	0.00%		MACRS	12.00
390.20	Office Printers		R3.0	12.00	0.00%		MACRS	12.00
390.30	Office Equipment		R3.0	12.00	0.00%		MACRS	12.00
391.00	Transportation Equipment		R3.0	15.00	0.00%		MACRS	10.00
395.00	Power Operated Equipment		R3.0	15.00	0.00%		MACRS	15.00
396.00	Communications Equipment		R3.0	12.00	0.00%		MACRS	12.00
397.00	Miscellaneous Equipment		R3.0	20.00	0.00%		MACRS	20.00

As the above table demonstrates, the depreciation lives selected for the WAD Consultants appraisal are consistent with the depreciation studies' finding for wastewater plant.

Normal Depreciation – The extent of the depreciation in the property was evaluated using age-life depreciation techniques. In age-life depreciation, the property's depreciation or condition is estimated using the following formulas:

$$\text{Depreciation (\%)} = \frac{\text{Age (years)} \times 100\%}{\text{Service Life (years)}}$$

$$\text{Condition (\%)} = \frac{\text{Remaining Life (years)} \times (100\%)}{\text{Service Life (years)}}$$

where: the property's Service Life = Age + Remaining Life
and Remaining Life = f(Survival Characteristic, Service Life, Age)

However due to the age of some of the property the extent of the depreciation was limited to 85% of the assets original cost and its replacement cost new.

When the above depreciation lives are used to quantify the property's depreciation is applied to the replacement cost new of the flow meters (account 364) example BASA's wastewater service area of $694,650, the replacement cost new less depreciation was determined to be $240,801 detailed as follows:

18	19	20	21	22	23	24	25	26	27	28	29	30	31
Pennsylvania American Water Company **Butler Area Sewer Authority (BASA)** **Wastewater System** **Investor-Owned Utility** **As of October 11, 2022**													
(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
Account	Description	Placement Year	Age at October 11, 2022 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Age as % of NSL	Iowa Lookup	Iowa Condition Percent of Percent New	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
			years	COR $s		years	% of NSL	Lookup	%	years	years	% of COR	CORLD $s
Input	Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Lookup	Calculation	Calculation	Calculation	Calculation
AUS Input	Eng Assmnt	Eng Assmnt	2022-[(20)+0.5]	Col (16)	AUS Input	AUS Input	Col (21) / (24)	Col (23) & (25)	Lookup Iowa Curves Life Tables @ col (26)	Col (24) * (27)	Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Year1	Age	RCN	Iowa	NLife	AgeP	IowaLookup	IowaCondition	Rem Life	Total Life	Condition	CORLD
	Account 363- Sanitary Sewer Service Connections												
364	26 Flow Meters	1999	23.25	629,000	S2.0	30.0	78	S2.0078	0.35436	10.63	33.88	31.375443%	197,352
364	Additional Flow Meters	2012	10.25	65,650	S2.0	30.0	34	S2.0034	0.66872	20.06	30.31	66.182778%	43,449
	Subtotal 361 Gravity Mains			**694,650**									**240,801**

When the above depreciation lives are used to quantify the property's depreciation is applied to each of the BASA's investment in plant, property and equipment the replacement cost new (RCN) of $525,923,396 the resultant RCN less depreciation (RCNLD) was found to be $240,895,239 detailed as follows:

18	19	21	22	23	24	28	29	30	31
Pennsylvania American Water Company **Butler Area Sewer Authority (BASA)** **Wastewater System** **Investor-Owned Utility** **As of October 11, 2022**									
Replacement Cost New less Depreciation (RCNLD)									
(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at October 11, 2022 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Borough of Baldwin		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.00	Land & Land Rights	3.98	14,138,600	ZNonDep	-	-	-	-	14,138,600
354.00	Stuctures & Improvements	40.34	79,912,801	R4.0	55.00	18.92	59.26	55.00	26,702,596
354.00	Stuctures & Improvements - Pumping	9.43	46,218,129	R4.0	45.00	35.63	45.06	45.00	36,625,003
355.00	Generating Equipment	19.77	952,830	R3.0	35.00	17.07	36.83	35.00	443,498
355.00	Generating Equipment - Pumping	11.20	1,384,612	R3.0	35.00	24.55	35.75	35.00	954,182
360.00	Collection Sewers - Force - Mains - CIP	34.25	15,447,522	R3.0	75.00	43.82	78.07	75.00	8,730,174
361.00	Collection Sewers - Gravity - Mains	48.80	158,177,377	R2.5	80.00	38.86	87.65	80.00	71,152,734
361.00	Collection Sewers - Gravity - Mains Relined	90.74	20,029,223	R2.5	140.00	63.22	153.96	140.00	8,227,166
361.00	Collection Sewers - Gravity - Mains Relining	12.88	14,275,316	R2.5	60.00	48.28	61.16	60.00	11,275,266
361.00	Collection Sewers - Gravity - Manholes	48.53	26,147,473	R2.5	80.00	39.61	88.14	80.00	12,072,354
363.00	Service Laterals	54.14	47,022,674	R3.0	50.00	13.67	67.82	50.00	12,204,228
364.00	Flow Measuring Devices	22.02	694,650	S2.0	30.00	11.52	33.54	30.00	240,801
371.00	Pumping Equipment	22.60	1,602,159	R3.0	35.00	14.98	37.58	35.00	640,612
371.00	Pumping Equipment	39.31	42,215,985	R3.0	35.00	8.42	47.73	35.00	10,087,975
380.00	Treatment and Disposal Equipment	30.65	48,645,641	R2.0	45.00	21.85	52.50	45.00	21,299,805
380.00	Equipment Pump Stations	8.22	5,445,824	R3.0	35.00	26.93	35.15	35.00	4,172,881
390.00	Office Computer Equipment	2.85	28,524	R3.0	8.00	5.41	8.26	8.00	18,982
390.00	Office Printers	8.95	44,755	R3.0	12.00	4.44	13.40	12.00	15,309
390.00	Office Equipment	2.38	12,425	R3.0	12.00	9.73	12.11	12.00	9,989
391.00	Transportation Equipment	7.84	888,145	R3.0	15.00	8.00	15.84	15.00	461,896
395.00	Power Operated Equipment	12.73	1,466,657	R3.0	15.00	7.66	20.39	15.00	739,488
396.00	Communications Equipment	7.77	1,104,536	R3.0	12.00	6.84	14.62	12.00	622,435
397.00	Miscellaneous Equipment	3.54	67,538	R3.0	20.00	17.61	21.15	20.00	59,265
	Grand Total	40.11	525,923,396		61.72	29.07	69.08	45.80	240,895,239

The preliminary cost approach to value of the tangible assets of BASA's wastewater utility property was found to be $240,895,239.

Income Approach (Income Approach tabs)

The income approach to value establishes the value of the property based on its economic returns. There are two generally accepted procedures in performing an income analysis: the direct capitalization of anticipated income, and the discounted cash flow procedures.

In the direct capitalization approach, anticipated earnings are capitalized directly into value using a market-required capitalization rate. BASA's wastewater operation will be moving from a municipal operation, wherein economic returns are not the primary objective of the operation to a private (investor owned) rate regulated sewer utility operation in which economic returns are one of the objectives of the operation; therefore, the direct capitalization of earnings approach was not utilized in this appraisal.

In the discounted cash flow (DCF) approach, the property's economic returns are forecast for future periods. The cash flows (debt-free after-tax net cash flows) from operations are discounted to the appraisal date using a market derived discount rate resulting in the DCF approach's income indicator of value. Use of the DCF approach allows the appraiser to address the property's historical operating experience and its migration, in future periods, to an operation as a rate regulated income taxed (local, state and federal) operation; thus, making the DCF approach preferable in this case.

In preparing this appraisal's DCF analysis first the results from the Borough of Brentwood's wastewater utility's operations were evaluated based on an analysis of historical operating performances over the period 2015 through budgetary 2023 (Financials tab). In this analysis operating statistics such as revenues and their growth, various operating expenses were stated as function of their typical drivers (revenues, plant investment, income from operations, etc.) were analyzed. Details are provided in Income Approach tab. Using the above-described analyses, the results of future periods operations were forecast based on the migration of the BASA's of historical operations type experience over time to operations of the wastewater operation similar to a public investor-owned water/wastewater utilities. These forecasts are detailed in the Income Approach tab.

In this appraisal, future operating results were forecasted as follows:

Revenues
Operating Expenses
    Operating and Maintenance Expense
    Depreciation & Amortization
Total Operating Expenses
Operating Income (Revenues less Operating Expenses)
Taxes
    Property
    Income (state & federal)
Total Taxes
After Tax Income (Operating Income less Total Taxes)
Net Cash Flows
    Plus: After Tax Income
    Plus: Depreciation
    Less: Capital Expenditures
    Plus/less: Change in Working Capital
Equals: Debt-free after-tax net cash flows

In the above-described table, the depreciation expense (both book and tax) and the capital expenditures were forecast based on the investment in property plant and equipment at the appraisal date and in subsequent periods. The initial investment in the plant and depreciation forecast were based on the criteria established in Section 1329 for the acquisition and subsequent regulation (rate base) of the acquired property by the acquiring investor-owned utility company. The following table details the forecasts of plant investment, book depreciation, tax depreciation forecast, and the resultant net plant investment and rate base as follows:

Plant Investment
    Initial Investment/ Beginning Plant Balance
    Additions (Capital Expenditures)
    Retirements
    Ending Plant Balance

Depreciation (book)

- Initial Book Depreciation Reserve / Beginning Book Reserve Balance
- Book Depreciation & Amortization
- Retirements
- Ending Book Reserve Balance

Depreciation (tax)

- Initial Tax Reserve / Beginning Tax Reserve
- Tax Depreciation
- Retirement
- Ending Tax Reserve Balance

In these forecasts, the initial plant investment was based on the allocated purchase price of $231,500,000. Initially, the Cost Approach results are utilized to allocate the purchase price by category of plant (NARUC account). The Cost Approach results also define the property's ages and remaining lives of the various plant investment categories. Using these inputs, the future periods book and tax depreciation can be forecast, as well as the accumulated deferred taxes and resulting rate base.

With a forecast of the future rate base and an estimate of the Pennsylvania Commission's authorized return on rate base, the future return on rate base can be estimated which along with the forecast operating expenses (operating expenses, depreciation, and taxes) the future period revenue requirement forecasts can be made. An estimate of the PA Commission return on rate base is detailed as follows:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Rate of Return on Rate Base)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Required Return on Rate Base (2)*(3)
Debt	50%	Embedded	3.69%	Embedded	Not Applicable	Not Applicable	1.85%
Equity	50%	Embedded	9.75%	Market	Not Applicable	Not Applicable	4.88%
Total Capital r	**100.0%**						**6.73%**
Growth (g)						Not Applicable	**0.00%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.73%**

Based on a comparison of the forecast revenues and the forecast of the estimated revenue requirement, future period rate increases were forecast. The criteria in making future period rate adjustments were to bring the forecast achieved return in line with the required return. Based on this process the results of future operations were forecast for the next 20-year period. Period 20 of the forecast was treated in the discounted cash flow as the forecast for period 20 through perpetuity.

Finally, the resultant cash flows from future period operations of the System were discounted to the appraisal date using a market derived discount rate for a public investor-owned water/wastewater utility (Cost of Capital / Required Return tab). The following table details the market discount rate developed using the weighted average cost of capital (WACC) of the market debt and equity:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	32%	Market	5.32%	Market	28.89%	71.11%	1.21%
Equity	68%	Market	9.75%	Market	0.0%	100.0%	6.63%
Total Capital r	**100.0%**						**7.84%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**4.76%**

The market cost of debt was developed based on market returns for utilities debt as reported in the Value Line Investment Survey. The market cost of equity was developed using the capital asset pricing model (CAPM) and the dividend-growth model (DGM). Input to these equity costing models were developed based on Value Line Investment Surveys for the water industry published for October 7, 2022, consisting of the following nine companies:

Company	
American States Water (NYSE-AWR)	American Water ((NYSE-AWK)
California Water (NYSE-CWT)	Essential Utilities, Inc. (NYSE-WTRG)
Middlesex Water (NDQ-MSEX)	SJW Corporation (NYSE-SJW)

The Value Line data was also used to develop the market capital structure used in the WACC determination. The market required return analysis can be found in the Cost of Capital / Required Return tab.

The following table presents the results of the discounted cash flow analysis:

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Discounted Cash Flow Analysis

Discount Rate: 7.84%
Capitalization Rate: 4.76%

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	12,752,000	12,830,907	9,178,847	(78,907)	(9,257,754)	(2,674,565)	10,830,864	-	(8,235,206)	0.963	(7,930,503)	(7,930,503)
2	1.5	21,040,800	12,764,804	9,582,429	8,275,996	(1,306,433)	(377,428)	11,075,651	339,841	(2,762,068)	0.893	(2,466,526)	(10,397,029)
3	2.5	21,040,800	12,742,504	10,004,884	8,298,296	(1,706,588)	(493,033)	11,322,571	-	(2,531,242)	0.828	(2,095,868)	(12,492,897)
4	3.5	31,561,200	12,780,373	10,447,070	18,780,827	8,333,757	2,407,622	11,575,526	431,336	4,366,343	0.768	3,353,352	(9,139,545)
5	4.5	31,561,200	12,869,473	10,909,720	18,691,727	7,782,007	2,248,222	11,834,672	-	4,608,833	0.712	3,281,489	(5,858,056)
6	5.5	41,029,560	12,935,902	11,393,593	28,093,658	16,700,065	4,824,649	12,100,168	388,203	10,780,638	0.660	7,115,221	1,257,165
7	6.5	41,029,560	13,047,580	9,982,089	27,981,980	17,999,891	5,200,169	5,660,003	-	17,121,808	0.612	10,478,546	11,735,711
8	7.5	49,235,472	12,914,338	10,161,694	36,321,134	26,159,440	7,557,462	5,702,453	336,443	22,724,776	0.568	12,907,673	24,643,384
9	8.5	49,235,472	12,853,388	10,344,325	36,382,084	26,037,759	7,522,308	5,745,220	-	23,114,556	0.526	12,158,256	36,801,640
10	9.5	54,159,019	12,879,562	10,530,018	41,279,457	30,749,440	8,883,513	5,788,309	201,865	26,405,770	0.488	12,886,016	49,687,656
11	10.5	54,159,019	12,874,551	10,718,808	41,284,468	30,565,659	8,830,419	5,831,721	-	26,622,328	0.453	12,059,914	61,747,570
12	11.5	57,408,560	12,934,011	10,910,732	44,474,549	33,563,817	9,696,587	5,875,459	133,231	28,769,272	0.420	12,083,094	73,830,664
13	12.5	57,408,560	12,977,199	11,022,671	44,431,361	33,408,690	9,651,771	5,919,527	-	28,860,063	0.389	11,226,565	85,057,229
14	13.5	60,853,074	13,117,643	11,219,639	47,735,431	36,515,793	10,549,413	5,963,923	141,225	31,080,870	0.361	11,220,194	96,277,423
15	14.5	60,853,074	13,185,707	11,419,827	47,667,367	36,247,540	10,471,914	6,008,651	-	31,186,802	0.335	10,447,579	106,725,002
16	15.5	64,504,258	13,323,552	11,576,158	51,180,706	39,604,548	11,441,754	6,053,717	149,698	33,535,537	0.310	10,396,016	117,121,018
17	16.5	64,504,258	13,401,365	11,782,049	51,102,893	39,320,844	11,359,792	6,099,119	-	33,643,982	0.288	9,689,467	126,810,485
18	17.5	68,374,513	13,554,963	11,991,261	54,819,550	42,828,288	12,373,093	6,144,863	158,681	36,142,913	0.267	9,650,158	136,460,643
19	18.5	68,374,513	13,776,850	12,203,830	54,597,663	42,393,833	12,247,578	6,190,950	-	36,159,135	0.247	8,931,306	145,391,949
20 and beyond	19.5	72,476,984	13,929,152	12,419,791	58,547,832	46,128,041	13,326,391	6,237,381	168,201	38,815,859	2.934	113,885,730	259,277,679
								151,960,748					
Age				19.5									
PW(Age) = 1/(1+Discount Rate)$^{(Age)}$				0.230				Net Plant		200,273,788			
PW to Perpetuity = 1/Capitalization Rate				12.755				ADIT		(10,143,833)			
$PW_{(20and Beyond)}$ = PW to Perpetuity * PW $Factor_{(19.5)}$				2.934				Rate Base		190,129,955	0.230	43,729,890	189,121,839
								Annual Plant Construction Inflation Rate		0.0422 Input			
								Plant Inflation over 19.5 years		434,582,189	0.230	99,953,903	245,345,852
								PP	231,500,000				
								OCLD	90,190,859				
								PP/OCLD	2.567				
								RCNLD	240,895,239				
								RCNLD/PP		1.040584186			
										197,846,224.88	0.230	45,504,632	190,896,581
								Average					221,160,488

Based on the above-described discounted cash flow analysis, the Income Approach to value of the System's wastewater property and its operations was determined to be $259,277,679. To ensure that the above-described forecast captured the entire economic returns of the property an additional 40-year period beyond the original 20-year forecast was made. This additional forecast indicated the reasonableness of the initial forecast results.

Market Approach (Market Approach tab)

The market or comparable sales approach to value looks to market sales of comparable properties in order to arrive at value. In this appraisal, the market approach was

addressed from a comparable sales approach using Pennsylvania water and wastewater systems and market value to book value ratios based on investor-owned water utilities reported in Value Line Investment Survey.

Market Sales – In the comparable sales market approach the sales of Pennsylvania municipal water and wastewater systems to investor-owned water/wastewater utilities following the passage of Section 1329 were used to insure comparability. The following sales were considered:

Water and Wastewater System Sales
Comparable Sales Approach

Market Sales Data post Section 1329

RowID	Pennsylvania Public Utility Commission Case	Approximate Date	Buyer	Seller	Type of Purchase Process	County	Type of Facility	Initial Purchase Price	Final Purchase Price[1]	Number of Total Customers	Relationship to the passage of Section 1329
1	A-2017-2606103	9/1/2016	PA American Water	City of McKeesport		Allegheny	Wastewater Collection and Treatment	156,000,000	159,000,000	21,953	Post
2	A-2016-2580061	8/1/2016	Aqua PA	New Garden Twp. SA		Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	Post
3	A-2017-2605434	11/16/2016	Aqua PA	Limerick Township		Montgomery	Wastewater Collection and Treatment System	75,100,000	64,373,378	5,434	Post
4	A-2018-3001582	12/10/2017	Aqua PA	East Bradford Township		Chester	Wastewater Collection and paid for treatment Capacity	5,000,000	5,000,000	1,248	Post
5	A-2018-3003519	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Water Distribution System	4,734,800	4,734,800	1,186	Post
6	A-2018-3003517	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Wastewater Collection	4,765,200	4,765,200	1,451	Post
7	A-2019-3008491	6/1/2018	Aqua PA	Cheltenham	Competitive 3 bidders	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500	Post
8	A-2019-3006880	11/14/2018	PA American Water	Steelton	Competitive 4 bidders	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325	Post
9	A-2018-3002437	1/1/2017	PA American Water	Sadsbury		Chester	Wastewater Collection	9,250,000	8,600,000	998	Post
10	A-2018-3004933	5/28/2018	PA American Water	Exeter		Berks	Wastewater Collection and Treatment	96,000,000	93,500,000	9,000	Post
11	A-2019-3009052	10/29/2018	Aqua PA	East Norriton	Competitive 3 bidders: Aqua, F	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950	Post
12	A-2019-3014248	9/30/2018	PA American	Kane		McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2,006	Post
13	A-2020-3019634	12/10/2019	PA American	Royersford		Montgomery	Wastewater Collection and Treatment	13,000,000	13,000,000	1,596	Post
14	A-2020-3019859	12/17/2019	PA American	Valley		Chester	Water Treatment and Distribution System	7,325,000	7,325,000	1,459	Post
15	A-2020-3014248	12/17/2019	PA American	Valley		Chester	Wastewater Collection System	13,950,000	13,950,000	1,644	Post
16	A-2019-3015173	12/31/2019	Aqua PA	Delaware County Regional Water Quality Authority (DELCORA)		Delaware	Wastewater Collection and Treatment	276,500,000	276,500,000	16,473	Post
17	A-2020-3021460	4/28/2020	PA American Water	Upper Pottsgrove	Competitive 2 bidders PAWC & Aqua	Montgomery	Wastewater Collection	13,750,000	13,750,000	1,428	Post
18	A-2021-3024267	9/17/2020	Aqua PA	Lower Makefield	Competitive 3 bidders 2 IOUs AQUA & PAWC & 1 Muni	Bucks	Wastewater Collection and Purchased Treatment Capacity	53,000,000	53,000,000	11,151	Post
19	A-2021-3026132	1/8/2021	Aqua PA	East Whiteland Township		Chester	Wastewater Collection and Purchased Treatment Capacity	54,930,000	54,930,000	3,918	Post
20	A-2021-3027268	1/20/2021	Aqua PA	Willistown Township		Chester	Wastewater Collection and Treatment	17,500,000	17,500,000	2,294	Post
21	A-2021-3024681	4/6/2021	PA American Water	City of York		York	Wastewater Collection and Treatment	235,000,000	235,000,000	15,851	Post

In order to arrive at a measure of comparability these system sales were analyzed in relationship of the purchase price to the properties' depreciated original cost (OCLD),

depreciated replacement cost (RCNLD), customers, and cashflows (EBITDA) for an average 5 year and 13-year periods (Market Approach tab).

The following tables details the market sales analyses:

Purchase Price to Original Cost less Depreciation (OCLD)

PPOCLD	Type of System and Attributes	Purchase Price (PP)	Proportion of Purchase Price to Total	Depreciated Original Cost (OCLD) (AUS Consultants Determination	Purchase Price to (PP/OCLD)
Upper Pottsgrove	Wastewater Collection	13,750,000	0.011802693	11,769,925	1.1682
Sadsbury	Wastewater Collection	8,600,000	0.007382048	6,128,876	1.4032
Mahoning	Wastewater Collection	4,765,200	0.004090341	3,234,859	1.4731
East Norriton	Wastewater Collection	21,000,000	0.018025931	8,407,007	2.4979
Cheltenham	Wastewater Collection	50,250,000	0.043133478	15,784,463	3.1835
Valley	Wastewater Collection System	13,950,000	0.011974368	9,214,738	1.5139
Mean					1.8733
Median					1.4935
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	29,500,000	0.025322141	18,567,728	1.5888
East Bradford Township	Wastewater Collection and paid for treatment Capacity	5,000,000	0.004291888	5,383,591	0.9287
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	54,930,000	0.047150685	33,403,972	1.6444
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	53,000,000	0.045494016	20,644,920	2.5672
Willistown Township	Wastewater Collection and Treatment	17,500,000	0.015021609	13,524,101	1.294
Delaware County Regional Water Quality Au	Wastewater Collection and Treatment	276,500,000	0.237341424	191,774,486	1.4418
Kane	Wastewater Collection and Treatment	17,560,000	0.015073112	12,070,455	1.4548
City of McKeesport	Wastewater Collection and Treatment	159,000,000	0.136482048	80,085,602	1.9854
Exeter	Wastewater Collection and Treatment	93,500,000	0.080258311	40,057,634	2.3341
City of York	Wastewater Collection and Treatment	235,000,000	0.201718751	97,106,105	2.42
Royersford	Wastewater Collection and Treatment	13,000,000	0.01115891	5,173,559	2.5128
Limerick Township	Wastewater Collection and Treatment System	64,373,378	0.05525667	46,153,867	1.3948
Mean					1.7972
Median					1.6166
Steelton	Water Distribution and Treatment	21,750,000	0.018669714	14,433,435	1.5069
Mahoning	Water Distribution System	4,734,800	0.004064247	3,507,138	1.35
Valley	Water Treatment and Distribution System	7,325,000	0.006287616	5,370,438	1.3639
Mean					1.4069
Median					1.3639

Purchase Price to Replacement Cost New less Depreciation (CORLD)

Property Acquired	Type of System and Attributes	Purchase Price (PP)	Proportion of Purchase Price to Total	Replacement Cost New less Depreciation (CORLD)	Purchase Price to CORLD
Mahoning	Wastewater Collection	4,765,200	0%	7,991,234	0.5963
Upper Pottsgrove	Wastewater Collection	13,750,000	1%	18,460,028	0.7449
East Norriton	Wastewater Collection	21,000,000	2%	27,461,356	0.7647
Cheltenham	Wastewater Collection	50,250,000	4%	49,940,486	1.0062
Sadsbury	Wastewater Collection	8,600,000	1%	8,517,587	1.0097
Valley	Wastewater Collection System	13,950,000	1%	19,252,333	0.7246
Mean					0.8077
Median					0.7548
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	29,500,000	3%	30,615,410	0.9636
East Bradford Township	Wastewater Collection and paid for treatment Capacity	5,000,000	0%	9,236,581	0.5413
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	54,930,000	5%	58,078,339	0.9458
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	53,000,000	5%	51,414,555	1.0308
Willistown Township	Wastewater Collection and Treatment	17,500,000	2%	30,113,231	0.5811
Kane	Wastewater Collection and Treatment	17,560,000	2%	29,015,055	0.6052
Delaware County Regional Water Quality Authority	Wastewater Collection and Treatment	276,500,000	24%	399,664,111	0.6918
Limerick Township	Wastewater Collection and Treatment	64,373,378	6%	73,068,377	0.881
Exeter	Wastewater Collection and Treatment	93,500,000	8%	99,589,819	0.9389
Royersford	Wastewater Collection and Treatment	13,000,000	1%	13,376,109	0.9719
City of McKeesport	Wastewater Collection and Treatment	159,000,000	14%	156,524,909	1.0158
City of York	Wastewater Collection and Treatment	235,000,000	20%	218,366,227	1.0762
Mean					0.8536
Median					0.9424
Steelton	Water Distribution and Treatment	21,750,000	2%	23,921,473	0.9092
Mahoning	Water Distribution System	4,734,800	0%	8,899,336	0.532
Valley	Water Treatment and Distribution System	7,325,000	1%	11,664,026	0.628
Mean					0.6897
Median					0.628

Purchase Price to Customers

Property Acquired	Type of System and Attributes		Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Customers	Purchase Price to Customers
Mahoning	Wastewater Collection	2	2018.30	4,765,200	0%	1,451	3,284
East Norriton	Wastewater Collection	3	2018.83	21,000,000	2%	4,950	4,242
Cheltenham	Wastewater Collection	1	2018.42	50,250,000	4%	10,500	4,786
Sadsbury	Wastewater Collection	3	2017.00	8,600,000	1%	998	8,617
Upper Pottsgrove	Wastewater Collection	3	2020.33	13,750,000	1%	1,428	9,629
Valley	Wastewater Collection System	2	2019.96	13,950,000	1%	1,644	8,485
Mean							6,507
Median							6,636
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	2	2016.59	29,500,000	3%	2,106	14,008
East Bradford Township	Wastewater Collection and paid for treatment Capacity	2	2017.94	5,000,000	0%	1,248	4,006
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	2	2020.71	53,000,000	5%	11,151	4,753
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	3	2021.02	54,930,000	5%	3,918	14,020
City of McKeesport	Wastewater Collection and Treatment	2	2016.67	159,000,000	14%	21,953	7,243
Willistown Township	Wastewater Collection and Treatment	2	2021.05	17,500,000	2%	2,294	7,629
Royersford	Wastewater Collection and Treatment	3	2019.94	13,000,000	1%	1,596	8,145
Kane	Wastewater Collection and Treatment	2	2018.75	17,560,000	2%	2,006	8,754
Exeter	Wastewater Collection and Treatment	1	2018.41	93,500,000	8%	9,000	10,389
City of York	Wastewater Collection and Treatment	2	2021.27	235,000,000	20%	15,851	14,826
Delaware County Regional Water Quality Au	Wastewater Collection and Treatment	1	2020.00	276,500,000	24%	16,473	16,785
Limerick Township	Wastewater Collection and Treatment System	2	2016.88	64,373,378	6%	5,434	11,846
Mean							10,200
Median							9,572
Mahoning	Water Distribution and Treatment	2	2018.30	4,734,800	0%	1,186	3,992
Steelton	Water Distribution and Treatment	3	2018.87	21,750,000	2%	2,325	9,355
Valley	Water Treatment and Distribution System	2	2019.96	7,325,000	1%	1,459	5,021
Mean							6,123
Median							5,021

Purchase Price to Cash Flows (EBITDA Period 1-5)

Property Acquired	Type of System and Attributes	Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Cash Flows (EBITDA Periods 1-5)	Purchase Price to Cash Flow
Cheltenham	Wastewater Collection	2018.419406	50250000	0.043133478	4754020	10.57
Sadsbury	Wastewater Collection	2017.00274	8600000	0.007382048	714645	12.03
Upper Pottsgrove	Wastewater Collection	2020.326712	13750000	0.011802693	845182	16.27
East Norriton	Wastewater Collection	2018.829452	21000000	0.018025931	1265269	16.6
Mahoning	Wastewater Collection	2018.304795	4765200	0.004090341	233922	20.37
Valley	Wastewater Collection System	2019.963242	13950000	0.011974368	392972	35.5
Wtd Mean			112315200		8206010	13.69
Mean						18.56
Median						16.44
New Garden Twp. SA	Wastewater Collection and Paid for	2016.586073	29500000	0.025322141	1717347	17.18
East Bradford Township	Wastewater Collection and paid for	2017.944064	5000000	0.004291888	283367	17.64
East Whiteland Township	Wastewater Collection and Purchas	2021.021918	54930000	0.047150685	15872367	3.46
Lower Makefield	Wastewater Collection and Purchas	2020.713242	53000000	0.045494016	2839988	18.66
Delaware County Regional Wa	Wastewater Collection and Treatme	2020.001598	276500000	0.237341424	25883282	10.68
Exeter	Wastewater Collection and Treatme	2018.410046	93500000	0.080258311	7279978	12.84
Kane	Wastewater Collection and Treatme	2018.748858	17560000	0.015073112	1039593	16.89
City of York	Wastewater Collection and Treatme	2021.266438	235000000	0.201718751	13874600	16.94
Willistown Township	Wastewater Collection and Treatme	2021.054795	17500000	0.015021609	892978	19.6
City of McKeesport	Wastewater Collection and Treatme	2016.669406	159000000	0.136482048	7409096	21.46
Royersford	Wastewater Collection and Treatme	2019.944064	13000000	0.01115891	600765	21.64
Limerick Township	Wastewater Collection and Treatme	2016.877169	64373378	0.05525667	3542124.2	18.17
Wtd Mean			1018863378		81235485.2	12.54
Mean						16.26
Median						17.41
Steelton	Water Distribution and Treatment	2018.871689	21750000	0.018669714	2278514	9.55
Mahoning	Water Distribution System	2018.304795	4734800	0.004064247	233922	20.24
Valley	Water Treatment and Distribution S	2019.963242	7325000	0.006287616	398458	18.38
Wtd Mean			33809800		2910894	11.61
Mean						16.06
Median						15.00

Purchase Price to Cash Flows (EBITDA Periods 1-13)

Property Acquired	Type of System and Attributes	Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Cash Flows (EBITDA Periods 1-13)	Purchase Price to Cash Flow
Sadsbury	Wastewater Collection	2017.00	8,600,000	1%	895,128	9.61
East Norriton	Wastewater Collection	2018.83	21,000,000	2%	2,011,465	10.44
Cheltenham	Wastewater Collection	2018.42	50,250,000	4%	4,326,210	11.62
Mahoning	Wastewater Collection	2018.30	4,765,200	0%	348,409	13.68
Upper Pottsgrove	Wastewater Collection	2020.33	13,750,000	1%	932,042	14.75
Valley	Wastewater Collection	2019.96	13,950,000	1%	844,046	16.53
Wtd Mean			112,315,200		9,357,300	12.00
Mean						12.77
Median						12.65
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	2016.59	29,500,000	3%	2,625,115	11.24
East Bradford Township	Wastewater Collection and paid for treatment Capacity	2017.94	5,000,000	0%	632,892	7.90
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	2021.02	54,930,000	5%	18,521,227	2.97
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	2020.71	53,000,000	5%	3,432,340	15.44
Delaware County Regional Water Q	Wastewater Collection and Treatment	2020.00	276,500,000	24%	28,960,162	9.55
Royersford	Wastewater Collection and Treatment	2019.94	13,000,000	1%	1,209,765	10.75
Exeter	Wastewater Collection and Treatment	2018.41	93,500,000	8%	8,011,315	11.67
Kane	Wastewater Collection and Treatment	2018.75	17,560,000	2%	1,446,948	12.14
Limerick Township	Wastewater Collection and Treatment	2016.88	64,373,378	6%	5,212,045	12.35
City of York	Wastewater Collection and Treatment	2021.27	235,000,000	20%	18,001,021	13.05
City of McKeesport	Wastewater Collection and Treatment	2016.67	159,000,000	14%	11,958,224	13.30
Willistown Township	Wastewater Collection and Treatment	2021.05	17,500,000	2%	1,168,600	14.98
Wtd Mean			1,018,863,378		101,179,654	10.07
Mean						11.28
Median						11.91
Mahoning	Water Distribution	2018.30	4,734,800	0%	348,409	13.59
Steelton	Water Distribution and Treatment	2018.87	21,750,000	2%	3,893,757	5.59
Valley	Water Treatment and Distribution	2019.96	7,325,000	1%	817,993	8.95
Wtd Mean			33,809,800		5,060,159	6.68
Mean						9.38
Median						7.82

Financial Market Ratios – In the market approach based on market financial ratios the market data of companies (nine) in the water industry as reported in Value Line Investment Surveys (October 2022) were analyzed. In the analysis the companies' stock (market) and debt (book) per share are compared as a ratio to the book value per share which is detailed in the following table:

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

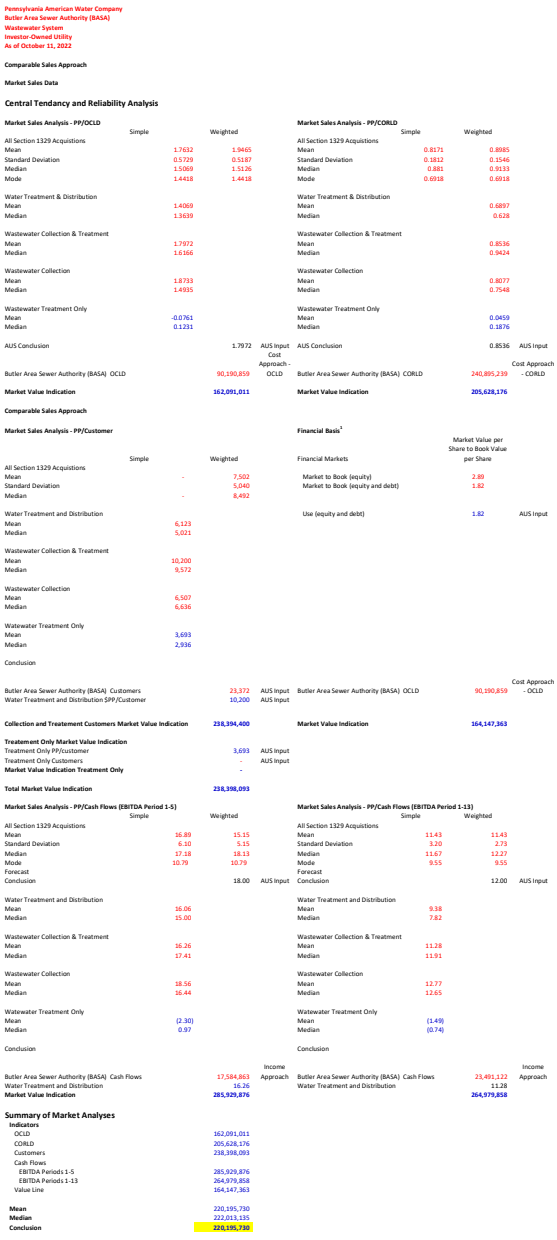
Comparable Sales Approach

Financial Basis[1]

	Industry Averages	American & Essential Averages	American States Water	American Water	Essential	California Water	Middlesex Water	SJW Corp	Totals
Price per Share			82.11	137.33	43.46	55.6	81.76	59.57	
Book value per share			20.15	41	21.45	22.35	21.7	36.65	
Market to Book Equity Ratio			4.07	3.35	2.03	2.49	3.77	1.63	
Minimum	1.63	2.03							
Mean	2.89	2.69		3.35	2.03				
Standard Deviation	0.90	0.660							
Weighted Market to Debt Ratio	2.92		15,081.73	122,563.84	35,742.63	10,339.52	6,670.43	5,373.61	195,771.76
Median	2.92	2.69							
Maximum	4.07	3.35							
Debt (Total) $s millions			670.8	11,621.0	6,213.3	1,130.0	313.2	1,494.7	
Outstanding Shares (millions)			36.96	181.79	262.17	54.36	17.81	30.25	
Debt per share			18.15	63.93	23.7	20.79	17.59	49.41	
Equity (Total) $s millions			3,034.79	24,965.22	11,393.91	3,022.42	1,456.15	1,801.99	
Total Capital (Debt + Equity)			3,705.59	36,586.22	17,607.21	4,152.42	1,769.35	3,296.69	67,117.47
			0.06	0.55	0.26	0.06	0.03	0.05	1.01
Market Value per Share (Equity+Debt)			100.26	201.26	67.16	76.39	99.35	108.98	
Book Value per Share (Equity+Debt)			38.3	104.93	45.15	43.14	39.29	86.06	
Market to Book (Total Capital) Ratio			2.62	1.92	1.49	1.77	2.53	1.27	
Minimum	1.27	1.49							
Mean	1.93	1.705		1.92	1.49				
Standard Deviation	0.50	0.215							
Weighted Market to Book (Debt&Equity) Ratio	1.82		9,708.63	70,245.54	26,234.74	7,349.78	4,476.44	4,186.80	122,201.93
Variance to Wtd Mean	0.1308		0.80	0.10	(0.33)	(0.05)	0.71	(0.55)	
Median	1.845	1.705							
Maximum	2.62	1.92							

1. Value Line Investment Survey September 30, 2022
2. Value Line dropped Connecticut Water in its January 10, 2020 publication
3. Value Line dropped York Water in its September, 2022 publication

The following table summarizes both the comparable sales and financial market ratio analysis and the Market Approach conclusion of this appraisal:



Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Comparable Sales Approach

Market Sales Data

Central Tendancy and Reliability Analysis

Market Sales Analysis - PP/OCLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	1.7632	1.9465	
Standard Deviation	0.5729	0.5187	
Median	1.5069	1.5126	
Mode	1.4418	1.4418	
Water Treatment & Distribution			
Mean	1.4069		
Median	1.3639		
Wastewater Collection & Treatment			
Mean	1.7972		
Median	1.6166		
Wastewater Collection			
Mean	1.8733		
Median	1.4935		
Wastewater Treatment Only			
Mean	-0.0761		
Median	0.1231		
AUS Conclusion		1.7972	AUS Input
			Cost Approach -
Butler Area Sewer Authority (BASA) OCLD		90,190,859	OCLD
Market Value Indication		**162,091,011**	

Market Sales Analysis - PP/CORLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	0.8171	0.8985	
Standard Deviation	0.1812	0.1546	
Median	0.881	0.9133	
Mode	0.6918	0.6918	
Water Treatment & Distribution			
Mean		0.6897	
Median		0.628	
Wastewater Collection & Treatment			
Mean		0.8536	
Median		0.9424	
Wastewater Collection			
Mean		0.8077	
Median		0.7548	
Wastewater Treatment Only			
Mean		0.0459	
Median		0.1876	
AUS Conclusion		0.8536	AUS Input
			Cost Approach
Butler Area Sewer Authority (BASA) CORLD		240,895,239	- CORLD
Market Value Indication		**205,628,176**	

Comparable Sales Approach

Market Sales Analysis - PP/Customer

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	-	7,502	
Standard Deviation		5,040	
Median	-	8,492	
Water Treatment and Distribution			
Mean	6,123		
Median	5,021		
Wastewater Collection & Treatment			
Mean	10,200		
Median	9,572		
Wastewater Collection			
Mean	6,507		
Median	6,636		
Watewater Treatment Only			
Mean	3,693		
Median	2,936		
Conclusion			
Butler Area Sewer Authority (BASA) Customers		23,372	AUS Input
Water Treatment and Distribution $PP/Customer		10,200	AUS Input
Collection and Treatement Customers Market Value Indication		**238,394,400**	
Treatement Only Market Value Indication			
Treatment Only PP/customer		3,693	AUS Input
Treatment Only Customers		-	AUS Input
Market Value Indication Treatment Only		-	
Total Market Value Indication		**238,398,093**	

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	2.89	
Market to Book (equity and debt)	1.82	
Use (equity and debt)	1.82	AUS Input
		Cost Approach
Butler Area Sewer Authority (BASA) OCLD	90,190,859	- OCLD
Market Value Indication	**164,147,363**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	16.89	15.15	
Standard Deviation	6.10	5.15	
Median	17.18	18.13	
Mode	10.79	10.79	
Forecast			
Conclusion		18.00	AUS Input
Water Treatment and Distribution			
Mean	16.06		
Median	15.00		
Wastewater Collection & Treatment			
Mean	16.26		
Median	17.41		
Wastewater Collection			
Mean	18.56		
Median	16.44		
Watewater Treatment Only			
Mean	(2.30)		
Median	0.97		
Conclusion			
			Income
Butler Area Sewer Authority (BASA) Cash Flows		17,584,863	Approach
Water Treatment and Distribution		16.26	
Market Value Indication		**285,929,876**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	11.43	11.43	
Standard Deviation	3.20	2.73	
Median	11.67	12.27	
Mode	9.55	9.55	
Forecast			
Conclusion		12.00	AUS Input
Water Treatment and Distribution			
Mean	9.38		
Median	7.82		
Wastewater Collection & Treatment			
Mean	11.28		
Median	11.91		
Wastewater Collection			
Mean	12.77		
Median	12.65		
Watewater Treatment Only			
Mean	(1.49)		
Median	(0.74)		
Conclusion			
			Income
Butler Area Sewer Authority (BASA) Cash Flows		23,491,122	Approach
Water Treatment and Distribution		11.28	
Market Value Indication		**264,979,858**	

Summary of Market Analyses

Indicators	
OCLD	162,091,011
CORLD	205,628,176
Customers	238,398,093
Cash Flows	
EBITDA Periods 1-5	285,929,876
EBITDA Periods 1-13	264,979,858
Value Line	164,147,363
Mean	220,195,730
Median	222,013,135
Conclusion	**220,195,730**

The market approach conclusion of this appraisal was determined to be $220,195,730.

Cost Approach Revisited – Before concluding this appraisal's fair market value, the preliminary cost approach conclusion of $240,895,239 needs to be evaluated to determine if external obsolescence exists in the preliminary replacement cost new less

depreciation conclusion of $240,895,239. The appraisal literature regarding developing a cost approach state:

> "The last step in the implementation of the cost approach is to estimate *economic obsolescence*. Economic obsolescence (sometimes called "external obsolescence") has been previously defined as the loss in value or usefulness of a property caused by factors external to the asset. These factors include increased cost of raw materials, labor, utilities (without an offsetting increase in product price); reduced demand for the product; increased competition; environmental or other regulations; or similar factors.
>
> The difficulty in measuring the full effect of economic obsolescence is one of the weaknesses of the cost approach. Because economic obsolescence is usually a function of outside influences that affect an entire business (i.e., all tangible and intangible assets) rather than individual assets or isolated groups of assets, it is sometimes measured using the income approach or by using the income approach to help identify the existence of economic influences on value. However, the cost approach can be used to measure some forms of economic obsolescence."[16]

The above-described income approach value conclusion of $259,277,679 and the market approach conclusion of $220,195,730 for the BASA's future wastewater system compared to the preliminary cost approach conclusion of $240,895,239 indicates no significant external obsolescence exists in the cost approach conclusion of $240,895,239 detailed as follows:

[16] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition, pp. 96-97.

36	37	38	39	40	41

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

(36)	(37)	(38)	(39)	(40)	(41)
Account	Description	Placement Year	Preliminary Cost Approach CORLD $s	Economic Obsolescence % of Preliminary Cost Approach	Fair Market Value Appraisal Date Value $s
Input	Input	Input	Calculation	Input	Calculation
AUS Input	Eng Assmnt	Eng Assmnt	CORLD	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Year	Prelim CORLD	EO%	FMV
	Account 363- Sanitary Sewer Service Connections				
364	26 Flow Meters	1999	197,352	0.00%	197,352
364	Additional Flow Meters	2012	43,449	0.00%	43,449
	Subtotal 361 Gravity Mains		**240,801**		**240,801**

Therefore, the preliminary cost approach conclusion of $240,895,239 can be considered the final cost approach conclusion as follows:

36	37	39	40	41

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Fair Market Value

(36)	(37)	(39)	(40)	(41)

Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD $s	% of Preliminary Cost Approach	Appraisal Date Value $s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.00	Land & Land Rights	14,138,600	0.00%	14,138,600
354.00	Stuctures & Improvements	26,702,596	0.00%	26,702,596
354.30	Stuctures & Improvements - Pumping	36,625,003	0.00%	36,625,003
355.00	Generating Equipment	443,498	0.00%	443,498
355.10	Generating Equipment - Pumping	954,182	0.00%	954,182
360.10	Collection Sewers - Force - Mains - CIP	8,730,174	0.00%	8,730,174
361.10	Collection Sewers - Gravity - Mains	71,152,734	0.00%	71,152,734
361.12	Collection Sewers - Gravity - Mains Relined	8,227,166	0.00%	8,227,166
361.15	Collection Sewers - Gravity - Mains Relining	11,275,266	0.00%	11,275,266
361.20	Collection Sewers - Gravity - Manholes	12,072,354	0.00%	12,072,354
363.00	Service Laterals	12,204,228	0.00%	12,204,228
364.00	Flow Measuring Devices	240,801	0.00%	240,801
371.00	Pumping Equipment	640,612	0.00%	640,612
371.10	Pumping Equipment	10,087,975	0.00%	10,087,975
380.00	Treatment and Disposal Equipment	21,299,805	0.00%	21,299,805
380.10	Equipment Pump Stations	4,172,881	0.00%	4,172,881
390.10	Office Computer Equipment	18,982	0.00%	18,982
390.20	Office Printers	15,309	0.00%	15,309
390.30	Office Equipment	9,989	0.00%	9,989
391.00	Transportation Equipment	461,896	0.00%	461,896
395.00	Power Operated Equipment	739,488	0.00%	739,488
396.00	Communications Equipment	622,435	0.00%	622,435
397.00	Miscellaneous Equipment	59,265	0.00%	59,265
	Grand Total	240,895,239	0.00%	240,895,239

Value Conclusion

The Fair Market Value of the BASA's, wastewater property, plant and equipment and its operation were determined to be $246,178,265 as follows:

Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		144,573,880		
Depreciated Original Cost ($OCLD)		90,190,859		
Intangible Assets (Treatement contracts)		-		
Cost Approach of all assets Conclusion		90,190,859		
Replacement Cost				
Replacement Cost New (COR)		525,870,564		
Depreciated Replacement Cost New (CORLD)	$	**240,895,239**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	$	**240,895,239**		
Intangible Assets (Treatement contracts)	$	-		
Cost Approach of all assets Conclusion		**240,895,239**		
Cost Approach Conclusion		**240,895,239**	**50%**	**120,447,620**
Income Approach				
Required Rate Increases: 65% period 2, 50% period 4, 10% period 6, 20% period 8, 10% period 10 and 6% every 2nd year beginning in period 12 (Input 6)		259,277,679		
Income Approach Conclusion		**259,277,679**	**40%**	**103,711,072**
Market Approach				
Market Comparables (to)				
OCLD		162,091,011		
CORLD		205,628,176		
Customers		238,398,093		
Cash Flows (EBITDA) Periods 1-5		285,929,876		
Cash Flows (EBITDA) Periods 1-13		264,979,858		
Market Financials (to)				
OCLD		164,147,363		
Market Approach Conclusion		**220,195,730**	**10%**	**22,019,573**
Appraisal Conclusion	$	**246,178,265**	**100%**	**246,178,265**
Conclusion (cost approach)	$	**240,895,239**		

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the BASA's wastewater collection system's property, plant and equipment this appraisal's conclusion of $246,178,265 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the water industry account classifications and the installation year of the property, this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

- State the identity of the client and any intended users, by name or type:
  Pennsylvania American Water Company and the Pennsylvania Public Utility Commission

- State the intended use of the appraisal
  To establish the Fair Market Value of Butler Area Sewer Authority's (PA) Wastewater System (System).

- Describe information sufficient to identify the property, real, personal, and intangible, involved in the appraisal, including the physical and economic property characteristics relevant to the assignment.

  The system consists of collection mains and laterals of various sizes and types, pumping structures, improvements and equipment, and treatment facilities. The property is in good condition based on physical inspections and reviews or operating statements. The property is an operating wastewater system the economics of which were analyzed based on seven years of operating financials which were incorporated into the income approach to value analysis in this appraisal.

- State the real property interests appraised
  The system's land and land rights agreements necessary to access its property.

- State the type and definition of value and city the source of the definition, including whether the opinion of value is in terms of cash or of financing terms equivalent to cash, or based on non-market financing or financing with unusual conditions or incentives
  - *Market Value definition:*
    "The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress." The Appraisal of Real Estate, 12th Edition, page 22.

- State the effective date of the appraisal and the date of the report
  The effective date of the appraisal is October 11, 2022 and the appraisal report date is February 10, 2023.

- Describe sufficient information to disclose to the client and any other intended users of the appraisal the scope of work used to develop the appraisal
  The appraisal considered all three approaches to value: the cost, income and market. Briefly the scopes of work for each are as follows:

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

Cost Approach – The cost approach utilized the trended cost method utilizing the investment inventory developed by Herbert, Rowland, and Grubic, Inc. Engineers "Engineers Assessment". The Handy Whitman Index of Public Utility Construction Costs for the water industry were used in the trending. Depreciation was assessed based on straight line age-life depreciation method based on service life expectation for each of the various account categories.

Income Approach – The income approach utilized the discounted cash flow (DCF) method that facilitates the development of cash flows from operations as the property migrates from municipal operation to a regulated investor-owned operation. BASA's operating experience was analyzed (2015-2022) in order to estimate the initial cash flows. Future customer tariff rates address the rates agreed to by the parties in the Asset Purchase Agreement between the parties. The operations were forecast for 19 periods in the future and a 20th period which is intended to reflect operation beyond that time. The discount rate was developed based on market debt and equity rates at the appraisal date.

Market Approach – The market approach was developed based on market comparable sales of Pennsylvania wastewater properties and market to book ratios developed for the water industry based on information published by Value Line Investment Surveys at the appraisal date.

Valuation Approaches Reconciliation - The appraisal conclusion was based on reconciliation of each of the approaches and the intended purpose of the appraisal.

- Clearly and conspicuously:
  - State all extraordinary assumptions and hypothetical conditions;

    There were no extraordinary assumptions or hypothetical conditions in this appraisal.

  - State that their use might have affected the assignment results

    Not applicable.

- Clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment

  Not applicable.

- Describe the information analyzed, the appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

See scope of work above.

- State the use of the real estate existing as of the date of value and the use of the real estate reflected in the appraisal – when reporting an opinion of market value, describe the support and rationale for the appraiser's opinion of the highest and best use of the real estate

- State and explain any permitted departures from specific requirements of STANDARD 1 and the reason for excluding any of the usual valuation approaches. The appraisal then becomes a limited appraisal – a limited appraisal report must contain a prominent section that clearly identifies the extent of the appraisal process performed and the departures taken

  No departures for Standard 1 were made.

- Include a signed certification in accordance with Standards Rule 2-3

  Contained in Narrative Report.

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

Weinert Appraisal and Depreciation Services, LLC (WAD Consultants) certify that, to the best of its knowledge and belief:

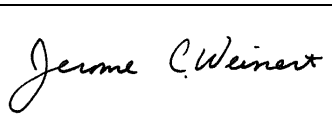
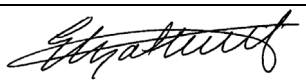
- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- WAD Consultants has performed an appraisal of the BASA's wastewater system previously in the last three year.
- WAD Consultants nor its professional staff has any present or prospective interest in the property that is the subject of this report and has no interest or bias with respect to the parties involved.
- We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- Our engagement in this assignment is not contingent upon developing or reporting predetermined results.
- Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice 2020-2021[1].
- The signers of this report have made a personal inspection of the property that is the subject of this report.
- Individuals providing significant appraisal assistance to the person signing this certification include: Scott Fogelsanger of Pennsylvania American Wastewater Company provided information obtained from the BASA and the Engineer's Assessment report prepared by Herbert, Rowland, and Grubic, Inc. Engineers which was the inventory starting point of the Cost Approach.

[1] The Appraisal Foundation extended the applicability of the 2020-2021 Edition of USPAP through December 31, 2023.

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

Weinert Appraisal and Depreciation services, LLC
By:

	
Jerome C. Weinert, ASA, P.E., CDP Principal and Director	Elizabeth A. Weinert Associate

ASA: Accredited Senior Appraiser in the Machinery and Equipment (Public Utilities) discipline of the American Society of Appraisers
P.E.: Registered Professional Engineer State of Wisconsin
CDP: Certified Depreciation Professions in the Society of Depreciation Professionals

Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
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Cost Approach of all assets Conclusion		90,190,859		
Replacement Cost				
Replacement Cost New (COR)		525,870,564		
Depreciated Replacement Cost New (CORLD)	$	240,895,239		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	$	240,895,239		
Intangible Assets (Treatement contracts)	$	-		
Cost Approach of all assets Conclusion		240,895,239		
Cost Approach Conclusion		240,895,239	50%	120,447,620
Income Approach				
Required Rate Increases: 65% period 2, 50% period 4, 10% period 6, 20% period 8, 10% period 10 and 6% every 2nd year beginning in period 12 (Input 6)		259,277,679		
Income Approach Conclusion		259,277,679	40%	103,711,072
Market Approach				
Market Comparables (to)				
OCLD		162,091,011		
CORLD		205,628,176		
Customers		238,398,093		
Cash Flows (EBITDA) Periods 1-5		285,929,876		
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Market Financials (to)				
OCLD		164,147,363		
Market Approach Conclusion		220,195,730	10%	22,019,573
Appraisal Conclusion	$	246,178,265	100%	246,178,265
Conclusion (cost approach)	$	240,895,239		

1	2	3	9	10	13	14	15	16

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
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Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Borough of Baldwin	Eng Assmnt	AUS Input			AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Original Cost	Cost Index Table	Translator	RCN	COR / RCN Factor	COR
353.00	353.00	Land & Land Rights	592,540.92	USBLS3	23.772	14,085,768	1.00	14,138,600
354.00	354.00	Stuctures & Improvements	18,861,944.91	HWW-115	4.237	79,912,801	1.00	79,912,801
354.00	354.30	Stuctures & Improvements - Pumping	31,007,896.11	HWW-18	1.491	46,218,129	1.00	46,218,129
355.00	355.00	Generating Equipment	590,906.80	USBLS4	1.612	952,830	1.00	952,830
355.00	355.10	Generating Equipment - Pumping	1,112,785.36	USBLS4	1.244	1,384,612	1.00	1,384,612
360.00	360.10	Collection Sewers - Force - Mains - CIP	4,583,561.30	HWW-135	3.370	15,447,522	1.00	15,447,522
361.00	361.10	Collection Sewers - Gravity - Mains	31,448,751.16	HWW-144	5.030	158,177,377	1.00	158,177,377
361.00	361.12	Collection Sewers - Gravity - Mains Relined	568,769.65	HWW-144	35.215	20,029,223	1.00	20,029,223
361.00	361.15	Collection Sewers - Gravity - Mains Relining	10,584,527.19	HWW-138	1.349	14,275,316	1.00	14,275,316
361.00	361.20	Collection Sewers - Gravity - Manholes	7,337,651.29	HWW-145	3.563	26,147,473	1.00	26,147,473
363.00	363.00	Service Laterals	8,568,747.97	HWW-139	5.488	47,022,674	1.00	47,022,674
364.00	364.00	Flow Measuring Devices	300,000.00	HWW-140	2.316	694,650	1.00	694,650
371.00	371.00	Pumping Equipment	467,574.00	HWW-19	3.427	1,602,159	1.00	1,602,159
371.00	371.10	Pumping Equipment	6,954,252.19	HWW-19	6.071	42,215,985	1.00	42,215,985
380.00	380.00	Treatment and Disposal Equipment	15,729,809.83	HWW-117	3.093	48,645,641	1.00	48,645,641
380.00	380.10	Equipment Pump Stations	2,675,250.00	HWW-19	2.036	5,445,824	1.00	5,445,824
390.00	390.10	Office Computer Equipment	43,961.00	AUST-114	0.649	28,524	1.00	28,524
390.00	390.20	Office Printers	43,201.00	AUST-113	1.036	44,755	1.00	44,755
390.00	390.30	Office Equipment	12,178.00	AUST-113	1.020	12,425	1.00	12,425
391.00	391.00	Transportation Equipment	784,172.00	AUST-14	1.133	888,145	1.00	888,145
395.00	395.00	Power Operated Equipment	1,134,169.60	AUST-18	1.293	1,466,657	1.00	1,466,657
396.00	396.00	Communications Equipment	1,111,618.35	USBLS2	0.994	1,104,536	1.00	1,104,536
397.00	397.00	Miscellaneous Equipment	59,611.08	AUST-18	1.133	67,538	1.00	67,538
		Grand Total	144,573,879.71		3.637	525,870,564	1.00	525,923,396

1	2	3	4	5	6	7

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(3)				
		(3a)	(3b)	(3c)	(3d)	(3e)
Account Number	Description	Costing Parameters				Reproduction to Replacement Cost Factor
		Index Series	Table	Line Reference	Lookup	AUS Input
353.00	Land & Land Rights	USBLS	PPI	3.00	USBLS3	1.00
354.00	Stuctures & Improvements	HW	W-1	15.00	HWW-115	1.00
354.30	Stuctures & Improvements - Pumping	HW	W-1	8.00	HWW-18	1.00
355.00	Generating Equipment	USBLS	PPI	4.00	USBLS4	1.00
355.10	Generating Equipment - Pumping	USBLS	PPI	4.00	USBLS4	1.00
360.10	Collection Sewers - Force - Mains - CIP	HW	W-1	35.00	HWW-135	1.00
361.10	Collection Sewers - Gravity - Mains	HW	W-1	44.00	HWW-144	1.00
361.12	Collection Sewers - Gravity - Mains Relined	HW	W-1	44.00	HWW-144	1.00
361.15	Collection Sewers - Gravity - Mains Relining	HW	W-1	38.00	HWW-138	1.00
361.20	Collection Sewers - Gravity - Manholes	HW	W-1	45.00	HWW-145	1.00
363.00	Service Laterals	HW	W-1	39.00	HWW-139	1.00
364.00	Flow Measuring Devices	HW	W-1	40.00	HWW-140	1.00
371.00	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
371.10	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
380.00	Treatment and Disposal Equipment	HW	W-1	17.00	HWW-117	1.00
380.10	Equipment Pump Stations	HW	W-1	9.00	HWW-19	1.00
390.10	Office Computer Equipment	AUS	T-1	14.00	AUST-114	1.00
390.20	Office Printers	AUS	T-1	13.00	AUST-113	1.00
390.30	Office Equipment	AUS	T-1	13.00	AUST-113	1.00
391.00	Transportation Equipment	AUS	T-1	4.00	AUST-14	1.00
395.00	Power Operated Equipment	AUS	T-1	8.00	AUST-18	1.00
396.00	Communications Equipment	USBLS	PPI	2.00	USBLS2	1.00
397.00	Miscellaneous Equipment	AUS	T-1	8.00	AUST-18	1.00

18	19	21	22	23	24	28	29	30	31

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at October 11, 2022 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Borough of Baldwin		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.00	Land & Land Rights	3.98	14,138,600	ZNonDep	-	-	-	-	14,138,600
354.00	Stuctures & Improvements	40.34	79,912,801	R4.0	55.00	18.92	59.26	55.00	26,702,596
354.00	Stuctures & Improvements - Pumping	9.43	46,218,129	R4.0	45.00	35.63	45.06	45.00	36,625,003
355.00	Generating Equipment	19.77	952,830	R3.0	35.00	17.07	36.83	35.00	443,498
355.00	Generating Equipment - Pumping	11.20	1,384,612	R3.0	35.00	24.55	35.75	35.00	954,182
360.00	Collection Sewers - Force - Mains - CIP	34.25	15,447,522	R3.0	75.00	43.82	78.07	75.00	8,730,174
361.00	Collection Sewers - Gravity - Mains	48.80	158,177,377	R2.5	80.00	38.86	87.65	80.00	71,152,734
361.00	Collection Sewers - Gravity - Mains Relined	90.74	20,029,223	R2.5	140.00	63.22	153.96	140.00	8,227,166
361.00	Collection Sewers - Gravity - Mains Relining	12.88	14,275,316	R2.5	60.00	48.28	61.16	60.00	11,275,266
361.00	Collection Sewers - Gravity - Manholes	48.53	26,147,473	R2.5	80.00	39.61	88.14	80.00	12,072,354
363.00	Service Laterals	54.14	47,022,674	R3.0	50.00	13.67	67.82	50.00	12,204,228
364.00	Flow Measuring Devices	22.02	694,650	S2.0	30.00	11.52	33.54	30.00	240,801
371.00	Pumping Equipment	22.60	1,602,159	R3.0	35.00	14.98	37.58	35.00	640,612
371.00	Pumping Equipment	39.31	42,215,985	R3.0	35.00	8.42	47.73	35.00	10,087,975
380.00	Treatment and Disposal Equipment	30.65	48,645,641	R2.0	45.00	21.85	52.50	45.00	21,299,805
380.00	Equipment Pump Stations	8.22	5,445,824	R3.0	35.00	26.93	35.15	35.00	4,172,881
390.00	Office Computer Equipment	2.85	28,524	R3.0	8.00	5.41	8.26	8.00	18,982
390.00	Office Printers	8.95	44,755	R3.0	12.00	4.44	13.40	12.00	15,309
390.00	Office Equipment	2.38	12,425	R3.0	12.00	9.73	12.11	12.00	9,989
391.00	Transportation Equipment	7.84	888,145	R3.0	15.00	8.00	15.84	15.00	461,896
395.00	Power Operated Equipment	12.73	1,466,657	R3.0	15.00	7.66	20.39	15.00	739,488
396.00	Communications Equipment	7.77	1,104,536	R3.0	12.00	6.84	14.62	12.00	622,435
397.00	Miscellaneous Equipment	3.54	67,538	R3.0	20.00	17.61	21.15	20.00	59,265
	Grand Total	40.11	525,923,396		61.72	29.07	69.08	45.80	240,895,239

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Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)	(4a)	(4b)	(5)	(6)	(6a)	(6b)
Account Number	Description		Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence	Tax Depreciation		
				years	% of CORLD		Table	Life
353.00	Land & Land Rights		ZNonDep	0.00	0.00%		Non-Depr	0.00
354.00	Stuctures & Improvements		R4.0	55.00	0.00%		MACRS	25.00
354.30	Stuctures & Improvements - Pumping		R4.0	45.00	0.00%		MACRS	25.00
355.00	Generating Equipment		R3.0	35.00	0.00%		MACRS	25.00
355.10	Generating Equipment - Pumping		R3.0	35.00	0.00%		MACRS	25.00
360.10	Collection Sewers - Force - Mains - CIP		R3.0	75.00	0.00%		MACRS	25.00
361.10	Collection Sewers - Gravity - Mains		R2.5	80.00	0.00%		MACRS	25.00
361.12	Collection Sewers - Gravity - Mains Relined		R2.5	140.00	0.00%		MACRS	25.00
361.15	Collection Sewers - Gravity - Mains Relining		R2.5	60.00	0.00%		MACRS	25.00
361.20	Collection Sewers - Gravity - Manholes		R2.5	80.00	0.00%		MACRS	25.00
363.00	Service Laterals		R3.0	50.00	0.00%		MACRS	25.00
364.00	Flow Measuring Devices		S2.0	30.00	0.00%		MACRS	25.00
371.00	Pumping Equipment		R3.0	35.00	0.00%		MACRS	25.00
371.10	Pumping Equipment		R3.0	35.00	0.00%		MACRS	25.00
380.00	Treatment and Disposal Equipment		R2.0	45.00	0.00%		MACRS	25.00
380.10	Equipment Pump Stations		R3.0	35.00	0.00%		MACRS	25.00
390.10	Office Computer Equipment		R3.0	8.00	0.00%		MACRS	12.00
390.20	Office Printers		R3.0	12.00	0.00%		MACRS	12.00
390.30	Office Equipment		R3.0	12.00	0.00%		MACRS	12.00
391.00	Transportation Equipment		R3.0	15.00	0.00%		MACRS	10.00
395.00	Power Operated Equipment		R3.0	15.00	0.00%		MACRS	15.00
396.00	Communications Equipment		R3.0	12.00	0.00%		MACRS	12.00
397.00	Miscellaneous Equipment		R3.0	20.00	0.00%		MACRS	20.00

36	37	39	40	41

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Fair Market Value

(36)	(37)	(39)	(40)	(41)

Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD $s	% of Preliminary Cost Approach	Appraisal Date Value $s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.00	Land & Land Rights	14,138,600	0.00%	14,138,600
354.00	Stuctures & Improvements	26,702,596	0.00%	26,702,596
354.30	Stuctures & Improvements - Pumping	36,625,003	0.00%	36,625,003
355.00	Generating Equipment	443,498	0.00%	443,498
355.10	Generating Equipment - Pumping	954,182	0.00%	954,182
360.10	Collection Sewers - Force - Mains - CIP	8,730,174	0.00%	8,730,174
361.10	Collection Sewers - Gravity - Mains	71,152,734	0.00%	71,152,734
361.12	Collection Sewers - Gravity - Mains Relined	8,227,166	0.00%	8,227,166
361.15	Collection Sewers - Gravity - Mains Relining	11,275,266	0.00%	11,275,266
361.20	Collection Sewers - Gravity - Manholes	12,072,354	0.00%	12,072,354
363.00	Service Laterals	12,204,228	0.00%	12,204,228
364.00	Flow Measuring Devices	240,801	0.00%	240,801
371.00	Pumping Equipment	640,612	0.00%	640,612
371.10	Pumping Equipment	10,087,975	0.00%	10,087,975
380.00	Treatment and Disposal Equipment	21,299,805	0.00%	21,299,805
380.10	Equipment Pump Stations	4,172,881	0.00%	4,172,881
390.10	Office Computer Equipment	18,982	0.00%	18,982
390.20	Office Printers	15,309	0.00%	15,309
390.30	Office Equipment	9,989	0.00%	9,989
391.00	Transportation Equipment	461,896	0.00%	461,896
395.00	Power Operated Equipment	739,488	0.00%	739,488
396.00	Communications Equipment	622,435	0.00%	622,435
397.00	Miscellaneous Equipment	59,265	0.00%	59,265
	Grand Total	240,895,239	0.00%	240,895,239

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Determination of the Depreciated Original Cost

(43)	(44)	(46)	(47)	(48)	(49)	(53)	(54)	(55)	(56)	(57)
Account	Description	Original Costs	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Age at October 11, 2022 Appraisal Date	Normal Remaining Life	Total Life Expectancy	Theoretical Reserve Percent	Theoretical Reserve	Depreciated Original Cost
Input	Input	Input	Input	Input	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation
AUS Input	Eng Assmnt	Eng Assmnt	AUS Input	AUS Input			Col (46) + (53)	Col (53) / (54)	Col (46) * (55)	Col (46) - (56)
Acct	Descrip	Original Cost	Iowa	Normal Life	age	Rem Life	Total Life	Theo%	Theo Reserve	Net Book
353.00	Land & Land Rights	592,541	ZNonDep	-	23.26	-	-	0.00%	-	592,541
354.00	Stuctures & Improvements	18,861,945	R4.0	55.00	30.31	26.98	57.29	52.00%	9,786,051	9,075,894
354.30	Stuctures & Improvements - Pumping	31,007,896	R4.0	45.00	8.76	36.21	44.97	19.00%	6,029,129	24,978,767
355.00	Generating Equipment	590,907	R3.0	35.00	18.96	17.79	36.75	51.00%	303,019	287,888
355.10	Generating Equipment - Pumping	1,112,785	R3.0	35.00	10.60	25.07	35.67	30.00%	328,566	784,219
360.10	Collection Sewers - Force - Mains - CIP	4,583,561	R3.0	75.00	23.47	53.46	76.93	30.00%	1,376,569	3,206,992
361.10	Collection Sewers - Gravity - Mains	31,448,751	R2.5	80.00	38.15	47.06	85.21	44.00%	13,867,236	17,581,515
361.12	Collection Sewers - Gravity - Mains Relined	568,770	R2.5	140.00	90.74	63.22	153.96	59.00%	335,141	233,629
361.15	Collection Sewers - Gravity - Mains Relining	10,584,527	R2.5	60.00	12.53	48.59	61.12	20.00%	2,165,888	8,418,639
361.20	Collection Sewers - Gravity - Manholes	7,337,651	R2.5	80.00	35.28	49.38	84.66	41.00%	3,003,124	4,334,527
363.00	Service Laterals	8,568,748	R3.0	50.00	31.61	24.11	55.71	53.00%	4,580,530	3,988,218
364.00	Flow Measuring Devices	300,000	S2.0	30.00	21.08	12.20	33.29	63.00%	188,472	111,528
371.00	Pumping Equipment	467,574	R3.0	35.00	21.47	15.97	37.44	57.00%	266,686	200,888
371.10	Pumping Equipment	6,954,252	R3.0	35.00	28.43	14.27	42.70	60.00%	4,149,107	2,805,145
380.00	Treatment and Disposal Equipment	15,729,810	R2.0	45.00	20.16	29.46	49.62	38.00%	5,969,379	9,760,431
380.10	Equipment Pump Stations	2,675,250	R3.0	35.00	8.21	26.94	35.15	23.00%	624,705	2,050,545
390.10	Office Computer Equipment	43,961	R3.0	8.00	3.50	4.86	8.36	41.00%	17,912	26,049
390.20	Office Printers	43,201	R3.0	12.00	8.95	4.45	13.40	66.00%	28,411	14,790
390.30	Office Equipment	12,178	R3.0	12.00	2.37	9.74	12.11	20.00%	2,376	9,802
391.00	Transportation Equipment	784,172	R3.0	15.00	7.51	8.27	15.78	46.00%	360,403	423,769
395.00	Power Operated Equipment	1,134,170	R3.0	15.00	11.10	8.42	19.53	44.00%	504,659	629,511
396.00	Communications Equipment	1,111,618	R3.0	12.00	7.86	6.79	14.65	44.00%	489,535	622,083
397.00	Miscellaneous Equipment	59,611	R3.0	20.00	2.79	18.01	20.80	10.00%	6,123	53,488
	Grand Total	144,573,880		56.70	24.09	35.87	59.86	37.62%	54,383,021	90,190,859

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Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Discounted Cash Flow Analysis

Discount Rate: 7.84%
Capitalization Rate: 4.76%

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	12,752,000	12,830,907	9,178,847	(78,907)	(9,257,754)	(2,674,565)	10,830,864	-	(8,235,206)	0.963	(7,930,503)	(7,930,503)
2	1.5	21,040,800	12,764,804	9,582,429	8,275,996	(1,306,433)	(377,428)	11,075,651	339,841	(2,762,068)	0.893	(2,466,526)	(10,397,029)
3	2.5	21,040,800	12,742,504	10,004,884	8,298,296	(1,706,588)	(493,033)	11,322,571	-	(2,531,242)	0.828	(2,095,868)	(12,492,897)
4	3.5	31,561,200	12,780,373	10,447,070	18,780,827	8,333,757	2,407,622	11,575,526	431,336	4,366,343	0.768	3,353,352	(9,139,545)
5	4.5	31,561,200	12,869,473	10,909,720	18,691,727	7,782,007	2,248,222	11,834,672	-	4,608,833	0.712	3,281,489	(5,858,056)
6	5.5	41,029,560	12,935,902	11,393,593	28,093,658	16,700,065	4,824,649	12,100,168	388,203	10,780,638	0.660	7,115,221	1,257,165
7	6.5	41,029,560	13,047,580	9,982,089	27,981,980	17,999,891	5,200,169	5,660,003	-	17,121,808	0.612	10,478,546	11,735,711
8	7.5	49,235,472	12,914,338	10,161,694	36,321,134	26,159,440	7,557,462	5,702,453	336,443	22,724,776	0.568	12,907,673	24,643,384
9	8.5	49,235,472	12,853,388	10,344,325	36,382,084	26,037,759	7,522,308	5,745,220	-	23,114,556	0.526	12,158,256	36,801,640
10	9.5	54,159,019	12,879,562	10,530,018	41,279,457	30,749,440	8,883,513	5,788,309	201,865	26,405,770	0.488	12,886,016	49,687,656
11	10.5	54,159,019	12,874,551	10,718,808	41,284,468	30,565,659	8,830,419	5,831,721	-	26,622,328	0.453	12,059,914	61,747,570
12	11.5	57,408,560	12,934,011	10,910,732	44,474,549	33,563,817	9,696,587	5,875,459	133,231	28,769,272	0.420	12,083,094	73,830,664
13	12.5	57,408,560	12,977,199	11,022,671	44,431,361	33,408,690	9,651,771	5,919,527	-	28,860,063	0.389	11,226,565	85,057,229
14	13.5	60,853,074	13,117,643	11,219,639	47,735,431	36,515,793	10,549,413	5,963,923	141,225	31,080,870	0.361	11,220,194	96,277,423
15	14.5	60,853,074	13,185,707	11,419,827	47,667,367	36,247,540	10,471,914	6,008,651	-	31,186,802	0.335	10,447,579	106,725,002
16	15.5	64,504,258	13,323,552	11,576,158	51,180,706	39,604,548	11,441,754	6,053,717	149,698	33,535,537	0.310	10,396,016	117,121,018
17	16.5	64,504,258	13,401,365	11,782,049	51,102,893	39,320,844	11,359,792	6,099,119	-	33,643,982	0.288	9,689,467	126,810,485
18	17.5	68,374,513	13,554,963	11,991,261	54,819,550	42,828,288	12,373,093	6,144,863	158,681	36,142,913	0.267	9,650,158	136,460,643
19	18.5	68,374,513	13,776,850	12,203,830	54,597,663	42,393,833	12,247,578	6,190,950	-	36,159,135	0.247	8,931,306	145,391,949
20 and beyond	19.5	72,476,984	13,929,152	12,419,791	58,547,832	46,128,041	13,326,391	6,237,381	168,201	38,815,859	2.934	113,885,730	259,277,679
								151,960,748					
Age				19.5									
PW(Age) = 1/(1+Discount Rate)^(Age)				0.230				Net Plant		200,273,788			
PW to Perpetuity = 1/Capitalization Rate				12.755				ADIT		(10,143,833)			
PW(20and Beyond) = PW to Perpetuity * PW Factor(19.5)				2.934				Rate Base		190,129,955	0.230	43,729,890	189,121,839
								Annual Plant Construction Inflation Rate		0.0422 Input			
								Plant Inflation over 19.5 years		434,582,189	0.230	99,953,903	245,345,852
								PP	231,500,000				
								OCLD	90,190,859				
								PP/OCLD	2.567				
								RCNLD	240,895,239				
								RCNLD/PP		1.040584186			
										197,846,224.88	0.230	45,504,632	190,896,581
								Average					221,160,488

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Calculated Rates of Return on Rate Base and Equity
(Years 1 through 20)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Period	Age	Revenues	O&M Expenses	Book Depreciation	Ratemaking Interest Expense	Book Taxable Income (Current + Deferred)	State and Federal Taxes @ 28.89%	Net Operating Income	Net (Equity) Income	Net Plant	Working Capital	Accumulated Deferred Income Taxes (ADIT)	Rate Base	Return on Rate Base	Net Equity	Return on Equity
						(3)-(4)-(5)-(6)	(7) *28.89%	(7)-(8)+(6)	(9) - (6)				(11)+(12)+(13)	(9)/(14)		(10)/(16)
1	0.5	12,752,000	12,830,907	10,238,100	8,604,067	(18,921,073)	(5,466,298)	(4,850,708)	(13,454,775)	232,092,764	522,832	306,018	232,921,614	-2.08%	334,854,153	-4.02%
2	1.5	21,040,800	12,764,804	10,045,640	8,320,383	(10,090,026)	(2,915,009)	1,145,366	(7,175,017)	233,122,776	862,673	439,840	234,425,289	0.49%	332,173,713	-2.16%
3	2.5	21,040,800	12,742,504	9,894,456	8,046,915	(9,643,075)	(2,785,884)	1,189,724	(6,857,191)	234,550,891	862,673	407,938	235,821,502	0.50%	329,703,593	-2.08%
4	3.5	31,561,200	12,780,373	9,800,862	7,778,685	1,201,281	347,050	8,632,916	854,231	236,325,555	1,294,009	221,249	237,840,813	3.63%	334,878,339	0.26%
5	4.5	31,561,200	12,869,473	9,755,871	7,519,395	1,416,462	409,216	8,526,641	1,007,246	238,404,356	1,294,009	(112,098)	239,586,267	3.56%	340,174,107	0.30%
6	5.5	41,029,560	12,935,902	9,685,528	7,268,749	11,139,381	3,218,167	15,189,963	7,921,214	240,818,996	1,682,212	(605,558)	241,895,650	6.28%	352,333,822	2.25%
7	6.5	41,029,560	13,047,580	9,657,697	7,026,457	11,297,826	3,263,942	15,060,341	8,033,884	236,787,334	1,682,212	(699,275)	237,770,271	6.33%	364,586,417	2.20%
8	7.5	49,235,472	12,914,338	9,382,156	6,792,242	20,146,736	5,820,392	21,118,586	14,326,344	233,073,408	2,018,655	(924,483)	234,167,580	9.02%	382,935,535	3.74%
9	8.5	49,235,472	12,853,388	9,176,062	6,565,834	20,640,187	5,962,950	21,243,071	14,677,237	229,608,087	2,018,655	(1,261,994)	230,364,748	9.22%	401,488,993	3.66%
10	9.5	54,159,019	12,879,562	9,054,189	6,346,973	25,878,296	7,476,240	24,749,029	18,402,056	226,307,469	2,220,520	(1,688,361)	226,839,628	10.91%	423,680,605	4.34%
11	10.5	54,159,019	12,874,551	8,898,169	6,135,407	26,250,892	7,583,883	24,802,416	18,667,009	223,206,022	2,220,520	(2,214,344)	223,212,198	11.11%	446,026,225	4.19%
12	11.5	57,408,560	12,934,011	8,803,600	5,930,893	29,740,055	8,591,902	27,079,046	21,148,153	220,242,619	2,353,751	(2,823,094)	219,773,276	12.32%	470,785,741	4.49%
13	12.5	57,408,560	12,977,199	8,689,678	5,733,197	30,008,486	8,669,452	27,072,231	21,339,034	217,436,944	2,353,751	(3,497,096)	216,293,599	12.52%	495,655,129	4.31%
14	13.5	60,853,074	13,117,643	8,669,870	5,542,090	33,523,472	9,684,931	29,380,631	23,838,541	214,695,205	2,494,976	(4,233,725)	212,956,456	13.80%	523,009,936	4.56%
15	14.5	60,853,074	13,185,707	8,574,477	5,357,354	33,735,536	9,746,196	29,346,694	23,989,340	212,093,319	2,494,976	(5,055,746)	209,532,549	14.01%	550,447,709	4.36%
16	15.5	64,504,258	13,323,552	8,545,598	5,178,775	37,456,332	10,821,134	31,813,973	26,635,198	209,565,106	2,644,674	(5,931,274)	206,278,506	15.42%	580,510,804	4.59%
17	16.5	64,504,258	13,401,365	8,453,351	5,006,149	37,643,393	10,875,176	31,774,366	26,768,217	207,174,271	2,644,674	(6,892,935)	202,926,010	15.66%	610,641,321	4.38%
18	17.5	68,374,513	13,554,963	8,433,488	4,839,278	41,546,783	12,002,866	34,383,195	29,543,917	204,848,768	2,803,355	(7,920,776)	199,731,347	17.21%	643,533,415	4.59%
19	18.5	68,374,513	13,776,850	8,478,445	4,677,969	41,441,248	11,972,377	34,146,840	29,468,871	202,524,118	2,803,355	(8,997,040)	196,330,433	17.39%	676,382,431	4.36%
20	19.5	72,476,984	13,929,152	8,450,278	4,522,036	45,575,518	13,166,767	36,930,787	32,408,751	200,273,788	2,971,556	(10,143,833)	193,101,511	19.13%	712,151,297	4.55%

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Discounted Cash Flow Analysis

Discount Rate 7.84%
Capitalization Rate 4.76%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of October 11, 2022
Discounted Cash Flow Analysis

Discount Rate 7.84%
Capitalization Rate 4.76%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
20	19.5	72,476,984	13,929,152	12,419,791	58,547,832	46,128,041	13,326,391	6,237,381	168,201	38,815,859	0.230	8,927,648	154,319,597
21	20.5	72,476,984	14,084,308	12,639,188	58,392,676	45,753,488	13,218,183	6,284,161	-	38,890,332	0.213	8,283,641	162,603,238
22	21.5	76,825,603	14,217,381	12,862,058	62,608,222	49,746,164	14,371,667	6,331,292	178,293	41,726,970	0.197	8,220,213	170,823,451
23	22.5	76,825,603	14,403,910	13,088,445	62,421,693	49,333,249	14,252,376	6,378,778	-	41,790,539	0.183	7,647,669	178,471,120
24	23.5	81,435,139	14,560,864	13,318,382	66,874,275	53,555,893	15,472,297	6,426,619	188,992	44,786,367	0.170	7,613,682	186,084,802
25	24.5	81,435,139	14,763,045	13,551,914	66,672,094	53,120,180	15,346,420	6,474,819	-	44,850,855	0.157	7,041,584	193,126,386
26	25.5	86,321,247	14,927,333	6,366,782	71,393,914	65,027,132	18,786,339	6,523,380	200,330	45,883,865	0.146	6,699,044	199,825,430
27	26.5	86,321,247	15,208,883	6,414,533	71,112,364	64,697,831	18,691,203	6,572,305	-	45,848,856	0.135	6,189,596	206,015,026
28	27.5	91,500,522	15,401,014	6,462,641	76,099,508	69,636,867	20,118,091	6,621,596	212,351	49,147,470	0.125	6,143,434	212,158,460
29	28.5	91,500,522	15,627,243	6,511,112	75,873,279	69,362,167	20,038,730	6,671,260	-	49,163,289	0.116	5,702,942	217,861,402
30	29.5	96,990,553	15,813,323	6,561,926	81,177,230	74,615,305	21,556,361	6,721,293	225,091	52,674,485	0.108	5,688,844	223,550,246
31	30.5	96,990,553	16,021,529	6,613,137	80,969,024	74,355,888	21,481,416	6,771,702	-	52,715,906	0.100	5,271,591	228,821,837
32	31.5	102,809,986	16,230,199	6,662,736	86,579,787	79,917,052	23,088,036	6,822,490	238,597	56,430,664	0.093	5,248,052	234,069,889
33	32.5	102,809,986	16,495,067	6,713,969	86,314,919	79,600,950	22,996,715	6,873,658	-	56,444,546	0.086	4,854,231	238,924,120
34	33.5	108,978,585	16,683,784	6,765,597	92,294,801	85,529,203	24,709,387	6,925,212	252,912	60,407,290	0.080	4,832,583	243,756,703
35	34.5	108,978,585	16,959,029	6,816,340	92,019,556	85,203,216	24,615,209	6,977,152	-	60,427,195	0.074	4,471,612	248,228,315
36	35.5	115,517,300	17,159,589	6,867,461	98,357,711	91,490,249	26,431,533	7,029,479	268,087	64,628,612	0.069	4,459,374	252,687,689
37	36.5	115,517,300	17,451,802	6,918,968	98,065,498	91,146,530	26,332,233	7,082,200	-	64,651,065	0.064	4,137,668	256,825,357
38	37.5	122,448,338	17,677,202	6,970,862	104,771,136	97,800,274	28,254,499	7,135,319	284,173	69,097,145	0.059	4,076,732	260,902,089
39	38.5	122,448,338	17,983,178	7,023,140	104,465,160	97,442,020	28,151,000	7,188,830	-	69,125,330	0.055	3,801,893	264,703,982
40	39.5	129,795,238	18,185,829	7,075,815	111,609,409	104,533,593	30,199,755	7,242,749	301,222	73,865,683	0.051	3,767,150	268,471,132
41	40.5	129,795,238	18,504,084	7,128,882	111,291,154	104,162,272	30,092,480	7,297,068	-	73,901,606	0.047	3,473,376	271,944,508
42	41.5	137,582,952	18,783,690	7,182,353	118,799,262	111,616,909	32,246,125	7,351,799	319,297	78,882,041	0.044	3,470,810	275,415,318
43	42.5	137,582,952	18,973,960	7,523,517	118,608,992	111,085,474	32,092,594	7,406,935	-	79,109,463	0.040	3,164,379	278,579,697
44	43.5	145,837,929	19,312,334	7,869,399	126,525,595	118,656,195	34,279,775	7,462,487	338,454	84,444,879	0.038	3,208,905	281,788,602
45	44.5	145,837,929	19,605,359	7,928,421	126,232,570	118,304,149	34,178,069	7,518,457	-	84,536,044	0.035	2,958,762	284,747,364
46	45.5	154,588,205	19,979,343	7,987,883	134,608,862	126,620,979	36,580,801	7,574,845	358,762	90,094,454	0.032	2,883,023	287,630,387
47	46.5	154,588,205	20,285,343	8,047,790	134,302,862	126,255,072	36,475,090	7,631,654	-	90,196,118	0.030	2,705,884	290,336,271
48	47.5	163,863,497	20,652,970	8,108,152	143,210,527	135,102,375	39,031,076	7,688,894	380,286	96,110,271	0.028	2,691,088	293,027,359
49	48.5	163,863,497	20,922,966	8,168,961	142,940,531	134,771,570	38,935,507	7,746,560	-	96,258,464	0.026	2,502,720	295,530,079
50	49.5	173,695,307	21,260,498	8,230,228	152,434,809	144,204,581	41,660,703	7,804,659	403,105	102,566,342	0.024	2,461,592	297,991,671
51	50.5	173,695,307	21,664,477	8,291,956	152,030,830	143,738,874	41,526,161	7,863,195	-	102,641,474	0.022	2,258,112	300,249,783
52	51.5	184,117,025	21,942,935	8,354,144	162,174,090	153,819,946	44,438,582	7,922,167	427,290	109,386,051	0.021	2,297,107	302,546,890
53	52.5	184,117,025	22,401,282	8,416,801	161,715,743	153,298,942	44,288,064	7,981,584	-	109,446,095	0.019	2,079,476	304,626,366
54	53.5	195,164,047	22,740,584	8,479,928	172,423,463	163,943,535	47,363,287	8,041,447	452,928	116,565,801	0.018	2,098,184	306,724,550
55	54.5	195,164,047	23,125,842	8,543,526	172,038,205	163,494,679	47,233,613	8,101,757	-	116,702,835	0.016	1,867,245	308,591,795
56	55.5	206,873,890	23,573,042	8,607,602	183,300,848	174,693,246	50,468,879	8,162,519	480,103	124,189,347	0.015	1,862,840	310,454,635
57	56.5	206,873,890	23,874,356	8,672,159	182,999,534	174,327,376	50,363,179	8,223,738	-	124,412,617	0.014	1,741,777	312,196,412
58	57.5	219,286,323	24,381,678	8,737,200	194,904,645	186,167,444	53,783,775	8,285,416	508,911	132,326,543	0.013	1,720,245	313,916,657
59	58.5	219,286,323	24,763,342	8,802,729	194,522,981	185,720,252	53,654,581	8,347,556	-	132,520,844	0.012	1,590,250	315,506,907
60	59.5	232,443,502	25,207,087	8,868,753	207,236,415	198,367,662	57,308,418	8,410,166	539,444	140,978,387	0.140	19,736,974	335,243,881
								298,114,578				170,114,958	
Age				59.5									
PW(Age) = 1/(1+Discount Rate)^(Age)				0.011									
PW to Perpetuity = 1/Capitalization Rate				12.755									
PW(20and Beyond) = PW to Perpetuity * PW Factor(19.5)				0.140									
								Net Plant		156,641,443			
								ADIT		(9,103,077)			
								Rate Base		147,538,366	0.011	1,622,922	317,129,829
								Plant Construction Inflation Rate		0.0422 Input			
								Plant Inflation over 59.5 years		1,725,812,321	0.011	18,983,936	334,490,843
								PP	231,500,000				
								RCNLD	240,895,239				
								RCNLD/PP		1.040584186			
										153,526,090.60	0.011	1,688,787	317,195,694

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
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As of October 11, 2022
Calculated Rates of Return on Rate Base and Equity
(Years 1 through 20)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Period	Age	Revenues	O&M Expenses	Book Depreciation	Ratemaking Interest Expense	Book Taxable Income (Current + Deferred)	State and Federal Taxes @ 28.89%	Net Operating Income	Net (Equity) Income	Net Plant	Working Capital	Accumulated Deferred Income Taxes (ADIT)	Rate Base	Return on Rate Base	Net Equity	Return on Equity
						(3)-(4)-(5)-(6)	(7) *28.89%	(7)-(8)+(6)	(9) - (6)				(11)+(12)+(13)	(9)/(14)		(10)/(16)
20	19.5	72,476,984	13,929,152	8,450,278	4,522,036	45,575,518	13,166,767	36,930,787	32,408,751	200,273,788	2,971,556	(10,143,833)	193,101,511	19.13%	712,151,297	4.55%
20	20.5	72,476,984	14,084,308	8,421,356	4,371,302	45,600,018	13,173,845	36,797,475	32,426,173	198,098,880	2,971,556	(11,362,364)	189,708,072	19.40%	747,917,020	4.34%
20	21.5	76,825,603	14,217,381	8,366,670	4,225,592	50,015,960	14,449,611	39,791,941	35,566,349	196,025,504	3,149,849	(12,661,081)	186,514,272	21.33%	786,784,030	4.52%
20	22.5	76,825,603	14,403,910	8,361,684	4,084,739	49,975,270	14,437,856	39,622,153	35,537,414	194,004,317	3,149,849	(14,026,642)	183,127,524	21.64%	825,618,562	4.30%
20	23.5	81,435,139	14,560,864	8,323,293	3,948,581	54,602,400	15,774,633	42,776,348	38,827,767	192,069,073	3,338,841	(15,469,723)	179,938,191	23.77%	867,716,145	4.47%
20	24.5	81,435,139	14,763,045	8,326,222	3,816,961	54,528,911	15,753,402	42,592,470	38,775,509	190,178,812	3,338,841	(16,979,425)	176,538,228	24.13%	909,763,553	4.26%
20	25.5	86,321,247	14,927,333	8,287,273	3,689,729	59,416,913	17,165,546	45,941,096	42,251,367	188,375,770	3,539,171	(16,424,596)	175,490,345	26.18%	955,259,121	4.42%
20	26.5	86,321,247	15,208,883	8,361,521	3,566,738	59,184,104	17,098,288	45,652,554	42,085,816	186,547,111	3,539,171	(15,862,111)	174,224,171	26.20%	1,000,641,938	4.21%
20	27.5	91,500,522	15,401,014	8,342,203	3,447,847	64,309,458	18,579,002	49,178,303	45,730,456	184,786,765	3,751,522	(15,319,105)	173,219,182	28.39%	1,049,655,657	4.36%
20	28.5	91,500,522	15,627,243	8,352,755	3,332,919	64,187,606	18,543,799	48,976,726	45,643,807	183,065,233	3,751,522	(14,787,054)	172,029,701	28.47%	1,098,590,230	4.15%
20	29.5	96,990,553	15,813,323	8,318,844	3,221,822	69,636,565	20,118,004	52,740,383	49,518,561	181,427,345	3,976,613	(14,279,481)	171,124,477	30.82%	1,151,375,443	4.30%
20	30.5	96,990,553	16,021,529	8,302,660	3,114,427	69,551,937	20,093,555	52,572,809	49,458,382	179,855,748	3,976,613	(13,791,377)	170,040,984	30.92%	1,204,088,971	4.11%
20	31.5	102,809,986	16,230,199	8,282,452	3,010,613	75,286,722	21,750,334	56,547,001	53,536,388	178,354,841	4,215,210	(13,323,441)	169,246,610	33.41%	1,260,866,133	4.25%
20	32.5	102,809,986	16,495,067	8,313,863	2,910,259	75,090,797	21,693,731	56,307,325	53,397,066	176,873,384	4,215,210	(12,861,232)	168,227,362	33.47%	1,317,526,309	4.05%
20	33.5	108,978,585	16,683,784	8,264,456	2,813,251	81,217,093	23,463,618	60,566,726	57,753,475	175,492,578	4,468,122	(12,428,212)	167,532,488	36.15%	1,378,507,761	4.19%
20	34.5	108,978,585	16,959,029	8,296,813	2,719,476	81,003,267	23,401,844	60,320,899	57,601,423	174,131,044	4,468,122	(12,000,503)	166,598,663	36.21%	1,439,360,171	4.00%
20	35.5	115,517,300	17,159,589	8,249,628	2,628,827	87,479,255	25,272,757	64,835,325	62,206,498	172,868,708	4,736,209	(11,601,195)	166,003,722	39.06%	1,504,784,103	4.13%
20	36.5	115,517,300	17,451,802	8,289,140	2,541,199	87,235,159	25,202,237	64,574,121	62,032,922	171,619,265	4,736,209	(11,205,352)	165,150,122	39.10%	1,570,062,555	3.95%
20	37.5	122,448,338	17,677,202	8,256,786	2,456,492	94,057,858	27,173,315	69,341,035	66,884,543	170,454,975	5,020,382	(10,833,848)	164,641,509	42.12%	1,640,169,620	4.08%
20	38.5	122,448,338	17,983,178	8,299,853	2,374,609	93,790,697	27,096,132	69,069,174	66,694,565	169,300,809	5,020,382	(10,465,005)	163,856,186	42.15%	1,710,117,334	3.90%
20	39.5	129,795,238	18,185,829	8,234,336	2,295,456	101,079,616	29,201,901	74,173,171	71,877,715	168,265,755	5,321,604	(10,130,308)	163,457,051	45.38%	1,785,201,609	4.03%
20	40.5	129,795,238	18,504,084	8,279,060	2,218,941	100,793,154	29,119,142	73,892,953	71,674,012	167,239,970	5,321,604	(9,798,022)	162,763,552	45.40%	1,860,113,982	3.85%
20	41.5	137,582,952	18,783,690	8,279,665	2,144,976	108,374,621	31,309,428	79,210,169	77,065,193	166,267,983	5,640,901	(9,481,009)	162,427,875	48.77%	1,940,417,967	3.97%
20	42.5	137,582,952	18,973,960	8,185,353	2,073,477	108,350,162	31,302,362	79,121,277	77,047,800	165,445,113	5,640,901	(9,289,805)	161,796,209	48.90%	2,020,637,494	3.81%
20	43.5	145,837,929	19,312,334	8,233,454	2,004,361	116,287,779	33,595,539	84,696,601	82,692,240	164,629,360	5,979,355	(9,184,630)	161,424,085	52.47%	2,106,535,665	3.93%
20	44.5	145,837,929	19,605,359	8,230,400	1,937,549	116,064,621	33,531,069	84,471,101	82,533,552	163,872,296	5,979,355	(9,097,388)	160,754,263	52.55%	2,192,272,977	3.76%
20	45.5	154,588,205	19,979,343	8,302,384	1,872,964	124,433,514	35,948,842	90,357,636	88,484,672	163,099,297	6,338,117	(9,006,528)	160,430,886	56.32%	2,284,012,597	3.87%
20	46.5	154,588,205	20,285,343	8,300,344	1,810,532	124,191,986	35,879,065	90,123,453	88,312,921	162,384,807	6,338,117	(8,933,566)	159,789,358	56.40%	2,375,579,016	3.72%
20	47.5	163,863,497	20,652,970	8,353,769	1,750,181	133,106,577	38,454,490	96,402,268	94,652,087	161,673,788	6,718,403	(8,862,607)	159,529,584	60.43%	2,473,522,591	3.83%
20	48.5	163,863,497	20,922,966	8,303,280	1,691,841	132,945,410	38,407,929	96,229,322	94,537,481	161,070,578	6,718,403	(8,823,802)	158,965,179	60.53%	2,571,315,657	3.68%
20	49.5	173,695,307	21,260,498	8,313,918	1,635,447	142,485,444	41,164,045	102,956,846	101,321,399	160,514,480	7,121,508	(8,799,624)	158,836,364	64.82%	2,675,900,206	3.79%
20	50.5	173,695,307	21,664,477	8,384,465	1,580,932	142,065,433	41,042,704	102,603,661	101,022,729	159,946,020	7,121,508	(8,772,898)	158,294,630	64.82%	2,780,236,251	3.63%
20	51.5	184,117,025	21,942,935	8,322,821	1,528,234	152,323,035	44,006,125	109,845,144	108,316,910	159,497,822	7,548,798	(8,781,947)	158,264,673	69.41%	2,891,822,642	3.75%
20	52.5	184,117,025	22,401,282	8,434,265	1,477,293	151,804,185	43,856,229	109,425,249	107,947,956	158,997,240	7,548,798	(8,776,902)	157,769,136	69.36%	3,003,119,326	3.59%
20	53.5	195,164,047	22,740,584	8,419,725	1,428,050	162,575,687	46,968,116	117,035,621	115,607,571	158,570,702	8,001,726	(8,794,294)	157,778,134	74.18%	3,122,065,287	3.70%
20	54.5	195,164,047	23,125,842	8,444,065	1,380,448	162,213,691	46,863,535	116,730,604	115,350,156	158,179,771	8,001,726	(8,823,028)	157,358,469	74.18%	3,240,771,140	3.56%
20	55.5	206,873,890	23,573,042	8,523,128	1,334,433	173,443,287	50,107,766	124,669,954	123,335,521	157,770,175	8,481,829	(8,847,433)	157,404,571	79.20%	3,367,518,580	3.66%
20	56.5	206,873,890	23,874,356	8,448,942	1,289,952	173,260,641	50,054,999	124,495,594	123,205,642	157,495,618	8,481,829	(8,911,921)	157,065,526	79.26%	3,494,083,387	3.53%
20	57.5	219,286,323	24,381,678	8,573,255	1,246,954	185,084,436	53,470,894	132,860,496	131,613,542	157,158,055	8,990,740	(8,959,285)	157,189,510	84.52%	3,629,144,494	3.63%
20	58.5	219,286,323	24,763,342	8,564,250	1,205,389	184,753,342	53,375,240	132,583,491	131,378,102	156,891,263	8,990,740	(9,028,182)	156,853,821	84.53%	3,763,963,755	3.49%
20	59.5	232,443,502	25,207,087	8,609,513	1,165,209	197,461,693	57,046,683	141,580,219	140,415,010	156,641,443	9,530,184	(9,103,077)	157,068,550	90.14%	3,907,852,112	3.59%

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	32%	Market	5.32%	Market	28.89%	71.11%	1.21%
Equity	68%	Market	9.75%	Market	0.0%	100.0%	6.63%
Total Capital r	**100.0%**						**7.84%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**4.76%**

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Capitlization Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Market Capital Cost (2)*(3)
Debt	32%	Market	5.32%	Market	Not Applicable	Not Applicable	1.70%
Equity	68%	Market	9.75%	Market	Not Applicable	Not Applicable	6.63%
Total Capital r	**100.0%**						**8.33%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**5.23%**

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Rate of Return on Rate Base)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Required Return on Rate Base (2)*(3)
Debt	50%	Embedded	3.69%	Embedded	Not Applicable	Not Applicable	1.85%
Equity	50%	Embedded	9.75%	Market	Not Applicable	Not Applicable	4.88%
Total Capital r	**100.0%**						**6.73%**
Growth (g)						Not Applicable	**0.00%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.73%**

Pennsylvania American Water Company
Butler Area Sewer Authority (BASA)
Wastewater System
Investor-Owned Utility
As of October 11, 2022

Comparable Sales Approach

Market Sales Data

Central Tendancy and Reliability Analysis

Market Sales Analysis - PP/OCLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	1.7632	1.9465	
Standard Deviation	0.5729	0.5187	
Median	1.5069	1.5126	
Mode	1.4418	1.4418	
Water Treatment & Distribution			
Mean	1.4069		
Median	1.3639		
Wastewater Collection & Treatment			
Mean	1.7972		
Median	1.6166		
Wastewater Collection			
Mean	1.8733		
Median	1.4935		
Wastewater Treatment Only			
Mean	-0.0761		
Median	0.1231		
AUS Conclusion		1.7972	AUS input
			Cost Approach -
Butler Area Sewer Authority (BASA) OCLD		90,190,859	OCLD
Market Value Indication		**162,091,011**	

Market Sales Analysis - PP/CORLD

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	0.8171	0.8985	
Standard Deviation	0.1812	0.1546	
Median	0.881	0.9133	
Mode	0.6918	0.6918	
Water Treatment & Distribution			
Mean		0.6897	
Median		0.628	
Wastewater Collection & Treatment			
Mean		0.8536	
Median		0.9424	
Wastewater Collection			
Mean		0.8077	
Median		0.7548	
Wastewater Treatment Only			
Mean		0.0459	
Median		0.1876	
AUS Conclusion		0.8536	AUS input
			Cost Approach -
Butler Area Sewer Authority (BASA) CORLD		240,895,239	CORLD
Market Value Indication		**205,628,176**	

Comparable Sales Approach

Market Sales Analysis - PP/Customer

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	-	7,502	
Standard Deviation		5,040	
Median	-	8,492	
Water Treatment and Distribution			
Mean	6,123		
Median	5,021		
Wastewater Collection & Treatment			
Mean	10,200		
Median	9,572		
Wastewater Collection			
Mean	6,507		
Median	6,636		
Watewater Treatment Only			
Mean	3,693		
Median	2,936		
Conclusion			
Butler Area Sewer Authority (BASA) Customers		23,372	AUS input
Water Treatment and Distribution $PP/Customer		10,200	AUS input
Collection and Treatement Customers Market Value Indication		**238,394,400**	
Treatement Only Market Value Indication			
Treatment Only PP/customer		3,693	AUS input
Treatment Only Customers		-	AUS input
Market Value Indication Treatment Only		-	
Total Market Value Indication		**238,398,093**	

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	2.89	
Market to Book (equity and debt)	1.82	
Use (equity and debt)	1.82	AUS input
Butler Area Sewer Authority (BASA) OCLD	90,190,859	Cost Approach - OCLD
Market Value Indication	**164,147,363**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	16.89	15.15	
Standard Deviation	6.10	5.15	
Median	17.18	18.13	
Mode	10.79	10.79	
Forecast			
Conclusion		18.00	AUS input
Water Treatment and Distribution			
Mean	16.06		
Median	15.00		
Wastewater Collection & Treatment			
Mean	16.26		
Median	17.41		
Wastewater Collection			
Mean	18.56		
Median	16.44		
Watewater Treatment Only			
Mean	(2.30)		
Median	0.97		
Conclusion			
Butler Area Sewer Authority (BASA) Cash Flows		17,584,863	Income Approach
Water Treatment and Distribution		16.26	
Market Value Indication		**285,929,876**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)

	Simple	Weighted	
All Section 1329 Acquisitions			
Mean	11.43	11.43	
Standard Deviation	3.20	2.73	
Median	11.67	12.27	
Mode	9.55	9.55	
Forecast			
Conclusion		12.00	AUS input
Water Treatment and Distribution			
Mean	9.38		
Median	7.82		
Wastewater Collection & Treatment			
Mean	11.28		
Median	11.91		
Wastewater Collection			
Mean	12.77		
Median	12.65		
Watewater Treatment Only			
Mean	(1.49)		
Median	(0.74)		
Conclusion			
Butler Area Sewer Authority (BASA) Cash Flows		23,491,122	Income Approach
Water Treatment and Distribution		11.28	
		264,979,858	

Summary of Market Analyses

Indicators	
OCLD	162,091,011
CORLD	205,628,176
Customers	238,398,093
Cash Flows	
EBITDA Periods 1-5	285,929,876
EBITDA Periods 1-13	264,979,858
Value Line	164,147,363
Mean	**220,195,730**
Median	**222,013,135**
Conclusion	**220,195,730**

\\aus-dc1\Shared\water industry\PA American - Butler Area Sewer Authority, PA\PAWC - Butler Area Sewer Authority 10-30-2022 Created 1-31-2023

Property Acquired	Type of System and Attributes		Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Customers	Purchase Price to Customers
Mahoning	Wastewater Collection	2	2018.30	4,765,200	0%	1,451	3,284
East Norriton	Wastewater Collection	3	2018.83	21,000,000	2%	4,950	4,242
Cheltenham	Wastewater Collection	1	2018.42	50,250,000	4%	10,500	4,786
Sadsbury	Wastewater Collection	3	2017.00	8,600,000	1%	998	8,617
Upper Pottsgrove	Wastewater Collection	3	2020.33	13,750,000	1%	1,428	9,629
Valley	Wastewater Collection System	2	2019.96	13,950,000	1%	1,644	8,485
Mean							6,507
Median							6,636
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	2	2016.59	29,500,000	3%	2,106	14,008
East Bradford Township	Wastewater Collection and paid for treatment Capacity	2	2017.94	5,000,000	0%	1,248	4,006
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	2	2020.71	53,000,000	5%	11,151	4,753
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	3	2021.02	54,930,000	5%	3,918	14,020
City of McKeesport	Wastewater Collection and Treatment	2	2016.67	159,000,000	14%	21,953	7,243
Willistown Township	Wastewater Collection and Treatment	2	2021.05	17,500,000	2%	2,294	7,629
Royersford	Wastewater Collection and Treatment	3	2019.94	13,000,000	1%	1,596	8,145
Kane	Wastewater Collection and Treatment	2	2018.75	17,560,000	2%	2,006	8,754
Exeter	Wastewater Collection and Treatment	1	2018.41	93,500,000	8%	9,000	10,389
City of York	Wastewater Collection and Treatment	2	2021.27	235,000,000	20%	15,851	14,826
Delaware County Regional Water Quality Aut	Wastewater Collection and Treatment	1	2020.00	276,500,000	24%	16,473	16,785
Limerick Township	Wastewater Collection and Treatment System	2	2016.88	64,373,378	6%	5,434	11,846
Mean							10,200
Median							9,572
Mahoning	Water Distribution and Treatment	2	2018.30	4,734,800	0%	1,186	3,992
Steelton	Water Distribution and Treatment	3	2018.87	21,750,000	2%	2,325	9,355
Valley	Water Treatment and Distribution System	2	2019.96	7,325,000	1%	1,459	5,021
Mean							6,123
Median							5,021

\\aus-dc1\Shared\water industry\PA American - Butler Area Sewer Authority, PA\PAWC - Butler Area Sewer Authority 10-30-2022 Created 1-31-2023

Property Acquired	Type of System and Attributes	Purchase Price (PP)	Proportion of Purchase Price to Total	Replacement Cost New less Depreciation (CORLD)	Purchase Price to CORLD
Mahoning	Wastewater Collection	4,765,200	0%	7,991,234	0.5963
Upper Pottsgrove	Wastewater Collection	13,750,000	1%	18,460,028	0.7449
East Norriton	Wastewater Collection	21,000,000	2%	27,461,356	0.7647
Cheltenham	Wastewater Collection	50,250,000	4%	49,940,486	1.0062
Sadsbury	Wastewater Collection	8,600,000	1%	8,517,587	1.0097
Valley	Wastewater Collection System	13,950,000	1%	19,252,333	0.7246
Mean					0.8077
Median					0.7548
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	29,500,000	3%	30,615,410	0.9636
East Bradford Township	Wastewater Collection and paid for treatment Capacity	5,000,000	0%	9,236,581	0.5413
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	54,930,000	5%	58,078,339	0.9458
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	53,000,000	5%	51,414,555	1.0308
Willistown Township	Wastewater Collection and Treatment	17,500,000	2%	30,113,231	0.5811
Kane	Wastewater Collection and Treatment	17,560,000	2%	29,015,055	0.6052
Delaware County Regional Water Quality Authority (	Wastewater Collection and Treatment	276,500,000	24%	399,664,111	0.6918
Limerick Township	Wastewater Collection and Treatment	64,373,378	6%	73,068,377	0.881
Exeter	Wastewater Collection and Treatment	93,500,000	8%	99,589,819	0.9389
Royersford	Wastewater Collection and Treatment	13,000,000	1%	13,376,109	0.9719
City of McKeesport	Wastewater Collection and Treatment	159,000,000	14%	156,524,909	1.0158
City of York	Wastewater Collection and Treatment	235,000,000	20%	218,366,227	1.0762
Mean					0.8536
Median					0.9424
Steelton	Water Distribution and Treatment	21,750,000	2%	23,921,473	0.9092
Mahoning	Water Distribution System	4,734,800	0%	8,899,336	0.532
Valley	Water Treatment and Distribution System	7,325,000	1%	11,664,026	0.628
Mean					0.6897
Median					0.628

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PPOCLD	Type of System and Attributes	Purchase Price (PP)	Proportion of Purchase Price to Total	Depreciated Original Cost (OCLD) (AUS Consultants Determination	Purchase Price to (PP/OCLD)
Upper Pottsgrove	Wastewater Collection	13,750,000	0.011802693	11,769,925	1.1682
Sadsbury	Wastewater Collection	8,600,000	0.007382048	6,128,876	1.4032
Mahoning	Wastewater Collection	4,765,200	0.004090341	3,234,859	1.4731
East Norriton	Wastewater Collection	21,000,000	0.018025931	8,407,007	2.4979
Cheltenham	Wastewater Collection	50,250,000	0.043133478	15,784,463	3.1835
Valley	Wastewater Collection System	13,950,000	0.011974368	9,214,738	1.5139
Mean					1.8733
Median					1.4935
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	29,500,000	0.025322141	18,567,728	1.5888
East Bradford Township	Wastewater Collection and paid for treatment Capacity	5,000,000	0.004291888	5,383,591	0.9287
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	54,930,000	0.047150685	33,403,972	1.6444
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	53,000,000	0.045494016	20,644,920	2.5672
Willistown Township	Wastewater Collection and Treatment	17,500,000	0.015021609	13,524,101	1.294
Delaware County Regional Water Quality Au	Wastewater Collection and Treatment	276,500,000	0.237341424	191,774,486	1.4418
Kane	Wastewater Collection and Treatment	17,560,000	0.015073112	12,070,455	1.4548
City of McKeesport	Wastewater Collection and Treatment	159,000,000	0.136482048	80,085,602	1.9854
Exeter	Wastewater Collection and Treatment	93,500,000	0.080258311	40,057,634	2.3341
City of York	Wastewater Collection and Treatment	235,000,000	0.201718751	97,106,105	2.42
Royersford	Wastewater Collection and Treatment	13,000,000	0.01115891	5,173,559	2.5128
Limerick Township	Wastewater Collection and Treatment System	64,373,378	0.05525667	46,153,867	1.3948
Mean					1.7972
Median					1.6166
Steelton	Water Distribution and Treatment	21,750,000	0.018669714	14,433,435	1.5069
Mahoning	Water Distribution System	4,734,800	0.004064247	3,507,138	1.35
Valley	Water Treatment and Distribution System	7,325,000	0.006287616	5,370,438	1.3639
Mean					1.4069
Median					1.3639

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Property Acquired	Type of System and Attributes	Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Cash Flows (EBITDA Periods 1-5)	Purchase Price to Cash Flow
Cheltenham	Wastewater Collection	2018.419406	50250000	0.043133478	4754020	10.57
Sadsbury	Wastewater Collection	2017.00274	8600000	0.007382048	714645	12.03
Upper Pottsgrove	Wastewater Collection	2020.326712	13750000	0.011802693	845182	16.27
East Norriton	Wastewater Collection	2018.829452	21000000	0.018025931	1265269	16.6
Mahoning	Wastewater Collection	2018.304795	4765200	0.004090341	233922	20.37
Valley	Wastewater Collection System	2019.963242	13950000	0.011974368	392972	35.5
Wtd Mean			112315200		8206010	13.69
Mean						18.56
Median						16.44
New Garden Twp. SA	Wastewater Collection and Paid for :	2016.586073	29500000	0.025322141	1717347	17.18
East Bradford Township	Wastewater Collection and paid for	2017.944064	5000000	0.004291888	283367	17.64
East Whiteland Township	Wastewater Collection and Purchase	2021.021918	54930000	0.047150685	15872367	3.46
Lower Makefield	Wastewater Collection and Purchase	2020.713242	53000000	0.045494016	2839988	18.66
Delaware County Regional Wa	Wastewater Collection and Treatme	2020.001598	276500000	0.237341424	25883282	10.68
Exeter	Wastewater Collection and Treatme	2018.410046	93500000	0.080258311	7279978	12.84
Kane	Wastewater Collection and Treatme	2018.748858	17560000	0.015073112	1039593	16.89
City of York	Wastewater Collection and Treatme	2021.266438	235000000	0.201718751	13874600	16.94
Willistown Township	Wastewater Collection and Treatme	2021.054795	17500000	0.015021609	892978	19.6
City of McKeesport	Wastewater Collection and Treatme	2016.669406	159000000	0.136482048	7409096	21.46
Royersford	Wastewater Collection and Treatme	2019.944064	13000000	0.01115891	600765	21.64
Limerick Township	Wastewater Collection and Treatme	2016.877169	64373378	0.05525667	3542124.2	18.17
Wtd Mean			1018863378		81235485.2	12.54
Mean						16.26
Median						17.41
Steelton	Water Distribution and Treatment	2018.871689	21750000	0.018669714	2278514	9.55
Mahoning	Water Distribution System	2018.304795	4734800	0.004064247	233922	20.24
Valley	Water Treatment and Distribution S	2019.963242	7325000	0.006287616	398458	18.38
Wtd Mean			33809800		2910894	11.61
Mean						16.06
Median						15.00

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Property Acquired	Type of System and Attributes	Asset Purchase Agreement (APA) Date	Purchase Price (PP)	Proportion of Purchase Price to Total	Cash Flows (EBITDA Periods 1-13)	Purchase Price to Cash Flow
Sadsbury	Wastewater Collection	2017.00	8,600,000	1%	895,128	9.61
East Norriton	Wastewater Collection	2018.83	21,000,000	2%	2,011,465	10.44
Cheltenham	Wastewater Collection	2018.42	50,250,000	4%	4,326,210	11.62
Mahoning	Wastewater Collection	2018.30	4,765,200	0%	348,409	13.68
Upper Pottsgrove	Wastewater Collection	2020.33	13,750,000	1%	932,042	14.75
Valley	Wastewater Collection	2019.96	13,950,000	1%	844,046	16.53
Wtd Mean			112,315,200		9,357,300	12.00
Mean						12.77
Median						12.65
New Garden Twp. SA	Wastewater Collection and Paid for and Owned Treatment	2016.59	29,500,000	3%	2,625,115	11.24
East Bradford Township	Wastewater Collection and paid for treatment Capacity	2017.94	5,000,000	0%	632,892	7.90
East Whiteland Township	Wastewater Collection and Purchased Treatment Capacity	2021.02	54,930,000	5%	18,521,227	2.97
Lower Makefield	Wastewater Collection and Purchased Treatment Capacity	2020.71	53,000,000	5%	3,432,340	15.44
Delaware County Regional Water Q	Wastewater Collection and Treatment	2020.00	276,500,000	24%	28,960,162	9.55
Royersford	Wastewater Collection and Treatment	2019.94	13,000,000	1%	1,209,765	10.75
Exeter	Wastewater Collection and Treatment	2018.41	93,500,000	8%	8,011,315	11.67
Kane	Wastewater Collection and Treatment	2018.75	17,560,000	2%	1,446,948	12.14
Limerick Township	Wastewater Collection and Treatment	2016.88	64,373,378	6%	5,212,045	12.35
City of York	Wastewater Collection and Treatment	2021.27	235,000,000	20%	18,001,021	13.05
City of McKeesport	Wastewater Collection and Treatment	2016.67	159,000,000	14%	11,958,224	13.30
Willistown Township	Wastewater Collection and Treatment	2021.05	17,500,000	2%	1,168,600	14.98
Wtd Mean			1,018,863,378		101,179,654	10.07
Mean						11.28
Median						11.91
Mahoning	Water Distribution	2018.30	4,734,800	0%	348,409	13.59
Steelton	Water Distribution and Treatment	2018.87	21,750,000	2%	3,893,757	5.59
Valley	Water Treatment and Distribution	2019.96	7,325,000	1%	817,993	8.95
Wtd Mean			33,809,800		5,060,159	6.68
Mean						9.38
Median						7.82

Water and Wastewater System Sales
Comparable Sales Approach

Market Sales Data post Section 1329

RowID	Pennsylvania Public Utility Commission Case	Approximate Date	Buyer	Seller	Type of Purchase Process	County	Type of Facility	Initial Purchase Price	Final Purchase Price[1]	Number of Total Customers	Relationship to the passage of Section 1329
1	A-2017-2606103	9/1/2016	PA American Water	City of McKeesport		Allegheny	Wastewater Collection and Treatment	156,000,000	159,000,000	21,953	Post
2	A-2016-2580061	8/1/2016	Aqua PA	New Garden Twp. SA		Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	Post
3	A-2017-2605434	11/16/2016	Aqua PA	Limerick Township		Montgomery	Wastewater Collection and Treatment System	75,100,000	64,373,378	5,434	Post
4	A-2018-3001582	12/10/2017	Aqua PA	East Bradford Township		Chester	Wastewater Collection and paid for treatment Capacity	5,000,000	5,000,000	1,248	Post
5	A-2018-3003519	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Water Distribution System	4,734,800	4,734,800	1,186	Post
6	A-2018-3003517	4/20/2018	SUEZ	Mahoning	Competitive 2 bidders	Carbon	Wastewater Collection	4,765,200	4,765,200	1,451	Post
7	A-2019-3008491	6/1/2018	Aqua PA	Cheltenham	Competitive 3 bidders	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500	Post
8	A-2019-3006880	11/14/2018	PA American Water	Steelton	Competitive 4 bidders	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325	Post
9	A-2018-3002437	1/1/2017	PA American Water	Sadsbury		Chester	Wastewater Collection	9,250,000	8,600,000	998	Post
10	A-2018-3004933	5/28/2018	PA American Water	Exeter		Berks	Wastewater Collection and Treatment	96,000,000	93,500,000	9,000	Post
11	A-2019-3009052	10/29/2018	Aqua PA	East Norriton	Competitive 3 bidders: Aqua, F	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950	Post
12	A-2019-3014248	9/30/2018	PA American	Kane		McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2,006	Post
13	A-2020-3019634	12/10/2019	PA American	Royersford		Montgomery	Wastewater Collection and Treatment	13,000,000	13,000,000	1,596	Post
14	A-2020-3019859	12/17/2019	PA American	Valley		Chester	Water Treatment and Distribution System	7,325,000	7,325,000	1,459	Post
15	A-2020-3014248	12/17/2019	PA American	Valley		Chester	Wastewater Collection System	13,950,000	13,950,000	1,644	Post
16	A-2019-3015173	12/31/2019	Aqua PA	Delaware County Regional Water Quality Authority (DELCORA)		Delaware	Wastewater Collection and Treatment	276,500,000	276,500,000	16,473	Post
17	A-2020-3021460	4/28/2020	PA American Water	Upper Pottsgrove	Competitive 2 bidders PAWC & Aqua	Montgomery	Wastewater Collection	13,750,000	13,750,000	1,428	Post
18	A-2021-3024267	9/17/2020	Aqua PA	Lower Makefield	Competitive 3 bidders 2 IOUs AQUA & PAWC & 1 Muni	Bucks	Wastewater Collection and Purchased Treatment Capacity	53,000,000	53,000,000	11,151	Post
19	A-2021-3026132	1/8/2021	Aqua PA	East Whiteland Township		Chester	Wastewater Collection and Purchased Treatment Capacity	54,930,000	54,930,000	3,918	Post
20	A-2021-3027268	1/20/2021	Aqua PA	Willistown Township		Chester	Wastewater Collection and Treatment	17,500,000	17,500,000	2,294	Post
21	A-2021-3024681	4/6/2021	PA American Water	City of York		York	Wastewater Collection and Treatment	235,000,000	235,000,000	15,851	Post

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Whitman Requardt and Associates LLP
Loc: Headquarters

Seq: 1 Cycle: 1

IF THIS ITEM IS RETURNED RETURN TO:

<031000053<

Date: 2023-01-30

Source	Table	Year	USBLS Consumers Price Index Ref:CUUR000SA0,CUUS0000SA0 Line 1	USBLS Producer Price Index Communications Equipment Ref: pcu3342 Line 2	USBLS Technical Labor Ref: ecu11122I & CIU20154 Line 3	USBLS PPI Motors & Generators Ref: PCU335312335312 Line 4	USBLS PPI Alarm Systems Ref: PCU334290334290 1 Line 5	Constant cost Line 6
USBLS	USBLS	1912	10	7	6	9.7	8.7	100
USBLS	USBLS	1913	10	7	6	9.7	8.7	100
USBLS	USBLS	1914	10	7	6	9.7	8.7	100
USBLS	USBLS	1915	10	8	6	9.7	8.7	100
USBLS	USBLS	1916	11	10	7	10.7	9.6	100
USBLS	USBLS	1917	13	11	8	12.7	11.4	100
USBLS	USBLS	1918	15	12	9	14.6	13.1	100
USBLS	USBLS	1919	17	14	10	16.5	14.8	100
USBLS	USBLS	1920	20	13	12	19.4	17.4	100
USBLS	USBLS	1921	18	12	11	17.5	15.7	100
USBLS	USBLS	1922	17	12	10	16.5	14.8	100
USBLS	USBLS	1923	17	12	10	16.5	14.8	100
USBLS	USBLS	1924	17	13	10	16.5	14.8	100
USBLS	USBLS	1925	18	13	11	17.5	15.7	100
USBLS	USBLS	1926	18	12	11	17.5	15.7	100
USBLS	USBLS	1927	17	12	10	16.5	14.8	100
USBLS	USBLS	1928	17	12	10	16.5	14.8	100
USBLS	USBLS	1929	17	12	10	16.5	14.8	100
USBLS	USBLS	1930	17	11	10	16.5	14.8	100
USBLS	USBLS	1931	15	10	9	14.6	13.1	100
USBLS	USBLS	1932	14	9	8	13.6	12.2	100
USBLS	USBLS	1933	13	9	7	12.6	11.3	100
USBLS	USBLS	1934	13	10	7	12.6	11.3	100
USBLS	USBLS	1935	14	10	7	13.6	12.2	100
USBLS	USBLS	1936	14	10	7	13.6	12.2	100
USBLS	USBLS	1937	14	10	7	13.6	12.2	100
USBLS	USBLS	1938	14	10	7	13.6	12.2	100
USBLS	USBLS	1939	14	10	7	13.6	12.2	100
USBLS	USBLS	1940	14	11	7	13.6	12.2	100
USBLS	USBLS	1941	15	12	8	14.6	13.1	100
USBLS	USBLS	1942	16	13	9	15.6	14	100
USBLS	USBLS	1943	17	14	10	16.6	14.9	100
USBLS	USBLS	1944	18	14	11	17.6	15.8	100
USBLS	USBLS	1945	18	16	11	17.6	15.8	100
USBLS	USBLS	1946	20	18	12	19.5	17.5	100
USBLS	USBLS	1947	22	20	13	21.4	19.2	100

Source	Table	Year	USBLS Consumers Price Index Ref:CUUR000SA0,CUUS0000SA0 Line 1	USBLS Producer Price Index Communications Equipment Ref: pcu3342 Line 2	USBLS Technical Labor Ref: ecu11122I & CIU20154 Line 3	USBLS PPI Motors & Generators Ref: PCU335312335312 Line 4	USBLS PPI Alarm Systems Ref: PCU334290334290 1 Line 5	Constant cost Line 6
USBLS	USBLS	1948	24	20	14	23.3	20.9	100
USBLS	USBLS	1949	24	20	14	23.3	20.9	100
USBLS	USBLS	1950	24	22	14	23.3	20.9	100
USBLS	USBLS	1951	26	23	15	25.2	22.6	100
USBLS	USBLS	1952	27	23	16	26.2	23.5	100
USBLS	USBLS	1953	27	23	16	26.2	23.5	100
USBLS	USBLS	1954	27	23	16	26.2	23.5	100
USBLS	USBLS	1955	27	23	16	26.2	23.5	100
USBLS	USBLS	1956	27	24	16	26.2	23.5	100
USBLS	USBLS	1957	28	25	17	27.2	24.4	100
USBLS	USBLS	1958	29	25	18	28.2	25.3	100
USBLS	USBLS	1959	29	26	18	28.2	25.3	100
USBLS	USBLS	1960	30	26	19	29.2	26.2	100
USBLS	USBLS	1961	30	26	19	29.2	26.2	100
USBLS	USBLS	1962	30	27	19	29.2	26.2	100
USBLS	USBLS	1963	31	27	20	30.2	27.1	100
USBLS	USBLS	1964	31	28	20	30.2	27.1	100
USBLS	USBLS	1965	32	28	21	31.2	28	100
USBLS	USBLS	1966	32	29	21	31.2	28	100
USBLS	USBLS	1967	33	31	22	32.2	28.9	100
USBLS	USBLS	1968	35	33	23	34.1	30.6	100
USBLS	USBLS	1969	37	35	24	36	32.4	100
USBLS	USBLS	1970	39	37	25	37.9	34.2	100
USBLS	USBLS	1971	41	38	26	39.8	36	100
USBLS	USBLS	1972	42	40	27	40.8	36.9	100
USBLS	USBLS	1973	44	44	28	42.7	38.7	100
USBLS	USBLS	1974	49	49	31	47.6	43.1	100
USBLS	USBLS	1975	54	52	34	52.5	47.5	100
USBLS	USBLS	1976	57	56	36	55.4	50.1	100
USBLS	USBLS	1977	61	60	38	59.3	53.6	100
USBLS	USBLS	1978	65	67	40	63.2	57.1	100
USBLS	USBLS	1979	73	75	45	71	64.1	100
USBLS	USBLS	1980	82	83	50	79.7	72	100
USBLS	USBLS	1981	91	89	55	88.5	79.9	100
USBLS	USBLS	1982	97	92	59	94.3	85.2	100
USBLS	USBLS	1983	100	96	61	97.2	87.8	100

Source	Table	Year	USBLS Consumers Price Index Ref:CUUR000SA0,CUUS0000SA0 Line 1	USBLS Producer Price Index Communications Equipment Ref: pcu3342 Line 2	USBLS Technical Labor Ref: ecu11122I & CIU20154 Line 3	USBLS PPI Motors & Generators Ref: PCU335312335312 Line 4	USBLS PPI Alarm Systems Ref: PCU334290334290 1 Line 5	Constant cost Line 6
USBLS	USBLS	1984	104	100	63	101.1	91.3	100
USBLS	USBLS	1985	108	102	65	105	94.8	100
USBLS	USBLS	1986	110	104	66	106.9	96.6	100
USBLS	USBLS	1987	114	104	69	110.8	100.1	100
USBLS	USBLS	1988	118	106	72	116.4	101.6	100
USBLS	USBLS	1989	124	108	76	123.3	104.3	100
USBLS	USBLS	1990	131	109	80	127.5	103.4	100
USBLS	USBLS	1991	136	110	84	129.7	101.9	100
USBLS	USBLS	1992	140	112	88	131.5	102.2	100
USBLS	USBLS	1993	145	113	92	133.5	103.2	100
USBLS	USBLS	1994	148	114	95	134.2	104.2	100
USBLS	USBLS	1995	152	115	97	137.5	106.5	100
USBLS	USBLS	1996	157	116	100	139.1	108.3	100
USBLS	USBLS	1997	161	115	102	138.6	109.4	100
USBLS	USBLS	1998	163	113	106	139.8	111.3	100
USBLS	USBLS	1999	167	110	109	139.9	109.4	100
USBLS	USBLS	2000	172	109	114	140.4	108.4	100
USBLS	USBLS	2001	177	105	119	141.6	109	100
USBLS	USBLS	2002	180	102	123	142	110.4	100
USBLS	USBLS	2003	184	98	127	142.4	110.8	100
USBLS	USBLS	2004	189	97	132	145.8	109.8	100
USBLS	USBLS	2005	195	97	135	154.4	110.6	100
USBLS	USBLS	2006	202	96	139	161.8	113.1	100
USBLS	USBLS	2007	207	97	146	169.6	113.8	100
USBLS	USBLS	2008	215	97	152	177.7	116	100
USBLS	USBLS	2009	215	97	155	181.8	116.8	100
USBLS	USBLS	2010	218	96	157	185.4	117.8	100
USBLS	USBLS	2011	225	96	161	196.5	118.4	100
USBLS	USBLS	2012	230	95	164	201.2	119.9	100
USBLS	USBLS	2013	233	96	162	203.2	121.5	100
USBLS	USBLS	2014	237	96	165	206.1	122.2	100
USBLS	USBLS	2015	237	95.1	168	206.4	400.5	100
USBLS	USBLS	2016	240.2	93.8	171.8	204.8	401.2	100
USBLS	USBLS	2017	245.1	93.2	175.1	207.3	123.4	100
USBLS	USBLS	2018	250.9	93.3	178.8	211.8	121	100
USBLS	USBLS	2019	255.7	93.7	182.7	215.9	121.4	100

Source	Table	Year	USBLS Consumers Price Index Ref:CUUR000SA0,CUUS0000SA0 Line 1	USBLS Producer Price Index Communications Equipment Ref: pcu3342 Line 2	USBLS Technical Labor Ref: ecu11122I & CIU20154 Line 3	USBLS PPI Motors & Generators Ref: PCU335312335312 Line 4	USBLS PPI Alarm Systems Ref: PCU334290334290 1 Line 5	Constant cost Line 6
USBLS	USBLS	2020	259.5	94.5	186.5	216.4	122	100
USBLS	USBLS	2021	272.2	97.6	192.5	228.6	128.2	100
USBLS	USBLS	2022	292.6	100.3	200.4	262.4	137.6	100
USBLS	USBLS	2023	302.3	101.6	205.7	279.3	157.7	100
USBLS	USBLS	2024	314.2	103.3	211.7	296	167.1	100
USBLS	USBLS	2025	327.9		218.1	316.4	178.9	100

Quick Stats Report

Comps Statistics

	Low	Average	Median	High	Count
Price					
For Sale & UC/Pending	$99,900	$1,069,079	$850,000	$2,950,000	45
Sold Transactions	$65,000	$1,366,978	$725,000	$12,250,000	29
Parcel Size					
For Sale & UC/Pending	1 AC	10.62 AC	4.55 AC	90 AC	57
Sold Transactions	1 AC	8.70 AC	4.70 AC	40 AC	33
Price per Acre					
For Sale & UC/Pending	$8,833	$116,565	$182,672	$696,721	45
Sold Transactions	$3,750	$185,526	$181,263	$1,195,648	24
Days on Market					
For Sale & UC/Pending	7	1,585	948	6,020	57
Sold Transactions	41	1,035	748	3,359	22
Sale Price to Asking Price Ratio					
Sold Transactions	45.54%	83.95%	86.17%	100.00%	11

Totals

For Sale & UC/Pending	Asking Price Total:	$48,108,555	Total For Sale Transactions:	57
Sold Transactions	Total Sales Volume:	$39,642,357	Total Sales Transactions:	42
	Total Included in Analysis:	$87,750,912	Total Included in Analysis:	99

Survey Criteria

basic criteria: Type of Property - Land; Sale Date - from 1/2/2021; Sale Status - Sold, Under Contract/Pending, For Sale; - Exclude All Condo Sales; - Exclude All Bulk Portfolio Sales; Return and Search on Portfolio Sales as Individual Properties - Yes; - Exclude All Multiple Property Sales; Exclude Non-Arms Length Comps - Yes

property criteria: Exclude Detrimental Conditions - Yes

land specific criteria: Land Area - 1.00 - 40.00 AC

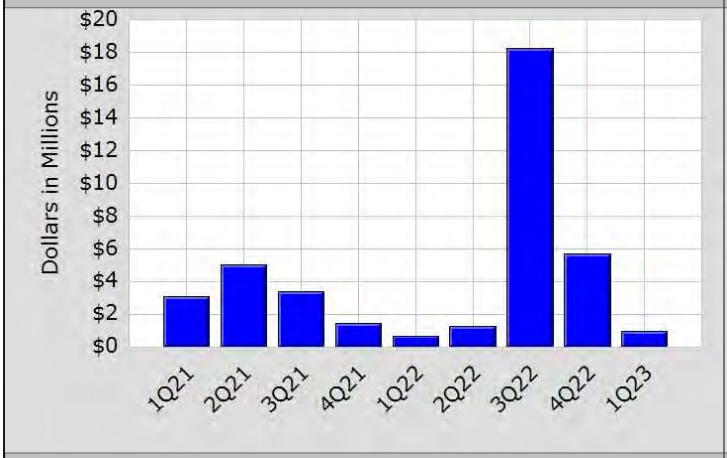
geography criteria: Radius - 19.00 mile(s) radius from Lat : -79.91587, Long : 40.84195

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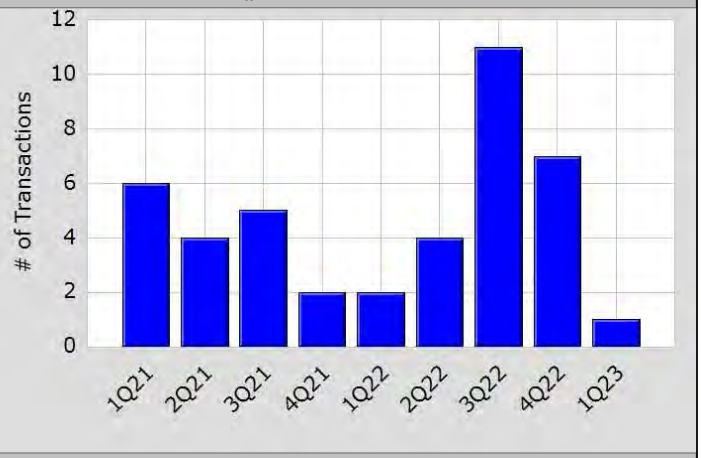
1/30/2023

Trend Report

Dollar Volume



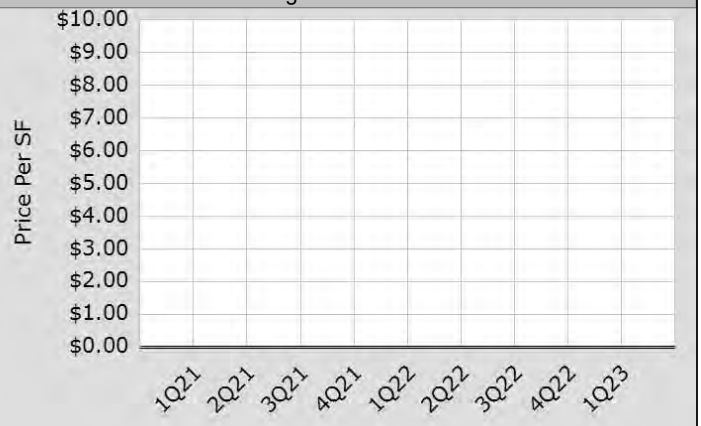
# of Transactions



Cap Rate



Average Price Per SF



Legend:

Current Survey
Sold Transactions

Time Interval - Quarterly

	Report Time Frame: 1/1/2021 - 1/30/2023 Sale Date: from 1/2/2021	
	Sold Transactions	For Sale & UC/Pending
Number of Transactions	42	57
Total Dollar Volume	$39,642,357	$45,558,555
Total Bldg Square Feet	0	0
Total Land in Acres	286.94	605.19
Total Land in SF	12,499,106	26,361,954
Average Price	$1,366,978	$799,273
Average Number of SF	0	0
Average Price Per Bldg SF	-	-
Median Price Per SF	-	-
Average Number of Acres	8.70	10.62
Average Number of SF(Land)	378,761	462,490
Average Price Per Unit	-	-
Median Price Per Unit	-	-
Average Number of Units	-	-
Average Price Per Acre	$185,526	$110,386
Average Price Per SF(Land)	$4.26	$2.53
Median Price Per Acre	$181,263	$182,672
Median Price Per SF(Land)	$4.16	$4.19

Survey Criteria

basic criteria: Type of Property - Land; Sale Date - from 1/2/2021; Sale Status - Sold, Under Contract/Pending, For Sale; - Exclude All Condo Sales; - Exclude All Bulk Portfolio Sales; Return and Search on Portfolio Sales as Individual Properties - Yes; - Exclude All Multiple Property Sales; Exclude Non-Arms Length Comps - Yes

property criteria: Exclude Detrimental Conditions - Yes

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Trend Report

land specific criteria: Land Area - 1.00 - 40.00 AC

geography criteria: Radius - 19.00 mile(s) radius from Lat : -79.91587, Long : 40.84195

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Trend Report

	1Q21 01/1-3/31/21		2Q21 04/1-6/30/21	
	Sold Transaction	For Sale & UC/Pending	Sold Transaction	For Sale & UC/Pending
Number of Transactions	6	0	4	0
Total Dollar Volume	$3,069,316	$0	$5,007,650	$0
Total Bldg Square Feet	0	0	0	0
Total Land in Acres	103.41	-	32.83	-
Total Land in SF	4,504,540	-	1,430,075	-
Average Price	$1,023,105	-	$1,251,912	-
Average Number of SF	0	0	0	0
Average Price Per Bldg SF	-	-	-	-
Median Price Per SF	-	-	-	-
Average Number of Acres	17.24	-	8.21	-
Average Number of SF(Land)	750,757	-	357,519	-
Average Price Per Unit	-	-	-	-
Median Price Per Unit	-	-	-	-
Average Number of Units	-	-	-	-
Average Price Per Acre	$52,022	-	$152,533	-
Average Price Per SF(Land)	$1.19	-	$3.50	-
Median Price Per Acre	$150,000	-	$331,784	-
Median Price Per SF(Land)	$3.44	-	$7.62	-

	3Q21 07/1-9/30/21		4Q21 10/1-12/31/21	
	Sold Transaction	For Sale & UC/Pending	Sold Transaction	For Sale & UC/Pending
Number of Transactions	5	0	2	0
Total Dollar Volume	$3,384,500	$0	$1,450,000	$0
Total Bldg Square Feet	0	0	0	0
Total Land in Acres	26.56	-	5.00	-
Total Land in SF	1,156,954	-	217,800	-
Average Price	$676,900	-	$725,000	-
Average Number of SF	0	0	0	0
Average Price Per Bldg SF	-	-	-	-
Median Price Per SF	-	-	-	-
Average Number of Acres	6.64	-	2.50	-
Average Number of SF(Land)	289,238	-	108,900	-
Average Price Per Unit	-	-	-	-
Median Price Per Unit	-	-	-	-
Average Number of Units	-	-	-	-
Average Price Per Acre	$124,416	-	$290,000	-
Average Price Per SF(Land)	$2.86	-	$6.66	-
Median Price Per Acre	$128,448	-	$453,125	-
Median Price Per SF(Land)	$2.95	-	$10.40	-

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Trend Report

	1Q22 01/1-3/31/22		2Q22 04/1-6/30/22	
	Sold Transaction	For Sale & UC/Pending	Sold Transaction	For Sale & UC/Pending
Number of Transactions	2	0	4	0
Total Dollar Volume	$630,000	$0	$1,240,000	$0
Total Bldg Square Feet	0	0	0	0
Total Land in Acres	29.82	-	20.83	-
Total Land in SF	1,298,959	-	907,355	-
Average Price	$630,000	-	$413,333	-
Average Number of SF	0	0	0	0
Average Price Per Bldg SF	-	-	-	-
Median Price Per SF	-	-	-	-
Average Number of Acres	14.91	-	5.21	-
Average Number of SF(Land)	649,480	-	226,839	-
Average Price Per Unit	-	-	-	-
Median Price Per Unit	-	-	-	-
Average Number of Units	-	-	-	-
Average Price Per Acre	$119,093	-	$69,938	-
Average Price Per SF(Land)	$2.73	-	$1.61	-
Median Price Per Acre	$119,093	-	$67,231	-
Median Price Per SF(Land)	$2.73	-	$1.54	-

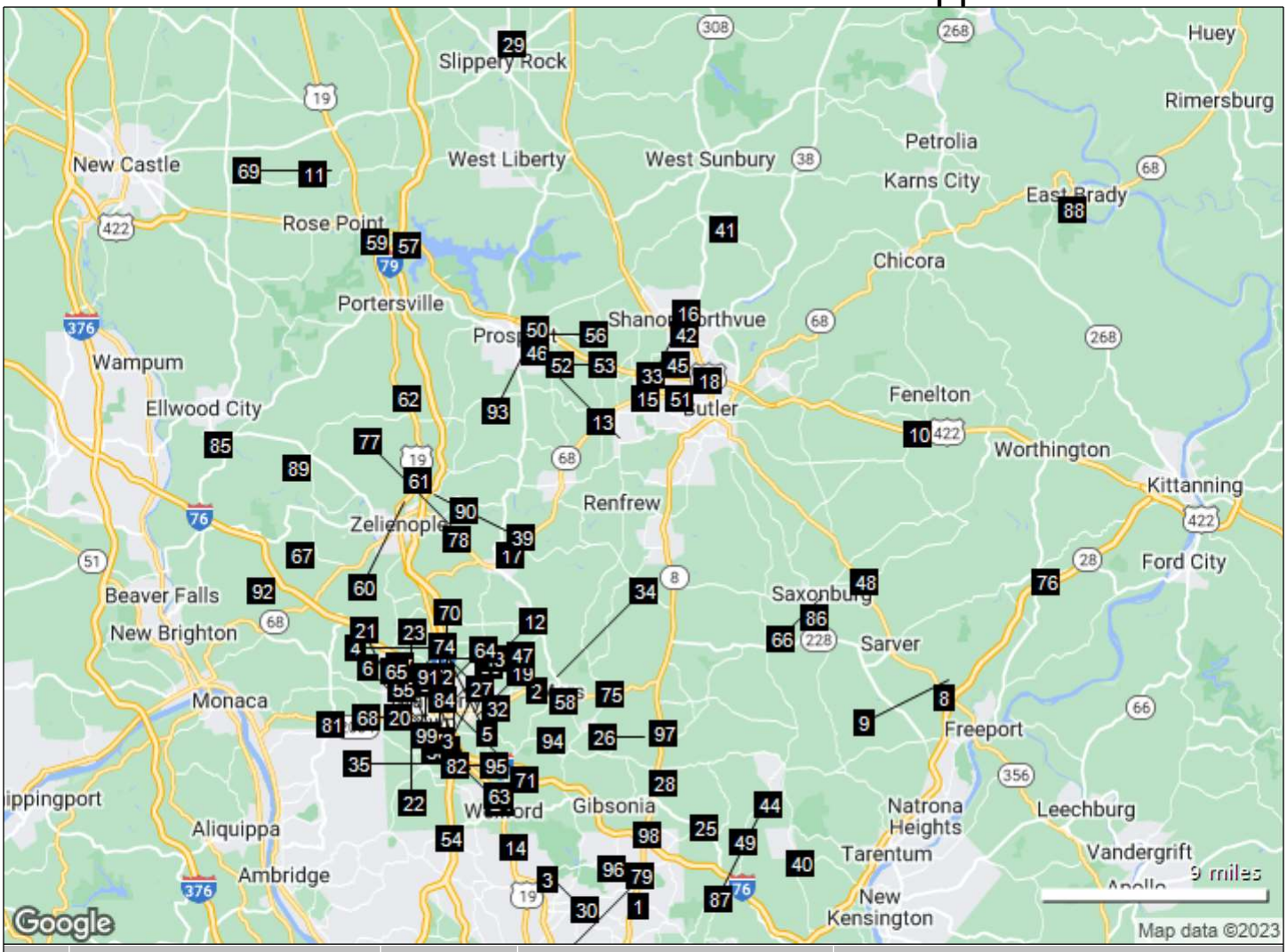
	3Q22 07/1-9/30/22		4Q22 10/1-12/31/22	
	Sold Transaction	For Sale & UC/Pending	Sold Transaction	For Sale & UC/Pending
Number of Transactions	11	0	7	0
Total Dollar Volume	$18,235,891	$0	$5,675,000	$0
Total Bldg Square Feet	0	0	0	0
Total Land in Acres	28.58	-	17.60	-
Total Land in SF	1,244,945	-	766,656	-
Average Price	$3,039,315	-	$1,418,750	-
Average Number of SF	0	0	0	0
Average Price Per Bldg SF	-	-	-	-
Median Price Per SF	-	-	-	-
Average Number of Acres	4.76	-	4.40	-
Average Number of SF(Land)	207,491	-	191,664	-
Average Price Per Unit	-	-	-	-
Median Price Per Unit	-	-	-	-
Average Number of Units	-	-	-	-
Average Price Per Acre	$700,193	-	$384,615	-
Average Price Per SF(Land)	$16.07	-	$8.83	-
Median Price Per Acre	$716,951	-	$418,182	-
Median Price Per SF(Land)	$16.46	-	$9.60	-

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Trend Report

	1Q23 01/1-3/31/23			
	Sold Transaction	For Sale & UC/Pending		
Number of Transactions	1	57		
Total Dollar Volume	$950,000	$45,558,555		
Total Bldg Square Feet	0	0		
Total Land in Acres	22.31	605.19		
Total Land in SF	971,824	26,361,954		
Average Price	$950,000	$799,273		
Average Number of SF	0	0		
Average Price Per Bldg SF	-	-		
Median Price Per SF	-	-		
Average Number of Acres	22.31	10.62		
Average Number of SF(Land)	971,824	462,490		
Average Price Per Unit	-	-		
Median Price Per Unit	-	-		
Average Number of Units	-	-		
Average Price Per Acre	$42,582	$110,386		
Average Price Per SF(Land)	$0.98	$2.53		
Median Price Per Acre	$42,582	$182,672		
Median Price Per SF(Land)	$0.98	$4.19		

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	Address	City	Property Info	Sale Info
1	9000 BABCOCK Blvd	Hampton Township	8 AC Land	For Sale: $1,900,000 ($237,500/AC)
2	560 Beaver St Ext	Mars	10.04 AC Land	Sold: $675,000 ($67,231.08/AC)
3	0 Blazier Dr	Wexford	2.40 AC Land	For Sale: $600,000 ($250,000/AC)
4	N BOUNDARY Rd @ Route 19	Cranberry Township	4.50 AC Land	For Sale: -
5	1019 N Boundary Rd	Cranberry Township	2.58 AC Land	For Sale: $1,180,000 ($457,364.34/AC)
6	Brush Creek Rd	Warrendale	8.84 AC Land	Under Contract: w/Asking Price of $1,281,655 ($144,983.60/AC)
7	Brush Creek Rd	Warrendale	5.29 AC Land	Sold: $630,000 ($119,092.63/AC)
8	112 Capitol Park Dr	Butler	27.34 AC Land	For Sale: $2,187,200 ($80,000/AC)
9	112 Capitol Park Dr	Sarver	3.66 AC Land	For Sale: $658,800 ($180,000/AC)
10	701 Clearfield Rd	Fenelton	2.74 AC Land	Sold: $1,653,616 ($603,509.49/AC)
11	5836 County Line Rd	New Castle	17.47 AC Land	Sold: $400,000
12	E Dutilh Rdg	Cranberry Township	4.60 AC Land	For Sale: $975,000 ($211,956.52/AC)
13	498 Eagle Mill Rd	Butler	1.10 AC Land	Under Contract: w/Asking Price of $525,000 ($477,272.73/AC)

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14	90 Einhouse Dr	Wexford	1.63 AC Land	For Sale: $660,000 ($404,907.98/AC)
15	370 Evans City Rd	Butler	3.10 AC Land	Sold: -
16	370 Evans City Rd	Butler	1.50 AC Land	Sold: -
17	1650 Evans City Rd	Evans City	22.31 AC Land	Sold: $950,000 ($42,581.80/AC)
18	0 Fairfield Ln	Butler	4.84 AC Land	For Sale: $435,000 ($89,876.03/AC)
19	3005 Fairport Dr	Cranberry Township	3 AC Land	Sold: $1,075,000 ($358,333.33/AC)
20	1071-1075 Freedom Rd	Cranberry Township	2 AC Land	For Sale: $625,000 ($312,500/AC)
21	1129 Freedom Rd	Cranberry Township	9.42 AC Land	Under Contract: w/Asking Price of $950,000 ($100,849.26/AC)
22	1156 Freedom Rd	Cranberry Township	2.54 AC Land	For Sale: $1,600,000 ($629,921.26/AC)
23	1164 Freedom Rd	Cranberry Township	2 AC Land	For Sale: $850,000 ($425,000/AC)
24	1166 Freedom Rd	Cranberry Township	2 AC Land	For Sale: $750,000 ($375,000/AC)
25	4431 Gibsonia	Gibsonia	16.36 AC Land	For Sale: -
26	4180 Glasgow Rd	Valencia	16.36 AC Land	Sold: $100,000
27	GLEN EDEN Rd @ Route 19	Cranberry Township	8.44 AC Land	For Sale: $2,750,000 ($325,829.38/AC)
28	4103-4107 Grandview Dr	Gibsonia	27.99 AC Land	For Sale: -
29	Grove City Rd	Slippery Rock	6.40 AC Land	For Sale: $550,000 ($85,937.50/AC)
30	10023 Grubbs Rd	Wexford	9.50 AC Land	Sold: -
31	99 Harmony Rd	Wexford	3.75 AC Land	For Sale: $1,350,000 ($360,000/AC)
32	High Pointe Dr	Seven Fields	1.38 AC Land	Sold: $1,650,000 ($1,195,652.17/AC)
33	0 Hindman Rd	Butler	1 AC Land	Sold: $210,000 ($210,000/AC)
34	0 Hutchman Rd	Mars	2.20 AC Land	Sold: -
35	Innovation & Global View Dr	Warrendale	37.92 AC Land	For Sale: $2,950,000 ($77,795.36/AC)
36	Knob Rd	Wexford	20.63 AC Land	For Sale: -
37	Knob Rd	Wexford	7.60 AC Land	For Sale: -
38	Knob Rd	Wexford	10.54 AC Land	For Sale: -
39	Little Creek Rd	Harmony	30 AC Land	For Sale: $1,900,000 ($63,333.33/AC)
40	893 Little Deer Creek Valley Rd	Russellton	24.53 AC Land	Sold: -
41	Mack Rd	West Sunbury	40 AC Land	Sold: $150,000 ($3,750/AC)
42	1647 N Main Street Ext	Butler	2.49 AC Land	For Sale: $389,000 ($156,224.90/AC)
43	9112 Marshall Rd	Cranberry Township	3.10 AC Land	Sold: -
44	281 McKrell Rd	Tarentum	16.36 AC Land	Sold: $575,000
45	783 Mercer Rd	Butler	24.21 AC Land	Sold: $1,454,034 ($60,059.23/AC)
46	Meridian Rd	Butler	4.82 AC Land	Sold: $3,345,891 ($694,168.26/AC)
47	Lot 105 Myoma Road	Mars	16.53 AC Land	Sold: $1,250,000 ($75,620.08/AC)
48	0000 N. Pike	Sarver	1 AC Land	For Sale: $425,000 ($425,000/AC)

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49	31 Nagy Rd	Cheswick	3.32 AC Land	Sold: -
50	New Castle Rd	Prospect	2.16 AC Land	For Sale: $295,000 ($136,574.07/AC)
51	174 New Castle Rd	Butler	2 AC Land	For Sale: $300,000 ($150,000/AC)
52	661 New Castle Rd	Butler	1.16 AC Land	Under Contract: w/Asking Price of $400,000 ($344,827.59/AC)
53	663 New Castle Rd	Butler	1.22 AC Land	Under Contract: w/Asking Price of $850,000 ($696,721.31/AC)
54	2606 Nicholson Rd	Sewickley	4.60 AC Land	For Sale: $2,400,000 ($521,739.13/AC)
55	1021 North Boundary	Cranberry Township	1.58 AC Land	For Sale: -
56	422 Old Route 422	Butler	4.13 AC Land	Sold: $202,500 ($49,031.48/AC)
57	0 W Park Rd	Portersville	33.92 AC Land	For Sale: $1,750,000 ($51,591.98/AC)
58	120 Penn St	Mars	8.71 AC Land	Under Contract: w/Asking Price of $1,200,000 ($137,772.68/AC)
59	Perry Hwy	Portersville	5 AC Land	For Sale: $99,900 ($19,980/AC)
60	Perry Hwy	Harmony	5.50 AC Land	Sold: $3,500,000 ($636,363.64/AC)
61	321 Perry Hwy	Harmony	3.15 AC Land	For Sale: $425,000 ($134,920.63/AC)
62	696 Perry Hwy	Harmony	6.69 AC Land	Sold: $355,000 ($53,064.28/AC)
63	12400 Perry Hwy	Wexford	1.20 AC Land	Sold: $1,000,000 ($833,333.33/AC)
64	20421 Perry Hwy	Cranberry	1 AC Land	Sold: $725,000 ($725,000/AC)
65	0000 Powell Rd	Cranberry Township	2.57 AC Land	For Sale: -
66	000 N Rebecca St	Saxonburg	3.28 AC Land	For Sale: $327,000 ($99,695.12/AC)
67	235 Ridge Rd	New Brighton	4.60 AC Land	Sold: -
68	1 Rolling Rd	Cranberry Township	9.77 AC Land	For Sale: -
69	364 Rose Point Harlansburg Rd	New Castle	3 AC Land	Sold: $519,316 ($173,105.33/AC)
70	20400 Route 19	Cranberry Township	16.56 AC Land	Sold: $12,250,000 ($739,734.30/AC)
71	20423 Route 19	Cranberry	4 AC Land	Sold: $725,000 ($181,250/AC)
72	20609 Route 19	Cranberry Township	16 AC Land	Sold: $2,400,000 ($150,000/AC)
73	20865 Route 19	Cranberry Township	2.20 AC Land	Under Contract: w/Asking Price of $920,000 ($418,181.82/AC)
74	20920 Route 19	Cranberry	7.50 AC Land	Sold: $1,500,000 ($200,000/AC)
75	447-449 Route 228	Mars	3.48 AC Land	For Sale: $1,100,000 ($316,091.95/AC)
76	Route 28 @ Route 128	Freeport	29 AC Land	Sold: -
77	Route 68	Jackson Twp	4.79 AC Land	For Sale: $875,000 ($182,672.23/AC)
78	Route 68 & Ridge Rd	Zelienople	90 AC Land	For Sale: $795,000 ($8,833.33/AC)
79	Route 8 @ Wildwood Road	Allison Park	6 AC Land	For Sale: $2,400,000 ($400,000/AC)
80	Route 8	Allison Park	2.08 AC Land	For Sale: $1,250,000 ($600,961.54/AC)
81	518 Route 989	Freedom	3.30 AC Land	For Sale: $395,000 ($119,696.97/AC)
82	XX Rowan Rd	Cranberry Township	3.10 AC Land	For Sale: -

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83	20315 Rt 19	Cranberry Township	1 AC Land	Sold: $1,100,000 ($1,100,000/AC)
84	20315 Rt 19	Cranberry Township	1 AC Land	Sold: -
85	Sara Dr	Ellwood City	17.50 AC Land	For Sale: $350,000 ($20,000/AC)
86	324 Saxonburg Blvd	Saxonburg	25.92 AC Land	For Sale: $1,970,000 ($76,003.09/AC)
87	2033 Saxonburg Blvd	West Deer Township	5 AC Land	Sold: -
88	502 Shady Shores Dr	East Brady	10 AC Land	Sold: $80,000
89	969 Soap Run Rd	Fombell	33.05 AC Land	Sold: $65,000
90	Textor Hill Rd	Evans City	10.41 AC Land	Sold: -
91	Parcel 537 Thorn Hill Rd	Cranberry Township	4.70 AC Land	Sold: $852,000 ($181,276.60/AC)
92	670 Tulip Dr	New Brighton	33.40 AC Land	Sold: -
93	Unionville Rd	Prospect	1.22 AC Land	Under Contract: w/Asking Price of $125,000 ($102,459.02/AC)
94	615 Warrendale Rd	Gibsonia	2.40 AC Land	For Sale: $1,200,000 ($500,000/AC)
95	Warrendale Bayne Rd	Baden	82.85 AC Land	For Sale: -
96	2330 Wildwood Rd	Allison Park	4.50 AC Land	Sold: $250,000 ($55,555.56/AC)
97	6227 William Flynn	Valencia	11.13 AC Land	For Sale: $690,000 ($61,994.61/AC)
98	5130 William Flynn Hwy	Gibsonia	4.55 AC Land	For Sale: $2,500,000 ($549,450.55/AC)
99	Woodland Rd	Warrendale	4.98 AC Land	For Sale: -

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9000 BABCOCK Blvd

Parcel Two
Hampton Township, PA 15101

Land of 8 AC is for sale at $1,900,000 ($237,500/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	586 days	Asking Price:	$1,900,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	0827-N-00338
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	8 AC	-
Price/Acre:	-	-
SF:	348,480 SF	-
Price/SF:	-	-

Listing Broker

Massaro Properties, LLC
1000 Cliff Mine Rd
Pittsburgh, PA 15275
(412) 963-2800
Brandi Welsch, Olivia Mendizabal

Buyer Broker

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560 Beaver St Ext

RTE 228 AT BEAVER ST EXT
Mars, PA 16046

Commercial Land of 10.04 AC Sold on 5/3/2022 for $675,000 - Public Record



buyer

seller

Warren E Sarver
560 Beaver Street Ext
Mars, PA 16046
(724) 625-1767

vital data

Sale Date:	5/3/2022	Sale Price:	$675,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	3,359 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	640 feet on Beavers St Ext	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5984678	Zoning:	P:1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	10.04 AC	10.04 AC
Price/Acre:	$67,231.08	$67,231.08
SF:	437,342 SF	437,342 SF
Price/SF:	$1.54	$1.54

financing

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard Stockard

Buyer Broker

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0 Blazier Dr

Wexford, PA 15090

Land of 2.40 AC is for sale at $600,000 ($250,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	4,731 days	Asking Price:	$600,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	537 feet on Blazier Dr	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	C5
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	0945-B-00027-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, Single Family Development

income expense data

	Gross	Net
Acres:	2.40 AC	-
Price/Acre:	-	-
SF:	104,544 SF	-
Price/SF:	-	-

Listing Broker

Cushman & Wakefield
310 Grant St
Pittsburgh, PA 15219
(412) 391-2600
Gary Roberson

Buyer Broker

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N BOUNDARY Rd @ Route 19

North Boundary Road at Route 19
Cranberry Township, PA 16066

Land of 4.50 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	89 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	C-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F106-17F-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Mixed Use, Bank, Car Wash, Community Center, Convenience Store, Drug Store, Fast Food, Neighborhood Center, Restaurant, Retail Warehouse, Strip Center, Supermarket

income expense data

	Gross	Net
Acres:	4.50 AC	4.50 AC
Price/Acre:	-	-
SF:	196,020 SF	196,020 SF
Price/SF:	-	-

Listing Broker

JLL
260 Forbes Ave
Pittsburgh, PA 15222
(412) 208-8382
Corbin Blosat, Justin Walbert

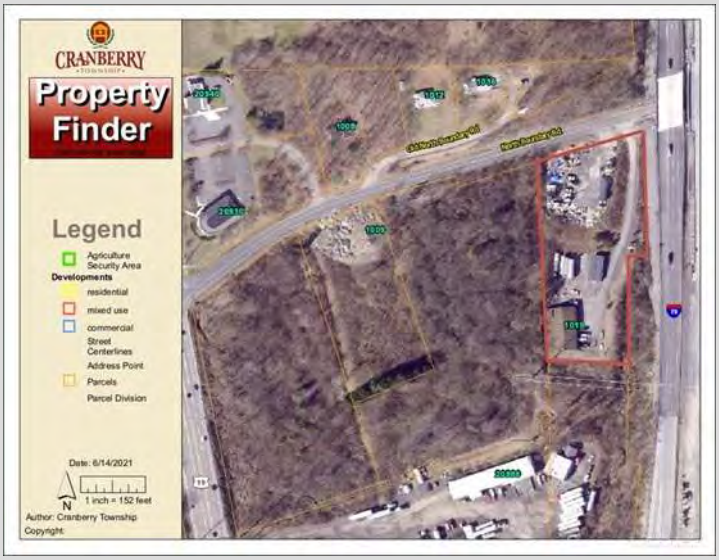
Buyer Broker

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1019 N Boundary Rd

2.6 ACRES PLUS 5,000 SQ/FT WAREHOUSE
Cranberry Township, PA 16066

Land of 2.58 AC is for sale at $1,180,000 ($457,364.34/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	747 days	Asking Price:	$1,180,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	200 feet on BOUNDARY (with 1 ...	Topography:	Level
		Improvements	Level / Graded
		Off-Site Improv:	Level / Graded
		Zoning:	SU-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F48-40D-0000
		Property Type:	Land
		Proposed Use:	Industrial, Auto Repair, Lumberyard, Storefront Retail/Office, Warehouse

income expense data

	Gross	Net
Acres:	2.58 AC	-
Price/Acre:	-	-
SF:	112,385 SF	-
Price/SF:	-	-

Listing Broker

Investors Commercial Realty Group, LLC
2301 Duss Ave
Ambridge, PA 15003
(724) 266-2554
William Grundza

Buyer Broker

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Brush Creek Rd

Thorn Hill Industrial park
Warrendale, PA 15086

Land of 8.84 AC is for sale at $1,281,655 ($145,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,340 days	Asking Price:	$1,281,655
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2181-J-00001
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	8.84 AC	-
Price/Acre:	-	-
SF:	385,027 SF	-
Price/SF:	-	-

Listing Broker

Pollock Real Estate, Inc.
9140 Perry Hwy
Pittsburgh, PA 15237
(412) 310-1172
Sanford L. Pollock

Buyer Broker

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Brush Creek Rd

Thorn Hill Industrial Park
Warrendale, PA 15086

Industrial Land of 5.29 AC Sold on 1/4/2022 for $630,000 - Public Record



buyer

seller

vital data

Sale Date:	1/4/2022	Sale Price:	$630,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	949 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5826592	Zoning:	-...
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses		- Taxes	$22,762
		- Operating Expenses	
		Total Expenses	$22,762

	Gross	Net
Acres:	5.29 AC	-
Price/Acre:	$119,092.63	-
SF:	230,432 SF	-
Price/SF:	$2.73	-

financing

Listing Broker

Pollock Real Estate, Inc.
9140 Perry Hwy
Pittsburgh, PA 15237
(412) 310-1172
Sanford Pollock

Buyer Broker

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112 Capitol Park Dr

Capitol Park Drive
Butler, PA 16055

Land of 27.34 AC is for sale at $2,187,200 ($80,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	6,020 days	Asking Price:	$2,187,200
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Rolling
		Improvements	-
		Off-Site Improv:	
		Zoning:	B2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	040-1F05-12-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	27.34 AC	-
Price/Acre:	-	-
SF:	1,190,930 SF	-
Price/SF:	-	-

Listing Broker

Pennsylvania Commercial Real Estate, Inc.
223 4th Ave
Pittsburgh, PA 15222
(412) 391-3500
Laura Lee Mongiovi

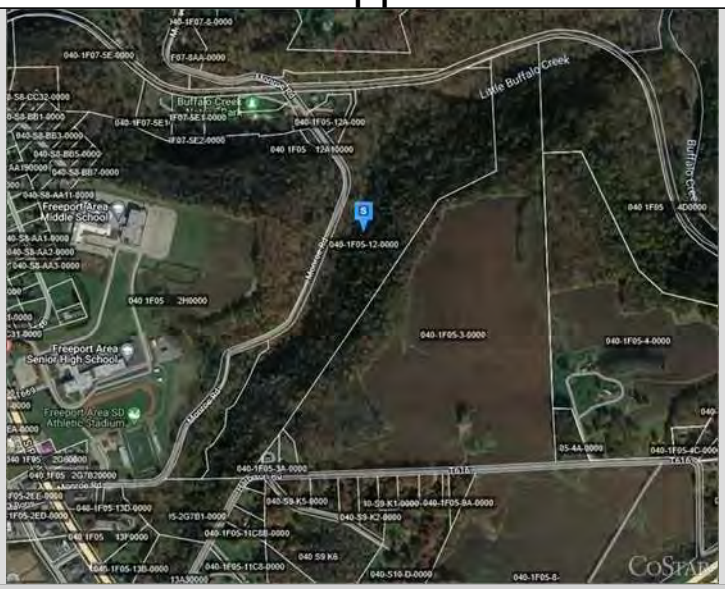
Buyer Broker

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112 Capitol Park Dr

Sarver, PA 16055

Land of 3.66 AC is for sale at $658,800 ($180,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	179 days	Asking Price:	$658,800
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	B1 B2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	040-1F05-12-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	3.66 AC	-
Price/Acre:	-	-
SF:	159,430 SF	-
Price/SF:	-	-

Listing Broker

Pennsylvania Commercial Real Estate, Inc.
223 4th Ave
Pittsburgh, PA 15222
(412) 391-3500
Laura Lee Mongiovi

Buyer Broker

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701 Clearfield Rd

Fenelton, PA

Commercial Land of 2.74 AC Sold on 6/21/2021 for $1,653,616 - Sold for Land Value - Research Complete



buyer

Barlington Group
1637 SW 8th St
Miami, FL 33135
(305) 407-1677

seller

PennTex Ventures
400 Penn Center Blvd
Pittsburgh, PA 15235
(724) 420-5367

vital data

Sale Date:	6/21/2021	Sale Price:	$1,653,616
Escrow/Contract:	-	Status:	Full Value
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	18666
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5571789	Zoning:	Comm
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	090-1F67-29P-0000
		Property Type:	Land
		Proposed Use:	Retail

income expense data

Expenses		- Taxes	$11,707
		- Operating Expenses	
		Total Expenses	$11,707

	Gross	Net
Acres:	2.74 AC	2.74 AC
Price/Acre:	$603,509.49	$603,509.49
SF:	119,354 SF	119,354 SF
Price/SF:	$13.85	$13.85

financing

1st Private Lender
Bal/Pmt: $9,450,000

Listing Broker

No Listing Broker on Deal

Buyer Broker

Stan Johnson Company
500 Newport Center Dr
Newport Beach, CA 92660
(949) 717-5200
Dave Wirgler

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5836 County Line Rd

New Castle, PA 16101

Land of 17.47 AC Sold on 7/15/2022 for $400,000 - Public Record



buyer

Cowan Miranda L

seller

Tanner Drotleff Karen

vital data

Sale Date:	7/15/2022	Sale Price:	$400,000
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000006020
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6126269	Zoning:	-
		Submarket:	-
		Map Page:	-
		Parcel No:	32-066300
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	17.47 AC	-
Price/Acre:	$22,891.68	-
SF:	-	-
Price/SF:	-	-

Listing Broker

Buyer Broker

financing

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E Dutilh Rdg

Cranberry Township, PA 16066

Land of 4.60 AC is for sale at $975,000 ($211,956.52/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	231 days	Asking Price:	$975,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	SU-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F44-1B-0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	4.60 AC	-
Price/Acre:	-	-
SF:	200,376 SF	-
Price/SF:	-	-

Listing Broker

RE/MAX Select Realty - Cranberry
1667 Route 228
Cranberry Township, PA 16066
(732) 438-0001
John Wills

Buyer Broker

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498 Eagle Mill Rd

EVANS CITY RD @ EAGLE MILL
Butler, PA 16001

Land of 1.10 AC is for sale at $525,000 ($477,272.73/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,699 days	Asking Price:	$525,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	OPEN
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	120-3F78-34C-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	1.10 AC	-
Price/Acre:	-	-
SF:	47,916 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard W. Stockard

Buyer Broker

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90 Einhouse Dr

Wexford Redevelopment
Wexford, PA 15090

Land of 1.63 AC is for sale at $660,000 ($404,907.98/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	52 days	Asking Price:	$660,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	50 feet on Perry Highway/US 19 ...	Topography:	Level
		Improvements	Single Family Dwelling
		Off-Site Improv:	Single Family Dwelling
		Zoning:	R-2
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	1206-E-00274 [Partial List]
		Property Type:	Land
		Proposed Use:	Commercial, Office, Auto Dealership, Car Wash, Convenience Store, Fast Food, Neighborhood Center, Storefront, Storefront Retail/Office, Strip Center

income expense data

	Gross	Net
Acres:	1.63 AC	-
Price/Acre:	-	-
SF:	71,003 SF	-
Price/SF:	-	-

Listing Broker

Keller Williams Realty, Inc.
11269 Perry Hwy
Wexford, PA 15090
(724) 933-8500
Philip LaMay

Buyer Broker

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370 Evans City Rd

LOT 2
Butler, PA 16001

Commercial Land of 3.10 AC Sold on 12/19/2022 - Public Record



buyer

seller

vital data

Sale Date:	12/19/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	1,791 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	250 feet on EVANS CITY RD (with 1 ...	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6245330	Zoning:	COMM
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office

income expense data

	Gross	Net
Acres:	3.10 AC	-
Price/Acre:	-	-
SF:	135,036 SF	-
Price/SF:	-	-

financing

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard Stockard

Buyer Broker

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370 Evans City Rd

LOT 1
Butler, PA 16001

Commercial Land of 1.50 AC Sold on 12/19/2022 - Public Record



buyer

seller

vital data

Sale Date:	12/19/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	1,791 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	ALL UTILITIES.AVAILABLE
Frontage	250 feet on 370 EVANS CITY RD LOT ...	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6245332	Zoning:	C.OMM
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Retail, Office

income expense data

	Gross	Net
Acres:	1.50 AC	-
Price/Acre:	-	-
SF:	65,340 SF	-
Price/SF:	-	-

financing

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard Stockard

Buyer Broker

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1650 Evans City Rd

Safe Place Storage
Evans City, PA 16033

Commercial Land of 22.31 AC Sold on 1/20/2023 for $950,000 - In Progress



buyer

seller

vital data

Sale Date:	1/20/2023	Sale Price:	$950,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	58 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6286254	Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Self-Storage

income expense data

	Gross	Net
Acres:	22.31 AC	-
Price/Acre:	$42,581.80	-
SF:	971,824 SF	-
Price/SF:	$0.98	-

financing

Listing Broker

Aegis Realty Partners
1301 Grandview Ave
Pittsburgh, PA 15211
(412) 235-7216
Michael Heike, Rick Dimidjian, Rachel Hammack

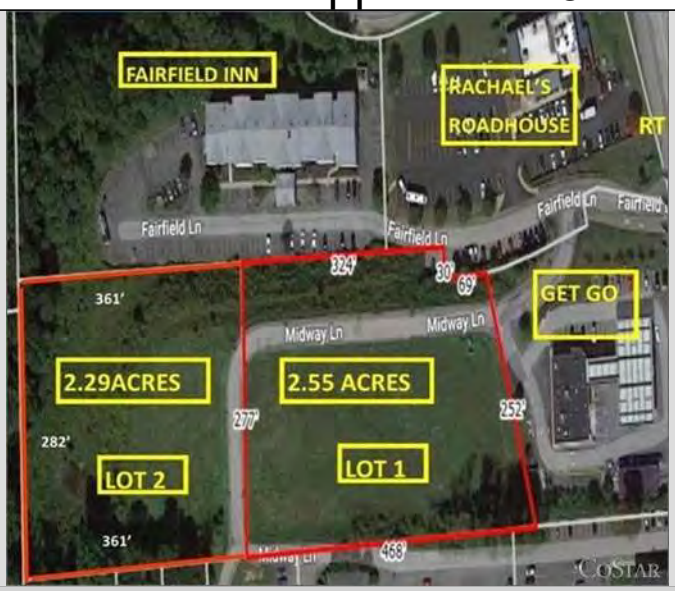
Buyer Broker

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0 Fairfield Ln

Butler, PA 16001

Land of 4.84 AC is for sale at $435,000 ($89,876.03/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	777 days	Asking Price:	$435,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	C-2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Mixed Use

income expense data

	Gross	Net
Acres:	4.84 AC	-
Price/Acre:	-	-
SF:	210,830 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard W. Stockard

Buyer Broker

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3005 Fairport Dr

Village of Cranberry Woods Outparcel
Cranberry Township, PA 16066

Commercial Land of 3 AC Sold on 9/29/2022 for $1,075,000 - Research Complete



buyer

Robert Cenci
711 Trillium Ct
Wexford, PA 15090
(412) 367-8042

seller

Patrick J Boylan
324 E Grandview Ave
Zelienople, PA 16063
(724) 445-0000

vital data

Sale Date:	9/29/2022	Sale Price:	$1,075,000
Escrow/Contract:	-	Status:	Full Value
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000020784
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6173957	Zoning:	C:CD-2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F44-35AM
		Property Type:	Land
		Proposed Use:	Retail, Office, Medical

income expense data

	Gross	Net
Acres:	3 AC	-
Price/Acre:	$358,333.33	-
SF:	130,680 SF	-
Price/SF:	$8.23	-

financing

1st Enterprise Bank
Bal/Pmt: $2,875,000

Listing Broker

No Listing Broker on Deal

Buyer Broker

No Buyer Broker on Deal

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1071-1075 Freedom Rd

Cranberry Township, PA 16066

Land of 2 AC is for sale at $625,000 ($312,500/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	4,374 days	Asking Price:	$625,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	204 feet on Freedom Rd (with 2 ...	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	C-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F110-33C-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	2 AC	-
Price/Acre:	-	-
SF:	87,120 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard W. Stockard

Buyer Broker

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1129 Freedom Rd

Cranberry Township, PA 16066

Land of 9.42 AC is for sale at $950,000 ($100,849.26/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,111 days	Asking Price:	$950,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	94 yr old cottage
		Off-Site Improv:	94 yr old cottage
		Zoning:	CCD Freedom B
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office, Mixed Use, MultiFamily, Apartment Units, Apartment Units - Condo, Master Planned Community, Planned Unit Development, Single Family Development

income expense data

	Gross	Net
Acres:	9.42 AC	9.42 AC
Price/Acre:	-	-
SF:	410,335 SF	410,335 SF
Price/SF:	-	-

Listing Broker

Cushman & Wakefield
310 Grant St
Pittsburgh, PA 15219
(412) 391-2600
Dana Grau

Buyer Broker

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1156 Freedom Rd

1156-1158 Freedom Rd - 2.54 Acres
Cranberry Township, PA 16066

Land of 2.54 AC is for sale at $1,600,000 ($629,921.26/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	594 days	Asking Price:	$1,600,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	305 feet on Freedom Road (with ...	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	R-2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-S7-G
		Property Type:	Land
		Proposed Use:	Apartment Units - Condo

income expense data

	Gross	Net
Acres:	2.54 AC	-
Price/Acre:	-	-
SF:	110,642 SF	-
Price/SF:	-	-

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
Meagan Moore

Buyer Broker

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1164 Freedom Rd

1164 Freedom Rd
Cranberry Township, PA 16066

Land of 2 AC is for sale at $850,000 ($425,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	700 days	Asking Price:	$850,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-S7-F-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	2 AC	-
Price/Acre:	-	-
SF:	87,120 SF	-
Price/SF:	-	-

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
AJ Pantoni

Buyer Broker

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1166 Freedom Rd

Cranberry Township, PA 16066

Land of 2 AC is for sale at $750,000 ($375,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	642 days	Asking Price:	$750,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	202 feet on Freedom Rd (with 1 ...	Topography:	Level
		Improvements	Single Family Dwelling
		Off-Site Improv:	Single Family Dwelling
		Zoning:	TND
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-S7-E
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Community Center

income expense data

	Gross	Net
Acres:	2 AC	2 AC
Price/Acre:	-	-
SF:	87,120 SF	87,120 SF
Price/SF:	-	-

Listing Broker

Keller Williams Realty, Inc.
11269 Perry Hwy
Wexford, PA 15090
(724) 933-8500
Philip LaMay

Buyer Broker

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4431 Gibsonia

4431 Gibsonia Rd
Gibsonia, PA 15044

Land of 16.36 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	28 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	-
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	1357-H-00134-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	16.36 AC	-
Price/Acre:	-	-
SF:	712,642 SF	-
Price/SF:	-	-

Listing Broker

Harvest Real Estate Services
4848 William Flynn Hwy
Allison Park, PA 15101
(724) 443-9020
Janine DiLoreto

Buyer Broker

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4180 Glasgow Rd

Valencia, PA

Land of 16.36 AC Sold on 12/14/2022 for $100,000 - Public Record



buyer

Powers Eugena Burke

seller

Maseth Mark L

vital data

Sale Date:	12/14/2022	Sale Price:	$100,000
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	019158000062
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6281172	Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2381-K-00245-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	16.36 AC	-
Price/Acre:	$6,112.47	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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GLEN EDEN Rd @ Route 19

Glenn Eden Rd at Route 19
Cranberry Township, PA 16066

Land of 8.44 AC is for sale at $2,750,000 ($325,829.38/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	952 days	Asking Price:	$2,750,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	510 feet on Route 19	Topography:	Sloping
		Improvements	-
		Off-Site Improv:	-
		Zoning:	C-1 and I-L
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Bank, Car Wash, Convenience Store, Fast Food, Restaurant, Retail Warehouse, Self-Storage, Storefront Retail/Office, Strip Center, Supermarket, Warehouse

income expense data

	Gross	Net
Acres:	8.44 AC	8.44 AC
Price/Acre:	-	-
SF:	367,646 SF	367,646 SF
Price/SF:	-	-

Listing Broker

JLL
260 Forbes Ave
Pittsburgh, PA 15222
(412) 208-8382
Corbin Blosat, Justin Walbert

Buyer Broker

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4103-4107 Grandview Dr

Gibsonia, PA 15044

Land of 27.99 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	2,124 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Rolling
		Improvements	-
		Off-Site Improv:	
		Zoning:	RA
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	1832-L-00150-0000-00 [Partial List]
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	27.99 AC	27 AC
Price/Acre:	-	-
SF:	1,219,166 SF	1,176,120 SF
Price/SF:	-	-

Listing Broker

ECHO Real Estate Services Co.
560 Epsilon Dr
Pittsburgh, PA 15238
(412) 968-1660
Mark Mccall

Buyer Broker

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Grove City Rd

Slippery Rock, PA 16057

Land of 6.40 AC is for sale at $550,000 ($85,937.50/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	5,549 days	Asking Price:	$550,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	C2
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	280-4F09-17E-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail

income expense data

	Gross	Net
Acres:	6.40 AC	6.40 AC
Price/Acre:	-	-
SF:	278,784 SF	278,784 SF
Price/SF:	-	-

Listing Broker

The Murray Agency
201 Timberbrook Ct
Zelienople, PA 16063
(724) 452-4513
Patrick Murray

Buyer Broker

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10023 Grubbs Rd

Wexford, PA 15090

Land of 9.50 AC Sold on 9/23/2022 - Public Record



buyer

Harnett Alisha

seller

Harnett Matt

vital data

Sale Date:	9/23/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	001965000352
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6190345	Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	1072-K-00093-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	9.50 AC	-
Price/Acre:	-	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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99 Harmony Rd

Wexford, PA 15090

Land of 3.75 AC is for sale at $1,350,000 ($360,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	27 days	Asking Price:	$1,350,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	1999-J-00017-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	3.75 AC	-
Price/Acre:	-	-
SF:	163,350 SF	-
Price/SF:	-	-

Listing Broker

SVN: Three Rivers Commercial Advisors
6 Ppg Pl
Pittsburgh, PA 15222
(412) 535-8050
Jason Campagna, Ian Dupre, Alex Dupre

Buyer Broker

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High Pointe Dr

Enclave at Highpointe, Route 228 & Highpointe
Seven Fields, PA 16046

Commercial Land of 1.38 AC Sold on 6/2/2021 for $1,650,000 - Research Complete



buyer

Huntington Bank
c/o James Yarish
41 S High St
Columbus, OH 43215
(616) 355-8828

seller

The OZ Group
c/o Nancy Kaclik
318 W Main St
Birdsboro, PA 19508
(610) 582-3800

vital data

Sale Date:	6/2/2021	Sale Price:	$1,650,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	Roads paved & parking lots, utilities at curb
Frontage	1,343 feet on Route 228	Off-Site Improv:	
Comp ID:	5894309	Zoning:	PEDD
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	505-S1-KD-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office, Bank, Day Care Center, Drug Store, Fast Food, Health Care, Medical, Restaurant, Storefront, Storefront Retail/Office, Strip Center

income expense data

Expenses	- Taxes	$49
	- Operating Expenses	
	Total Expenses	$49

	Gross	Net
Acres:	1.38 AC	-
Price/Acre:	$1,195,652.17	-
SF:	60,113 SF	-
Price/SF:	$27.45	-

financing

Listing Broker

Buyer Broker

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0 Hindman Rd

1 Acre Parcel Hindman Road
Butler, PA 16001

Commercial Land of 1 AC Sold on 5/13/2022 for $210,000 - Public Record



buyer

seller

vital data

Sale Date:	5/13/2022	Sale Price:	$210,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	802 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	214 feet on SR 422	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6088968	Zoning:	C1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Industrial, Office, Contractor Storage Yard, Distribution, Retail Warehouse, Warehouse

income expense data

	Gross	Net
Acres:	1 AC	-
Price/Acre:	$210,000.00	-
SF:	43,560 SF	-
Price/SF:	$4.82	-

financing

Listing Broker

Coldwell Banker Real Estate LLC
9600 Perry Hwy
Pittsburgh, PA 15237
(412) 366-1600
Scott Gabriel

Buyer Broker

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0 Hutchman Rd

HUTCHMAN RD
Mars, PA 16046

Commercial Land of 2.20 AC Sold on 8/12/2022



buyer

seller

vital data

Sale Date:	8/12/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	483 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	2022.8.15.17564
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Electricity, Gas, Sewer
Comp ID:	6114999	Zoning:	INDUSTRIAL
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	010-3F66-1-0000
		Property Type:	Land
		Proposed Use:	Commercial, Industrial

income expense data

	Gross	Net
Acres:	2.20 AC	-
Price/Acre:	-	-
SF:	95,832 SF	-
Price/SF:	-	-

financing

Listing Broker

Agnes R Nicklas Realtors
735 Pike Rd
Sarver, PA 16055
(724) 295-5105
Tim McCue

Buyer Broker

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Innovation & Global View Dr

Innovation Ridge
Warrendale, PA 15986

Land of 37.92 AC is for sale at $2,950,000 ($77,795.36/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	641 days	Asking Price:	$2,950,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	RRTP
		Submarket:	I-279/I-79 Northwest
		Map Page:	-
		Parcel No:	1997-C-00012-0000-00 [Partial List]
		Property Type:	Land
		Proposed Use:	Industrial, Office, Office Park, R&D

income expense data

	Gross	Net
Acres:	37.92 AC	37.92 AC
Price/Acre:	-	-
SF:	1,651,795 SF	1,651,795 SF
Price/SF:	-	-

Listing Broker

Newmark
210 6th Ave
Pittsburgh, PA 15222
(412) 281-0100
Louis V. Oliva

Buyer Broker

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Knob Rd

Parcel D - RIDC Thorn Hill Ind Park
Wexford, PA 15090

Land of 20.63 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	4,625 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2180-G-00001-0000-00
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	20.63 AC	-
Price/Acre:	-	-
SF:	898,643 SF	-
Price/SF:	-	-

Listing Broker

RIDC of Southwestern PA
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939
Michael Heinricher

Buyer Broker

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Knob Rd

Parcel 66 - RIDC Thorn Hill Ind Park
Wexford, PA 15090

Land of 7.60 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	4,625 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2180-G-00002-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, Industrial, Office

income expense data

	Gross	Net
Acres:	7.60 AC	7.60 AC
Price/Acre:	-	-
SF:	331,056 SF	331,056 SF
Price/SF:	-	-

Listing Broker

RIDC of Southwestern PA
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939
Michael Heinricher

Buyer Broker

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Knob Rd

Parcel 65 - RIDC Thorn Hill Ind Park
Wexford, PA 15090

Land of 10.54 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	4,625 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2180-H-00002-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, Industrial, Office

income expense data

	Gross	Net
Acres:	10.54 AC	10.54 AC
Price/Acre:	-	-
SF:	459,122 SF	459,122 SF
Price/SF:	-	-

Listing Broker

RIDC of Southwestern PA
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939
Michael Heinricher

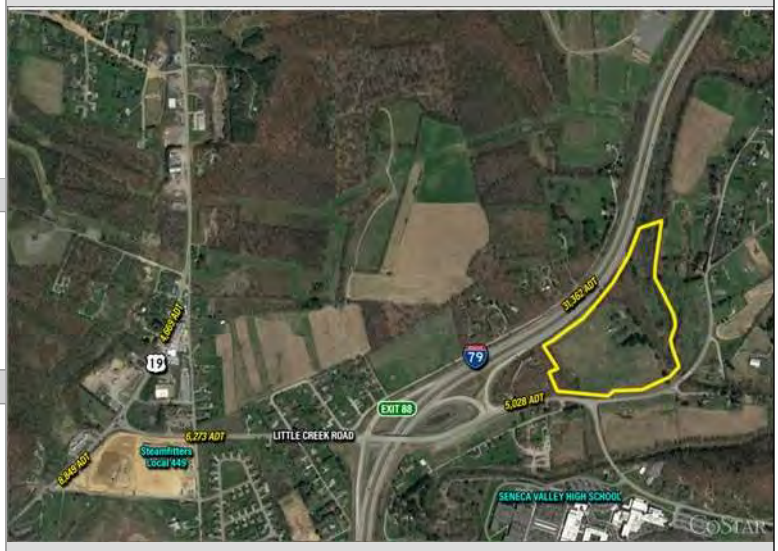
Buyer Broker

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Little Creek Rd

Little Creek Road
Harmony, PA 16037

Land of 30 AC is for sale at $1,900,000 ($63,333.33/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,182 days	Asking Price:	$1,900,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Retail, Office, Mixed Use, Self-Storage, Shipyard, Warehouse

income expense data

	Gross	Net
Acres:	30 AC	-
Price/Acre:	-	-
SF:	1,306,800 SF	-
Price/SF:	-	-

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
Eric Lamm

Buyer Broker

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893 Little Deer Creek Valley Rd

Little Deer Creek Valley Road Land
Russellton, PA 15076

Industrial Land of 24.53 AC Sold on 2/7/2022 - Public Record



buyer

seller

vital data

Sale Date:	2/7/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	693 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Curb/Gutter/Sidewalk, Electricity, Gas, ...
Comp ID:	5874528	Zoning:	Industrial
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Industrial

income expense data

Expenses		- Taxes	$646
		- Operating Expenses	
		Total Expenses	$646

	Gross	Net
Acres:	24.53 AC	-
Price/Acre:	-	-
SF:	1,068,527 SF	-
Price/SF:	-	-

financing

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
AJ Pantoni

Buyer Broker

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Mack Rd

MACK FARM
West Sunbury, PA 16061

Commercial Land of 40 AC Sold on 3/23/2021 for $150,000 - Public Record



buyer

seller

vital data

Sale Date:	3/23/2021	Sale Price:	$150,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	422 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Sloping
Lot Dimensions:	-	Improvements:	-
Frontage	3,000 feet on MACK RD	Off-Site Improv:	Cable, Electricity, Gas, Telephone
Comp ID:	5439758	Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Apartment Units - Senior, Industrial Park, Manuftrd Hms/Mobl Hm Prk , Master Planned Community, Winery/Vineyard

income expense data

	Gross	Net
Acres:	40 AC	-
Price/Acre:	$3,750.00	-
SF:	1,742,400 SF	-
Price/SF:	$0.09	-

financing

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard Stockard

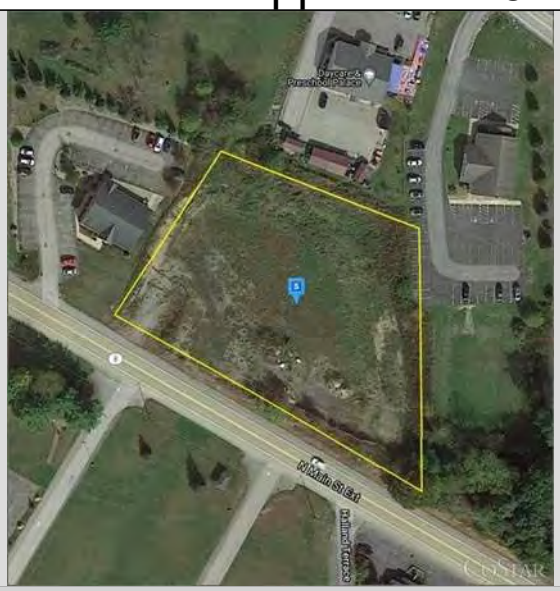
Buyer Broker

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1647 N Main Street Ext

1647 North Main Street Ext
Butler, PA 16001

Land of 2.49 AC is for sale at $389,000 ($156,224.90/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	605 days	Asking Price:	$389,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	382 feet on N Main	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	C-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	060-s4-9c-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office, Mixed Use, MultiFamily, Hospitality, Apartment Units, Apartment Units - Condo, Auto Dealership, Auto Repair, Car Wash, Convenience Store, Day Care Center, Fast Food, General Freestanding, Hotel, Medical, Restaurant, Service Station, Storefront, Strip Center, Supermarket, Veterinarian/Kennel

income expense data

	Gross	Net
Acres:	2.49 AC	1.98 AC
Price/Acre:	-	-
SF:	108,464 SF	86,249 SF
Price/SF:	-	-

Listing Broker

Berkshire Hathaway HomeServices - Butler
1629 N Main St
Butler, PA 16001
(724) 282-1313
Jay Mosby

Buyer Broker

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9112 Marshall Rd

Land for Development
Cranberry Township, PA 16066

Commercial Land of 3.10 AC Sold on 6/3/2022 - Public Record



buyer

seller

PAPS Buildings, Ltd.
380 S Ronald Reagan Blvd
Longwood, FL 32750

vital data

Sale Date:	6/3/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	1,859 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6127212	Zoning:	SP-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	3.10 AC	-
Price/Acre:	-	-
SF:	135,036 SF	-
Price/SF:	-	-

financing

Listing Broker

Howard Hanna Real Estate Services
2558 Darlington Rd
Beaver Falls, PA 15010
(724) 775-5700
Hal Martin

Buyer Broker

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281 McKrell Rd

Tarentum, PA

Land of 16.36 AC Sold on 12/15/2022 for $575,000 - Public Record



buyer

Alfred Conservation Llc

seller

Tristani Guy

vital data

Sale Date:	12/15/2022	Sale Price:	$575,000
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	019154000152
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6281171	Zoning:	-
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	1511-C-00155-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	16.36 AC	-
Price/Acre:	$35,146.70	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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783 Mercer Rd

Butler, PA 16001

Commercial Land of 24.21 AC Sold on 6/1/2021 for $1,454,034 - Sold for Land Value - Research Complete



buyer

Weaver, William J
110 Ramblewood Ln
Mars, PA 16046
(724) 538-3397

seller

Aubrey George G
340 N Main St
Butler, PA 16001
(561) 659-2444

vital data

Sale Date:	6/1/2021	Sale Price:	$1,454,034
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000015910
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5544260	Zoning:	AG
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	060-2F104-28-0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Commercial, Mixed Use, Agricultural

income expense data

Expenses	- Taxes	$702
	- Operating Expenses	
	Total Expenses	$702

	Gross	Net
Acres:	24.21 AC	-
Price/Acre:	$60,066.67	-
SF:	1,054,457 SF	-
Price/SF:	$1.38	-

financing

Listing Broker

No Listing Broker on Deal

Buyer Broker

No Buyer Broker on Deal

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Meridian Rd

Lot 2 Meridian Rd
Butler, PA 16001

Commercial Land of 4.82 AC Sold on 8/9/2022 for $3,345,891 - Research Complete



buyer

Commercial Street Partners
64 Commercial St
Rochester, NY 14614
(585) 924-3050

seller

Morgan Communities
1170 Pittsford-Victor Rd
Pittsford, NY 14534
(585) 270-0925

vital data

Sale Date:	8/9/2022	Sale Price:	$3,345,891
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000017188
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6130900	Zoning:	COMM
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	010-4F35-20W1D-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	4.82 AC	4.82 AC
Price/Acre:	$694,182.66	$694,182.66
SF:	209,955 SF	209,955 SF
Price/SF:	$15.94	$15.94

Listing Broker

No Listing Broker on Deal

Buyer Broker

No Buyer Broker on Deal

financing

prior sale

Date/Doc No:	12/28/2020
Sale Price:	-
CompID:	5398726

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Lot 105 Myoma Road

Mars, PA 16046

Residential Land of 16.53 AC Sold on 9/13/2021 for $1,250,000 - Research Complete



buyer

Christopher J Miladinovich
116 Southridge Dr
Cranberry Township, PA 16066
(412) 225-4331

seller

R & D Holdings LLC
129 Carriage Hill Dr
Mars, PA 16046
(724) 742-9857

vital data

Sale Date:	9/13/2021	Sale Price:	$1,250,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	41 days	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	26382
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	250 feet on Myoma Road 228 feet on ...	Off-Site Improv:	Cable, Electricity, Gas, Sewer, Streets, ...
Comp ID:	5677238	Zoning:	RAL
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	010-4F33-25ND-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses	- Taxes	$1,732
	- Operating Expenses	
	Total Expenses	$1,732

	Gross	Net
Acres:	16.53 AC	16.53 AC
Price/Acre:	$75,620.08	$75,620.08
SF:	720,047 SF	720,047 SF
Price/SF:	$1.74	$1.74

financing

Listing Broker

Berkshire Hathaway HomeServices
5801 Forbes Ave
Pittsburgh, PA 15217
(412) 521-5500
Dominic Janidas

Buyer Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Geoffrey Smathers

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0000 N. Pike

Commercial Land
Sarver, PA 16055

Land of 1 AC is for sale at $425,000 ($425,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	318 days	Asking Price:	$425,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	1 AC	-
Price/Acre:	-	-
SF:	43,560 SF	-
Price/SF:	-	-

Listing Broker

Berkshire Hathaway Home Services
100 Alameda Plz
Butler, PA 16001
(724) 283-0005
Chuck Swidzinski

Buyer Broker

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31 Nagy Rd

Cheswick, PA

Land of 3.32 AC Sold on 8/16/2022 - Public Record



buyer

Jeffrey B Bastin

seller

Zacherl Christine E

vital data

Sale Date:	8/16/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	001944000017
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6173132	Zoning:	-
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	1359-K-00040-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	3.32 AC	-
Price/Acre:	-	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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New Castle Rd

Lot #1
Prospect, PA 16052

Land of 2.16 AC is for sale at $295,000 ($136,574.07/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	3,240 days	Asking Price:	$295,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	515 feet on New Castle Rd 566 ...	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	170-4F21-9E-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	2.16 AC	2.16 AC
Price/Acre:	-	-
SF:	94,090 SF	94,090 SF
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard W. Stockard

Buyer Broker

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174 New Castle Rd

2 Acres
Butler, PA 16001

Land of 2 AC is for sale at $300,000 ($150,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	11 days	Asking Price:	$300,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	290x243	Corner:	No
Frontage:	290 feet on New Castle	Topography:	-
		Improvements	Tanks removed.
		Off-Site Improv:	Tanks removed.
		Zoning:	C
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	056-21-B2A-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office

income expense data

	Gross	Net
Acres:	2 AC	-
Price/Acre:	-	-
SF:	87,120 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna
100-196 Bon Aire Plz
Butler, PA 16001
(724) 282-7903
Nicole Glasgow

Buyer Broker

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661 New Castle Rd

Butler, PA 16001

Land of 1.16 AC is for sale at $400,000 ($344,827.59/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	2,131 days	Asking Price:	$400,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	170-S1-B12-0000
		Property Type:	Land
		Proposed Use:	Retail, Convenience Store

income expense data

	Gross	Net
Acres:	1.16 AC	-
Price/Acre:	-	-
SF:	50,530 SF	-
Price/SF:	-	-

Listing Broker

Passport Realty LLC
5050 West Ridge Rd
Erie, PA 16506
(814) 454-1800
Daryl Terella

Buyer Broker

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663 New Castle Rd

Butler, PA 16001

Land of 1.22 AC is for sale at $850,000 ($696,721.31/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	2,131 days	Asking Price:	$850,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	170-S1-B13-0000
		Property Type:	Land
		Proposed Use:	Retail, Convenience Store

income expense data

	Gross	Net
Acres:	1.22 AC	-
Price/Acre:	-	-
SF:	53,143 SF	-
Price/SF:	-	-

Listing Broker

Passport Realty LLC
5050 West Ridge Rd
Erie, PA 16506
(814) 454-1800
Daryl Terella

Buyer Broker

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2606 Nicholson Rd

Sewickley, PA 15143

Land of 4.60 AC is for sale at $2,400,000 ($521,739.13/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	3,728 days	Asking Price:	$2,400,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	M2
		Submarket:	I-279/I-79 Northwest
		Map Page:	-
		Parcel No:	1346-J-00353-0000-00
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	4.60 AC	-
Price/Acre:	-	-
SF:	200,376 SF	-
Price/SF:	-	-

Listing Broker

JLL
260 Forbes Ave
Pittsburgh, PA 15222
(412) 208-8382
Nick Jacobs, Justin Walbert

Buyer Broker

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1021 North Boundary

CRANBERRY TOWNSHIP COMMERCIAL LAND
Cranberry Township, PA 16066

Land of 1.58 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	382 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	200 feet on North Boundary ...	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	SU-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F48-40D-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	1.58 AC	-
Price/Acre:	-	-
SF:	68,825 SF	-
Price/SF:	-	-

Listing Broker

Investors Commercial Realty Group, LLC
2301 Duss Ave
Ambridge, PA 15003
(724) 266-2554
William Grundza

Buyer Broker

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422 Old Route 422

Vacant Land
Butler, PA 16001

Commercial Land of 4.13 AC Sold on 7/9/2021 for $202,500 - Public Record



buyer

seller

Ritenour Richard A & Robb E
107 Corks Ln
Butler, PA 16001
(724) 482-2750

vital data

Sale Date:	7/9/2021	Sale Price:	$202,500
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	2,668 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5571741	Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Hotel

income expense data

Expenses	- Taxes	$316
	- Operating Expenses	
	Total Expenses	$316

	Gross	Net
Acres:	4.13 AC	-
Price/Acre:	$49,055.23	-
SF:	179,816 SF	-
Price/SF:	$1.13	-

financing

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard Stockard

Buyer Broker

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0 W Park Rd

Rt 422 & I-79 -BUTLER COUNTY
Portersville, PA 16051

Land of 33.92 AC is for sale at $1,750,000 ($51,591.98/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,699 days	Asking Price:	$1,750,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	1,366 feet on Burnside	Topography:	Sloping
		Improvements	full interchange at site
		Off-Site Improv:	full interchange at site
		Zoning:	none
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	240-4F90-A1C-000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	33.92 AC	-
Price/Acre:	-	-
SF:	1,477,555 SF	-
Price/SF:	-	-

Listing Broker

Bovard-Anderson Company
617 3rd St
Beaver, PA 15009
(724) 774-5330
Tracie Eckel Ward

Buyer Broker

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120 Penn St

120 Penn Street
Mars, PA 16046

Land of 8.71 AC is for sale at $1,200,000 ($137,772.68/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	406 days	Asking Price:	$1,200,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	885 feet on Route 228	Topography:	Rolling
		Improvements	Small RES structure on site.
		Off-Site Improv:	Small RES structure on site.
		Zoning:	Industrial/228 Overlay
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	010-3F66-57-0000
		Property Type:	Land
		Proposed Use:	Retail, Office, MultiFamily

income expense data

	Gross	Net
Acres:	8.71 AC	-
Price/Acre:	-	-
SF:	379,408 SF	-
Price/SF:	-	-

Listing Broker

Berkshire Hathaway HomeServices
9840 Old Perry Hwy
Wexford, PA 15090
(412) 367-3200
Marv I. Levin

Buyer Broker

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Perry Hwy

Harmony, PA 16037

Commercial Land of 5.50 AC Sold on 10/13/2022 for $3,500,000



buyer

Steamfitters 449
1517 Woodruff St
Pittsburgh, PA 15220
(412) 381-1133

seller

Creative Real Estate Development
215 Executive Dr
Cranberry, PA 16066
(724) 776-2727

vital data

Sale Date:	10/13/2022	Sale Price:	$3,500,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	000000021615
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6194053	Zoning:	L-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	180-4F100-10E-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

Expenses	- Taxes	$128
	- Operating Expenses	
	Total Expenses	

	Gross	Net
Acres:	5.50 AC	5.50 AC
Price/Acre:	$636,363.64	$636,363.64
SF:	239,580 SF	239,580 SF
Price/SF:	$14.61	$14.61

financing

Listing Broker

No Listing Broker on Deal

Buyer Broker

Creative Real Estate Development
215 Executive Dr
Cranberry, PA 16066
(724) 776-2727
Donald Rodgers

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Perry Hwy

Muddy Creek Twp. Land
Portersville, PA 16051

Land of 5 AC is for sale at $99,900 ($19,980/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,593 days	Asking Price:	$99,900
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	606 feet on Perry Highway	Topography:	Rolling
		Improvements	-
		Off-Site Improv:	
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	240-4F135-1C
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	5 AC	-
Price/Acre:	-	-
SF:	217,800 SF	-
Price/SF:	-	-

Listing Broker

Pennsylvania Commercial Real Estate, Inc.
223 4th Ave
Pittsburgh, PA 15222
(412) 391-3500
Scott Long

Buyer Broker

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321 Perry Hwy

321 Perry Highway
Harmony, PA 16037

Land of 3.15 AC is for sale at $425,000 ($134,920.63/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	7 days	Asking Price:	$425,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	200-S2-A67-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	3.15 AC	-
Price/Acre:	-	-
SF:	137,214 SF	-
Price/SF:	-	-

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
Adam Joyce, Eric Lamm

Buyer Broker

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696 Perry Hwy

Harmony, PA 16037

Commercial Land of 6.69 AC Sold on 6/12/2022 for $355,000 - Public Record



buyer

French Hill Properties
2545 Lawrenceburg Rd
Frankfort, KY 40601

seller

vital data

Sale Date:	6/12/2022	Sale Price:	$355,000
Escrow/Contract:	-	Status:	-
Days on Market:	75 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Rolling
Lot Dimensions:	-	Improvements:	-
Frontage	373 feet on Perry Highway	Off-Site Improv:	Electricity, Gas, Water
Comp ID:	6074279	Zoning:	Mixed Use
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	6.69 AC	-
Price/Acre:	$53,064.28	-
SF:	291,416 SF	-
Price/SF:	$1.22	-

financing

Listing Broker

Southbound Enterprises LLC
3591 School Rd
Murrysville, PA 15668
(412) 999-7612
Natalie Kalmeyer

Buyer Broker

Southbound Enterprises LLC
3591 School Rd
Murrysville, PA 15668
(412) 999-7612
Erin Sellinger

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12400 Perry Hwy

Wexford, PA 15090

Commercial Land of 1.20 AC Sold on 8/19/2021 for $1,000,000 - Research Complete



buyer

The Armstrong Group
1 Armstrong Pl
Butler, PA 16001
(724) 283-0925

seller

Becker Clarajane
12400 Perry Hwy
Wexford, PA 15090
(724) 935-4245

vital data

Sale Date:	8/19/2021	Sale Price:	$1,000,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	650 days	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	249 feet on Brookfield Estates ...	Off-Site Improv:	-
Comp ID:	5647944	Zoning:	Residential
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	1658-B-00006-0000-00
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses	- Taxes	$3,979
	- Operating Expenses	
	Total Expenses	$3,979

	Gross	Net
Acres:	1.20 AC	1.20 AC
Price/Acre:	$833,333.33	$833,333.33
SF:	52,272 SF	52,272 SF
Price/SF:	$19.13	$19.13

financing

Listing Broker

SVN: Three Rivers Commercial Advisors
6 Ppg Pl
Pittsburgh, PA 15222
(412) 535-8050
Alex Dupre, Jason Campagna

Buyer Broker

Commercial Choice Real Estate
PO Box 1
Murrysville, PA 15668
(724) 327-3482
David Reese

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20421 Perry Hwy

Cranberry, PA 16066

Commercial Land of 1 AC Sold on 10/6/2021 for $725,000 - Research Complete



buyer

seller

Agree Realty
70 Long Lake
Bloomfield Hills, MI 48304
(248) 737-4190

vital data

Sale Date:	10/6/2021	Sale Price:	$725,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	1,181 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	Storm watet detention in place
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5722288	Zoning:	-...
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F108-25EA-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses	- Taxes	$13,368
	- Operating Expenses	
	Total Expenses	$13,368

	Gross	Net
Acres:	1 AC	1 AC
Price/Acre:	$725,000.00	$725,000.00
SF:	43,560 SF	43,560 SF
Price/SF:	$16.64	$16.64

Listing Broker

ACRES-Allegheny Commercial Real Estate Services
101 Bradford Rd
Wexford, PA 15090
(724) 934-4747
Kate Edelmann

Buyer Broker

financing

prior sale

Date/Doc No:	10/9/2017
Sale Price:	$1,300,000
CompID:	4040978

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0000 Powell Rd

Cranberry Township, PA

Land of 2.57 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	551 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	R1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-S20-CB-0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Single Family Development, Single Family Residence

income expense data

	Gross	Net
Acres:	2.57 AC	-
Price/Acre:	-	-
SF:	111,949 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Tony Nucci

Buyer Broker

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000 N Rebecca St

Saxonburg, PA

Land of 3.28 AC is for sale at $327,000 ($99,695.12/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	565 days	Asking Price:	$327,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	623 feet on North Rebecca Street	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	Comm
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	500 S4 74A0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Planned Unit Development, Single Family Development

income expense data

	Gross	Net
Acres:	3.28 AC	3.28 AC
Price/Acre:	-	-
SF:	142,877 SF	142,877 SF
Price/SF:	-	-

Listing Broker

BHHS - The Preferred Realty
119 Mulone Dr
Sarver, PA 16055
(724) 295-9090
Jack Hutterer

Buyer Broker

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235 Ridge Rd

New Brighton, PA 15066

Land of 4.60 AC Sold on 7/2/2022 - Public Record



buyer

Depp Susan A

seller

Shirley Depp Family Trust

vital data

Sale Date:	7/2/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000003666130
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6123764	Zoning:	-
		Submarket:	Beaver County
		Map Page:	-
		Parcel No:	68-124-0127.N01
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	4.60 AC	-
Price/Acre:	-	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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1 Rolling Rd

Cranberry Township, PA 16066

Land of 9.77 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	627 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	Commercial - CCD Overlay
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-S7-AB3-0000
		Property Type:	Land
		Proposed Use:	Industrial, Mixed Use

income expense data

	Gross	Net
Acres:	9.77 AC	-
Price/Acre:	-	-
SF:	425,581 SF	-
Price/SF:	-	-

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
AJ Pantoni

Buyer Broker

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364 Rose Point Harlansburg Rd

New Castle, PA 16101

Commercial Land of 3 AC Sold on 2/10/2021 for $519,316 - Public Record



buyer

seller

vital data

Sale Date:	2/10/2021	Sale Price:	$519,316
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	289 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5393555	Zoning:	-
		Submarket:	-
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses		- Taxes	$1,710
		- Operating Expenses	
		Total Expenses	$1,710

	Gross	Net
Acres:	3 AC	-
Price/Acre:	$173,105.33	-
SF:	130,680 SF	-
Price/SF:	$3.97	-

financing

Listing Broker

Howard Hanna
2900 Wilmington Rd
New Castle, PA 16105
(724) 654-5555
Ronalyn Mitcheltree

Buyer Broker

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20400 Route 19

Cranberry Township, PA 16066

Commercial Land of 16.56 AC Sold on 9/30/2022 for $12,250,000 - Research Complete



buyer

ECHO Real Estate Services Co.
c/o Francesca Rossi
560 Epsilon Dr
Pittsburgh, PA 15238
(412) 968-1660

seller

David Smail
111 Lakeland Dr
Mars, PA 16046
(412) 585-4630

vital data

Sale Date:	9/30/2022	Sale Price:	$12,250,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	263 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000020992
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	6178132	Zoning:	SU-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F46-63A-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail

income expense data

	Gross	Net
Acres:	16.56 AC	16.56 AC
Price/Acre:	$739,689.63	$739,689.63
SF:	721,397 SF	721,397 SF
Price/SF:	$16.98	$16.98

financing

Listing Broker

CBRE
301 Grant St
Pittsburgh, PA 15219
(412) 471-9500
Steven Esposito, Steven Esposito

Buyer Broker

No Buyer Broker on Deal

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20423 Route 19

Pet Suites
Cranberry, PA 16066

Commercial Land of 4 AC Sold on 10/6/2021 for $725,000 - Research Complete



buyer

STNL Development
c/o Kevin Sadowski
850 Corporate Park Dr
Cincinnati, OH 45242
(513) 438-5150

seller

ACRES-Allegheny Commercial Real Estate Services
c/o Kate Edelmann
101 Bradford Rd
Wexford, PA 15090
(724) 934-4747

vital data

Sale Date:	10/6/2021	Sale Price:	$725,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	000000028722
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5732387	Zoning:	C
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F108-25EA-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	4 AC	4 AC
Price/Acre:	$181,250.00	$181,250.00
SF:	174,240 SF	174,240 SF
Price/SF:	$4.16	$4.16

financing

1st Heritage Bank (Construction)
Bal/Pmt: $3,561,768

Listing Broker

No Listing Broker on Deal

Buyer Broker

No Buyer Broker on Deal

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20609 Route 19

Cranberry Township, PA 16066

Commercial Land of 16 AC Sold on 2/3/2021 for $2,400,000 - Research Complete



buyer

Zampogna Construction Inc
c/o Rinaldo Zampogna
2532 Carl Ave
Lower Burrell, PA 15068
(724) 335-9473

seller

Meeder Family LP
1048 Freedom Rd
Cranberry Township, PA 16066
(724) 776-2352

vital data

Sale Date:	2/3/2021	Sale Price:	$2,400,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	000000004413
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	972 feet on Route 19	Off-Site Improv:	-
Comp ID:	5395942	Zoning:	C
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F108-11M-0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Commercial, Office, Mixed Use

income expense data

Expenses	- Taxes	$4,179
	- Operating Expenses	
	Total Expenses	$4,179

	Gross	Net
Acres:	16 AC	16 AC
Price/Acre:	$150,000.00	$150,000.00
SF:	696,960 SF	696,960 SF
Price/SF:	$3.44	$3.44

financing

Listing Broker

No Listing Broker on Deal

Buyer Broker

No Buyer Broker on Deal

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20865 Route 19

Minutes to all interstates and turnpike
Cranberry Township, PA 16066

Land of 2.20 AC is for sale at $920,000 ($418,181.82/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	946 days	Asking Price:	$920,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	398 feet on Route 19	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	SU-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F106-17C-0000
		Property Type:	Land
		Proposed Use:	Commercial, Office, MultiFamily, Hospitality, Auto Dealership, Auto Repair, Bank, Drug Store, Health Care, Medical, Office Park, Religious Facility, Restaurant, Self-Storage, Single Family Development, Storefront Retail/Office

income expense data

	Gross	Net
Acres:	2.20 AC	-
Price/Acre:	-	-
SF:	95,832 SF	-
Price/SF:	-	-

Listing Broker

Berkshire Hathaway
3820 Old William Penn Hwy
Murrysville, PA 15668
(724) 733-7100
Faith Dickinson

Buyer Broker

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20920 Route 19

Lot 2
Cranberry, PA 16066

Commercial Land of 7.50 AC Sold on 11/2/2022 for $1,500,000 - Research Complete



buyer

Woda Cooper Companies
500 S Front St
Columbus, OH 43215
(614) 396-3200

seller

Gigliotti Properties
11279 Perry Hwy
Wexford, PA 15090
(724) 934-2720

vital data

Sale Date:	11/2/2022	Sale Price:	$1,500,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	2022.11.3.22911
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6198606	Zoning:	C-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F106-17B-0000 [Partial List]
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	7.50 AC	-
Price/Acre:	$200,000.00	-
SF:	326,700 SF	-
Price/SF:	$4.59	-

financing

Listing Broker

JLL
260 Forbes Ave
Pittsburgh, PA 15222
(412) 208-8382
Corbin Blosat, Justin Walbert

Buyer Broker

No Buyer Broker on Deal

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447-449 Route 228

Mars, PA 16046

Land of 3.48 AC is for sale at $1,100,000 ($316,091.95/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	627 days	Asking Price:	$1,100,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	220 feet on Route 228 (with 1 ...	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	C Route 228 overlay
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	010-3f57-a13/4-0000
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office, Mixed Use

income expense data

	Gross	Net
Acres:	3.48 AC	-
Price/Acre:	-	-
SF:	151,589 SF	-
Price/SF:	-	-

Listing Broker

Coldwell Banker Commercial Realty
4960C William Flynn Hwy
Allison Park, PA 15101
(412) 487-0500
Sean Phillips

Buyer Broker

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Route 28 @ Route 128

Freeport, PA 16229

Commercial Land of 29 AC Sold on 3/13/2021 - Public Record



buyer

seller

Dlubak Frank C
152 Baker Rd
Freeport, PA 16229
(724) 295-2948

vital data

Sale Date:	3/13/2021	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	404 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Rolling
Lot Dimensions:	Irregular	Improvements:	-
Frontage	1,270 feet on Route 28 1,600 feet ...	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5428137	Zoning:	M2
		Submarket:	Armstrong County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Planned Unit Development

income expense data

Expenses		- Taxes	$3,734
		- Operating Expenses	
		Total Expenses	$3,734

	Gross	Net
Acres:	29 AC	-
Price/Acre:	-	-
SF:	1,263,240 SF	-
Price/SF:	-	-

financing

Listing Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
Dana Grau

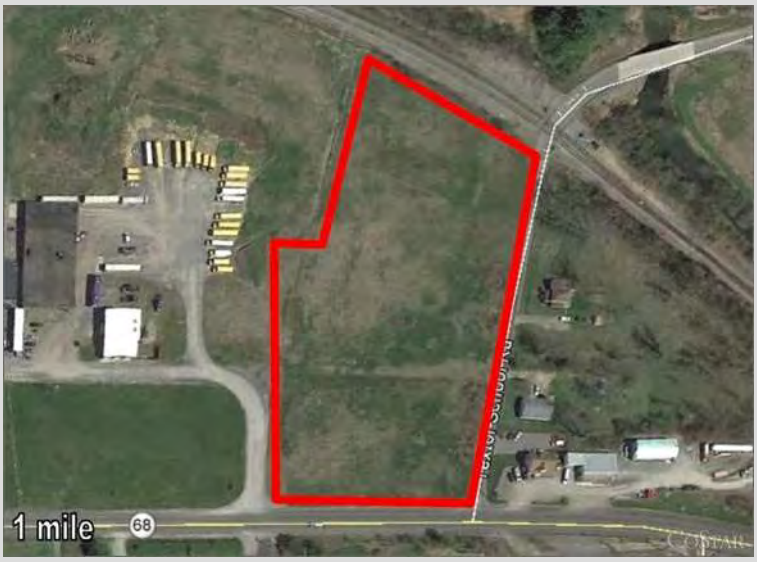
Buyer Broker

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Route 68

Textor School Road
Jackson Twp, PA 16063

Land of 4.79 AC is for sale at $875,000 ($182,672.23/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,266 days	Asking Price:	$875,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	180-4F102-10P-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	4.79 AC	-
Price/Acre:	-	-
SF:	208,652 SF	-
Price/SF:	-	-

Listing Broker

Pennsylvania Commercial Real Estate, Inc.
223 4th Ave
Pittsburgh, PA 15222
(412) 391-3500
Scott Long

Buyer Broker

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Route 68 & Ridge Rd

Land for Development - 90 Acres
Zelienople, PA 16063

Land of 90 AC is for sale at $795,000 ($8,833.33/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,070 days	Asking Price:	$795,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Rolling
		Improvements	-
		Off-Site Improv:	
		Zoning:	Transitional Overlay
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	180-4F52-17 [Partial List]
		Property Type:	Land
		Proposed Use:	Industrial, Single Family Development

income expense data

	Gross	Net
Acres:	90 AC	-
Price/Acre:	-	-
SF:	3,920,400 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna Real Estate Services
2558 Darlington Rd
Beaver Falls, PA 15010
(724) 775-5700
Hal Martin

Buyer Broker

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Route 8 @ Wildwood Road

Allison Park, PA 15101

Land of 6 AC is for sale at $2,400,000 ($400,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,135 days	Asking Price:	$2,400,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	H-C
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	1076-S-00080-0000-00
		Property Type:	Land
		Proposed Use:	Retail, Convenience Store, Drug Store, Service Station

income expense data

	Gross	Net
Acres:	6 AC	6 AC
Price/Acre:	-	-
SF:	261,360 SF	261,360 SF
Price/SF:	-	-

Listing Broker

Costa Real Estate, LLC
6057 State Route 88 St
Finleyville, PA 15332
(724) 348-9300
Greg Costa

Buyer Broker

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Route 8

2.08 Acre Sale / Lease / Could Subdivide
Allison Park, PA 15101

Land of 2.08 AC is for sale at $1,250,000 ($600,961.54/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,135 days	Asking Price:	$1,250,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	413 feet on Route 8	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Highway Commercial
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	0949-D-00040-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Convenience Store, Drug Store, Service Station

income expense data

	Gross	Net
Acres:	2.08 AC	2.08 AC
Price/Acre:	-	-
SF:	90,605 SF	90,605 SF
Price/SF:	-	-

Listing Broker

Costa Real Estate, LLC
6057 State Route 88 St
Finleyville, PA 15332
(724) 348-9300
Greg Costa

Buyer Broker

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518 Route 989

Freedom, PA 15042

Land of 3.30 AC is for sale at $395,000 ($119,696.97/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	948 days	Asking Price:	$395,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	171 feet on Rte 989	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Commercial / Industrial
		Submarket:	Beaver County
		Map Page:	-
		Parcel No:	69-165-0107.000
		Property Type:	Land
		Proposed Use:	Commercial, Industrial, Auto Dealership, Auto Repair, Bank, Car Wash, Contractor Storage Yard, Convenience Store, Fast Food, Hospital, Industrial Live/Work Unit, Industrial Park, Manuftrd Hms/Mobl Hm Prk , Medical, Office Park, Religious Facility, Retail Warehouse, Self-Storage, Service Station, Storefront Retail/Office

income expense data

	Gross	Net
Acres:	3.30 AC	-
Price/Acre:	-	-
SF:	143,748 SF	-
Price/SF:	-	-

Listing Broker

Berkshire Hathaway
3820 Old William Penn Hwy
Murrysville, PA 15668
(724) 733-7100
Faith Dickinson, Susan Reese-Hartzell

Buyer Broker

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XX Rowan Rd

Cranberry Township, PA 16066

Land of 3.10 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	1,243 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	332 feet on Rowan Road	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	SP-1
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Retail, Office, Medical

income expense data

	Gross	Net
Acres:	3.10 AC	3.10 AC
Price/Acre:	-	-
SF:	135,036 SF	135,036 SF
Price/SF:	-	-

Listing Broker

Violas Properties
8001 Rowan Rd
Cranberry Township, PA 16066
(724) 776-4720
Kevin Sismour

Buyer Broker

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20315 Rt 19

Prime Land - Cranberry RT 19
Cranberry Township, PA 16066

Commercial Land of 1 AC Sold on 8/10/2022 for $1,100,000 - Research Complete



buyer

20315 Route 19 Partners Llc

(724) 538-9073

seller

Gabriele Campitelli

(724) 316-6886

vital data

Sale Date:	8/10/2022	Sale Price:	$1,100,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	$220,000
Exchange:	No	Pct Down:	20.0%
Conditions:	-	Doc No:	000000017300
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	3,000sf building
Frontage	124 feet on Rt 19 (with 1 curb cut)	Off-Site Improv:	-
Comp ID:	6125995	Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F108-26B-0000
		Property Type:	Land
		Proposed Use:	Retail

income expense data

	Gross	Net
Acres:	1 AC	-
Price/Acre:	$1,100,000.00	-
SF:	43,560 SF	-
Price/SF:	$25.25	-

financing

1st WesBanco Bank, Inc.
Bal/Pmt: $880,000

Listing Broker

Newmark
210 6th Ave
Pittsburgh, PA 15222
(412) 281-0100
David Glickman

Buyer Broker

No Buyer Broker on Deal

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20315 Rt 19

Prime Land - Cranberry RT 19
Cranberry Township, PA 16066

Commercial Land of 1 AC Sold on 9/8/2022 - Public Record



buyer

seller

20315 Route 19 Partners Llc

(724) 538-9073

vital data

Sale Date:	9/8/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	2,219 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	3,000sf building
Frontage	124 feet on Rt 19 (with 1 curb cut)	Off-Site Improv:	-
Comp ID:	6189837	Zoning:	Commercial
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Retail

income expense data

	Gross	Net
Acres:	1 AC	-
Price/Acre:	-	-
SF:	43,560 SF	-
Price/SF:	-	-

Listing Broker

Newmark
210 6th Ave
Pittsburgh, PA 15222
(412) 281-0100
David Glickman

Buyer Broker

financing

prior sale

Date/Doc No:	8/10/2022 (000000017300)
Sale Price:	$1,100,000
CompID:	6125995

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Sara Dr

Industrial Zoned Raw Land
Ellwood City, PA 16117

Land of 17.50 AC is for sale at $350,000 ($20,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	1,890 days	Asking Price:	$350,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Industrial
		Submarket:	Beaver County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	17.50 AC	-
Price/Acre:	-	-
SF:	762,300 SF	-
Price/SF:	-	-

Listing Broker

Howard Hanna Real Estate Services
2558 Darlington Rd
Beaver Falls, PA 15010
(724) 775-5700
Hal Martin

Buyer Broker

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324 Saxonburg Blvd

Saxonburg, PA 16056

Land of 25.92 AC is for sale at $1,970,000 ($76,003.09/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	350 days	Asking Price:	$1,970,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	318 feet on Saxonburg Blvd	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	100-1F159-5B-0000
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	25.92 AC	-
Price/Acre:	-	-
SF:	1,129,075 SF	-
Price/SF:	-	-

Listing Broker

Berkshire Hathaway HomeServices - Butler
1629 N Main St
Butler, PA 16001
(724) 282-1313
Lorraine DiDomenico

Buyer Broker

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2033 Saxonburg Blvd

West Deer Township, PA 15084

Commercial Land of 5 AC Sold on 3/4/2021 - Public Record



buyer

seller

KARDOS SUSAN A
1604 Valley View Ct
Pittsburgh, PA 15237
(412) 366-4250

vital data

Sale Date:	3/4/2021	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	852 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	Level
Lot Dimensions:	-	Improvements:	3 Bedroom Home
Frontage	500 feet on Saxonburg Blvd	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5418839	Zoning:	C2
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

Expenses		- Taxes	$1,718
		- Operating Expenses	
		Total Expenses	$1,718

	Gross	Net
Acres:	5 AC	5 AC
Price/Acre:	-	-
SF:	217,800 SF	217,800 SF
Price/SF:	-	-

financing

Listing Broker

KW Commercial
5915 Baum Blvd
Pittsburgh, PA 15206
(412) 682-0120
Jean Ou

Buyer Broker

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502 Shady Shores Dr

East Brady, PA

Land of 10 AC Sold on 9/13/2021 for $80,000 - Public Record



buyer

Nikki L Rimer

seller

Riverview Place Inc

vital data

Sale Date:	9/13/2021	Sale Price:	$80,000
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000000004075
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5713273	Zoning:	-
		Submarket:	-
		Map Page:	-
		Parcel No:	007-320001
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses		- Taxes	$22
		- Operating Expenses	
		Total Expenses	$22

	Gross	Net
Acres:	10 AC	-
Price/Acre:	$8,000.00	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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969 Soap Run Rd

Fombell, PA 16123

Land of 33.05 AC Sold on 8/12/2022 for $65,000 - Public Record



buyer

Sockaci Sarah L

seller

Sockaci Theodore A

vital data

Sale Date:	8/12/2022	Sale Price:	$65,000
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000003666611
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6132053	Zoning:	-
		Submarket:	Beaver County
		Map Page:	-
		Parcel No:	61-114-0167.P04 [Partial List]
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	33.05 AC	-
Price/Acre:	$1,966.72	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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Textor Hill Rd

Evans City, PA 16033

Commercial Land of 10.41 AC Sold on 2/11/2021 - Public Record



buyer

seller

vital data

Sale Date:	2/11/2021	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	232 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	5390280	Zoning:	-
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

Expenses		- Taxes	$336
		- Operating Expenses	
		Total Expenses	$336

	Gross	Net
Acres:	10.41 AC	10.41 AC
Price/Acre:	-	-
SF:	453,547 SF	453,547 SF
Price/SF:	-	-

financing

Listing Broker

Marathon Petroleum Corporation
539 S Main St
Findlay, OH 45840
(419) 422-2121
Habib Shakkour

Buyer Broker

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Parcel 537 Thorn Hill Rd

RIDC Thorn Hill Ind Park
Cranberry Township, PA 16066

Commercial Land of 4.70 AC Sold on 9/27/2021 for $852,000 - Research Complete



buyer

T.M. Crowley & Associates
c/o Don Caron
11312 Hazeldell Pky
Indianapolis, IN 46280
(317) 705-8800

seller

RIDC of Southwestern PA
c/o Eric Samuels
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939

vital data

Sale Date:	9/27/2021	Sale Price:	$852,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	-	Down Pmnt:	$0
Exchange:	No	Pct Down:	0.0%
Conditions:	-	Doc No:	000000028947
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	Site is cleared of trees and graded
Frontage	686 feet on THorn Hill Road	Off-Site Improv:	Streets
Comp ID:	5732392	Zoning:	C
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	130-4F110-14C25
		Property Type:	Land
		Proposed Use:	Industrial, Office

income expense data

Expenses	- Taxes	$651
	- Operating Expenses	
	Total Expenses	$651

	Gross	Net
Acres:	4.70 AC	4.70 AC
Price/Acre:	$181,276.60	$181,276.60
SF:	204,732 SF	204,732 SF
Price/SF:	$4.16	$4.16

financing

Listing Broker

No Listing Broker on Deal

Buyer Broker

Hanna Langholz Wilson Ellis
1 PPG Pl
Pittsburgh, PA 15222
(412) 261-2200
AJ Pantoni

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670 Tulip Dr

New Brighton, PA 15066

Land of 33.40 AC Sold on 10/27/2022 - Public Record



buyer

Ankney John

seller

Ankney Mary Elaine

vital data

Sale Date:	10/27/2022	Sale Price:	-
Escrow/Contract:	-	Status:	-
Days on Market:	-	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	000003671698
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	-
Comp ID:	6236177	Zoning:	-
		Submarket:	Beaver County
		Map Page:	-
		Parcel No:	59-134-0204.N00 [Partial List]
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	33.40 AC	-
Price/Acre:	-	-
SF:	-	-
Price/SF:	-	-

financing

Listing Broker

Buyer Broker

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Unionville Rd

Prospect, PA 16052

Land of 1.22 AC is for sale at $125,000 ($102,459.02/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	3,238 days	Asking Price:	$125,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	188 feet on Unionville Rd	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	COMM
		Submarket:	Butler County
		Map Page:	-
		Parcel No:	170-4F21-9DAA-0000
		Property Type:	Land
		Proposed Use:	Commercial

income expense data

	Gross	Net
Acres:	1.22 AC	1.22 AC
Price/Acre:	-	-
SF:	53,143 SF	53,143 SF
Price/SF:	-	-

Listing Broker

Howard Hanna
100 Seven Fields Blvd
Mars, PA 16046
(724) 772-8822
Richard W. Stockard

Buyer Broker

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615 Warrendale Rd

Gibsonia, PA 15044

Land of 2.40 AC is for sale at $1,200,000 ($500,000/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	335 days	Asking Price:	$1,200,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	526x400	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	
		Zoning:	Commercial
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2376-S-00031-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Office, Mixed Use

income expense data

	Gross	Net
Acres:	2.40 AC	-
Price/Acre:	-	-
SF:	104,544 SF	-
Price/SF:	-	-

Listing Broker

Totum Realty Advisors
401 Liberty Ave
Pittsburgh, PA 15222
(412) 745-5000
Michael Castle, Kevin J. Riley

Buyer Broker

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Warrendale Bayne Rd

RIDC Innovation Ridge
Baden, PA 15090

Land of 82.85 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	4,500 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	I-279/I-79 Northwest
		Map Page:	-
		Parcel No:	1998-E-00001-0000-00
		Property Type:	Land
		Proposed Use:	Office, R&D

income expense data

	Gross	Net
Acres:	82.85 AC	-
Price/Acre:	-	-
SF:	3,608,946 SF	-
Price/SF:	-	-

Listing Broker

RIDC of Southwestern PA
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939
Michael Heinricher

Buyer Broker

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2330 Wildwood Rd

Allison Park, PA 15101

Commercial Land of 4.50 AC Sold on 6/23/2021 for $250,000 - Research Complete



buyer

seller

vital data

Sale Date:	6/23/2021	Sale Price:	$250,000
Escrow/Contract:	-	Status:	Confirmed
Days on Market:	1,679 days	Down Pmnt:	-
Exchange:	No	Pct Down:	-
Conditions:	-	Doc No:	-
Density:	-	Trans Tax:	-
Max No of Units:	-	Corner:	No
Price/Unit:	-	Topography:	-
Lot Dimensions:	-	Improvements:	-
Frontage	-	Off-Site Improv:	Cable, Curb/Gutter/Sidewalk, Electricity,
Comp ID:	5550927	Zoning:	LIGHT INDUSTRIAL
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	Commercial, Retail, Restaurant

income expense data

Expenses		- Taxes	$2,824
		- Operating Expenses	
		Total Expenses	$2,824

	Gross	Net
Acres:	4.50 AC	4.50 AC
Price/Acre:	$55,555.56	$55,555.56
SF:	196,020 SF	196,020 SF
Price/SF:	$1.28	$1.28

financing

Listing Broker

RE/MAX Select Realty
8858 Covenant Ave
Pittsburgh, PA 15237
(724) 933-6300
Dale Polanosky

Buyer Broker

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6227 William Flynn

6227-6229 William Flynn Hwy
Valencia, PA 16059

Land of 11.13 AC is for sale at $690,000 ($61,994.61/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	87 days	Asking Price:	$690,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	CC
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	-
		Property Type:	Land
		Proposed Use:	-

income expense data

	Gross	Net
Acres:	11.13 AC	-
Price/Acre:	-	-
SF:	484,823 SF	-
Price/SF:	-	-

Listing Broker

EXP Commercial LLC
1848 N Hancock St
Philadelphia, PA 19122
(855) 452-0268
Barb Petrilla

Buyer Broker

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5130 William Flynn Hwy

Gibsonia, PA 15044

Land of 4.55 AC is for sale at $2,500,000 ($549,450.55/AC)



buyer

For Sale

seller

-

vital data

Days on Market:	697 days	Asking Price:	$2,500,000
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	-
		Improvements	-
		Off-Site Improv:	
		Zoning:	-
		Submarket:	Northeast Pittsburgh
		Map Page:	-
		Parcel No:	1355-E-00023-0000-00
		Property Type:	Land
		Proposed Use:	Commercial, MultiFamily, Hospitality, Apartment Units, Apartment Units - Senior, Hotel, Self-Storage

income expense data

	Gross	Net
Acres:	4.55 AC	-
Price/Acre:	-	-
SF:	198,198 SF	-
Price/SF:	-	-

Listing Broker

Venture Real Estate
2559 Washington Rd
Pittsburgh, PA 15241
(412) 833-8700
Jacob Robinson

Buyer Broker

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Woodland Rd

Vacant Land- Parcel B
Warrendale, PA 15086

Land of 4.98 AC is for sale



buyer

For Sale

seller

-

vital data

Days on Market:	4,626 days	Asking Price:	-
Conditions:	-	Status:	For Sale
Lot Dimensions:	-	Corner:	No
Frontage:	-	Topography:	Level
		Improvements	-
		Off-Site Improv:	-
		Zoning:	-
		Submarket:	North Pittsburgh/Rte 19
		Map Page:	-
		Parcel No:	2370-h-00009-0001-00
		Property Type:	Land
		Proposed Use:	Industrial, Office, Lodge/Meeting Hall

income expense data

	Gross	Net
Acres:	4.98 AC	-
Price/Acre:	-	-
SF:	216,929 SF	-
Price/SF:	-	-

Listing Broker

RIDC of Southwestern PA
611 William Penn Pl
Pittsburgh, PA 15219
(412) 471-3939
Michael Heinricher

Buyer Broker

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DEPRECIATION AND FUNCTIONAL OBSOLESCENCE

An important step in the appraisal of property using the cost approach is the determination of the depreciation or condition of the property. Depreciation in this appraisal was segregated into normal (mostly physical) depreciation and functional obsolescence. The normal depreciation was determined based on the age of the property and its normal service life; while functional obsolescence was based on the impact on the property's remaining life caused by factors such as changing technology, service requirements, and competition.

Depreciation - The depreciation was determined based on the property's age and it normal service life using the following formula:

$$\text{Condition} = \frac{\text{Remaining Life}}{\text{Age + Remaining Life}}$$

or

$$\text{Depreciation} = \frac{\text{Age}}{\text{Age + Remaining Life}}$$

Where: Remaining Life = f(Age, Survival Characteristic, Normal Service life)

Functional Obsolescence - The obsolescence inherent in the property was determined using the above-described normal service life in comparison to the property's service life is adjusted for functional factors. The obsolescence was quantified base on the difference between the property's normal service life and its functional service life. The following formula was used to calculate the obsolescence:

$$\text{Obsolescence} = \frac{\text{Normal Service Life - Functional Service Life}}{\text{Normal Service Life}}$$

Service Lives - (normal versus functional) - The service life of property is that period of time in which it provides the service to which it was designed and placed into service. In most industrial properties there is a difference between a property's normal or physical life and its functional life. A piece of equipment may physically last for an extended

period; however, as that property ages changing technology, improvements or enhancement in similar equipment, functional and or service requirements change resulting in decreased utility of the existing equipment, and therefore decrease in value to it owner, this additional deterioration over that defined by the equipment's normal life is functional obsolescence.

Wastewater Depreciation Service Life Experience in Pennsylvania

The service lives used in the depreciation and functional obsolescence calculations were developed based on the property and its use, AUS Consultants' experience in developing depreciation studies for the water and wastewater industries and depreciation studies filed with recent PAWC and Aqua America rate cases. With each of their rate case filings PAWC and Aqua America have filed depreciation studies in support of their depreciation service lives and associated depreciation expenses contained within their revenue requirements. The depreciation studies were prepared by Gannett Fleming Rate Consultants a recognized firm in the depreciation consulting area. AUS Consultants has reviewed the studies which are summarized in the following table:

Summary of PAWC Depreciation Studies Prepared for Rate Case

Account	Account Description	Iowa Curves		Service Life		Remaining Life	
		12/31/2016	12/31/2019	12/31/2016	12/31/2019	12/31/2016	12/31/2019
				years	years	years	years
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	45	45	39.1	33.3
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	50	55	45.2	32.6
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	65	55	56.6	31.7
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	35	35	33.3	23.2
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5	35	35	29.7	19.3
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	70	75	53.1	52.5
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	70	80	56.9	54.8
361.20	MANHOLES	S1.5	S2.5	50	50	41.3	32.2
363.00	SERVICES	R3	R3	38	47	22.9	30.2
364.00	FLOW MEASURING DEVICES	L3	L2.5	20	15	13.3	5.1
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2	30	25	23.1	10.8
370.00	RECEIVING WELLS	R3	R3	50	50	42.7	33.7
371.00	PUMPING EQUIPMENT	SO	S0.5	40	30	35.5	18.2
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	45	35	37.1	20.1
381.00	PLANT SEWERS	R3	R3	50	50	43.1	32.7
382.00	OUTFALL SEWER LINES	R3	R3	50	50	37.8	28.3
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	52.5	S2.5	20	20	13.6	11.3
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	20	5	12.3	3.5
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	15	20	9.5	10.1
391.00	TRANSPORTATION EQUIPMENT	SQ	L4	25	14	19,9	9.8
392.00	STORES EQUIPMENT	SQ	SQ	20	25	16.4	17.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	15	20	11,3	15.4
394.00	LABORATORY EQUIPMENT	L2.5	SQ	16	15	8.7	10.4
395.00	POWER OPERATED EQUIPMENT	SQ	R2	15	22	10.3	13.2
396.00	COMMUNICATION EQUIPMENT	SQ	SQ	15	15	9.6	6.9
397.00	MISCELLANEOUS EQUIPMENT		SQ		15		12.8
398.00	OTHER TANGIBLE PLANT		SQ		25		21.5
	TOTAL DEPRECIABLE PLANT						

AUS Consultants believe this increase in service lives is attributable to the widespread use of relining older mains instead of replacing mains which are in need of repair. The practice of relining mains with a cured in place plastic liner not only repairs specific main but has the affect of extending the life of the original main by the length of time which the relining can be expected to last. Most relining vendors warranty their product and procedure for 50 years. Thus, in essence the original mains' service life will be extended by 50 plus years at the date the relining occurred. For those mains associated with relining their installation date was established at the date of their relining and their depreciation parameters were established the same as the depreciation parameters of the relining, i.e., R2.5 – 60 years.

The following table presents the depreciation parameters (Iowa-type survivor curve and service life) used in the cost approach in calculating the deprecation of the property:

Pennsylvania American Water Company
Butler Area snitartary Authority (BASA)
Wastewater System
Investor-Owned Utility
October 11, 2022

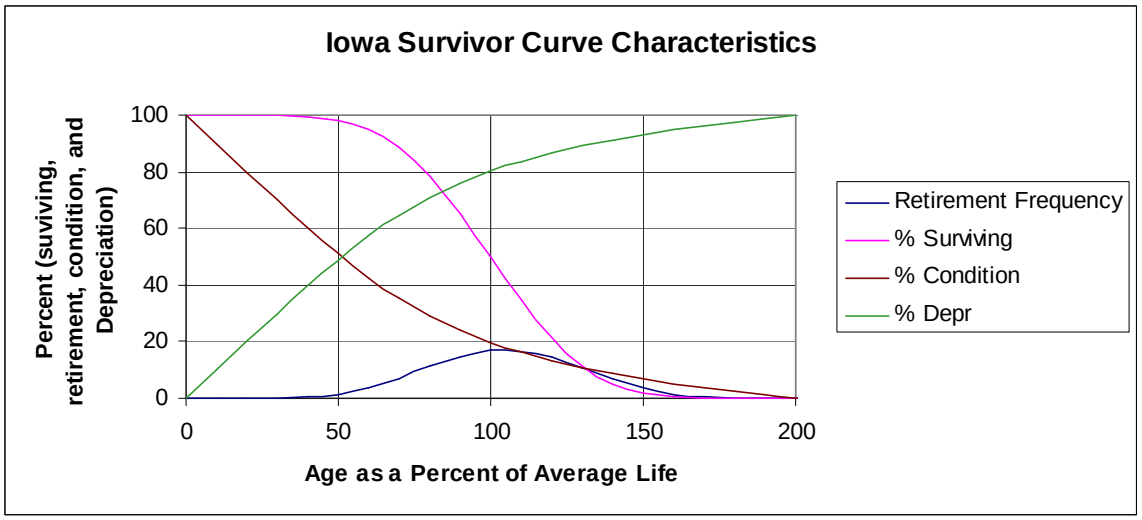
Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)		(5)	(6)	
		(4a)	(4b)		(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence	Tax Depreciation	
			years	% of CORLD	Table	Life
353.00	Land & Land Rights	ZNonDep	0.00	0.00%	Non-Depr	0.00
354.00	Stuctures & Improvements	R4.0	55.00	0.00%	MACRS	25.00
354.30	Stuctures & Improvements - Pumping	R4.0	45.00	0.00%	MACRS	25.00
355.00	Generating Equipment	R3.0	35.00	0.00%	MACRS	25.00
355.10	Generating Equipment - Pumping	R3.0	35.00	0.00%	MACRS	25.00
360.10	Collection Sewers - Force - Mains - CIP	R3.0	75.00	0.00%	MACRS	25.00
361.10	Collection Sewers - Gravity - Mains	R2.5	80.00	0.00%	MACRS	25.00
361.12	Collection Sewers - Gravity - Mains Relined	R2.5	140.00	0.00%	MACRS	25.00
361.15	Collection Sewers - Gravity - Mains Relining	R2.5	60.00	0.00%	MACRS	25.00
361.20	Collection Sewers - Gravity - Manholes	R2.5	80.00	0.00%	MACRS	25.00
363.00	Service Laterals	R3.0	50.00	0.00%	MACRS	25.00
364.00	Flow Measuring Devices	S2.0	30.00	0.00%	MACRS	25.00
371.00	Pumping Equipment	R3.0	35.00	0.00%	MACRS	25.00
371.10	Pumping Equipment	R3.0	35.00	0.00%	MACRS	25.00
380.00	Treatment and Disposal Equipment	R2.0	45.00	0.00%	MACRS	25.00
380.10	Equipment Pump Stations	R3.0	35.00	0.00%	MACRS	25.00
390.10	Office Computer Equipment	R3.0	8.00	0.00%	MACRS	12.00
390.20	Office Printers	R3.0	12.00	0.00%	MACRS	12.00
390.30	Office Equipment	R3.0	12.00	0.00%	MACRS	12.00
391.00	Transportation Equipment	R3.0	15.00	0.00%	MACRS	10.00
395.00	Power Operated Equipment	R3.0	15.00	0.00%	MACRS	15.00
396.00	Communications Equipment	R3.0	12.00	0.00%	MACRS	12.00
397.00	Miscellaneous Equipment	R3.0	20.00	0.00%	MACRS	20.00

As the above table demonstrates the depreciation lives selected for the AUS Consultants appraisal are consistent with the industry depreciation studies' finding for wastewater plant. However due to the age of some of the property the extend of the depreciation was limited to 85% of the assets original cost and its replacement cost new.

Iowa Survivor Curves

The Iowa Survivor Curves recommended in the appraisal are used to determine the remaining life of the property, and therefore its condition, recognizing the properties' service life and age. The Iowa Survivor Curves allows the appraiser to recognize the property being studied (mains, treatment and pumping plant equipment etc placed in a particular year, say1985) is part of a larger group of property, i.e., all the property i.e., mains, treatment and pumping plant equipment, etc. As such, the service lives which we refer to in our appraisal are an average service lives for the group, i.e., the average life of all mains, treatment and pumping plant equipment, etc. The Iowa Survivor curve allows the appraiser to calculate the remaining life, and therefore condition, of a subset of the group (the mains placed in 1985) based on the groups': (1) Iowa Survivor Curve, (2) Service Life and the (3) age of property at the appraisal date. An Iowa Survivor Curves depicts how property from a group survives and retires about that groups' average life.

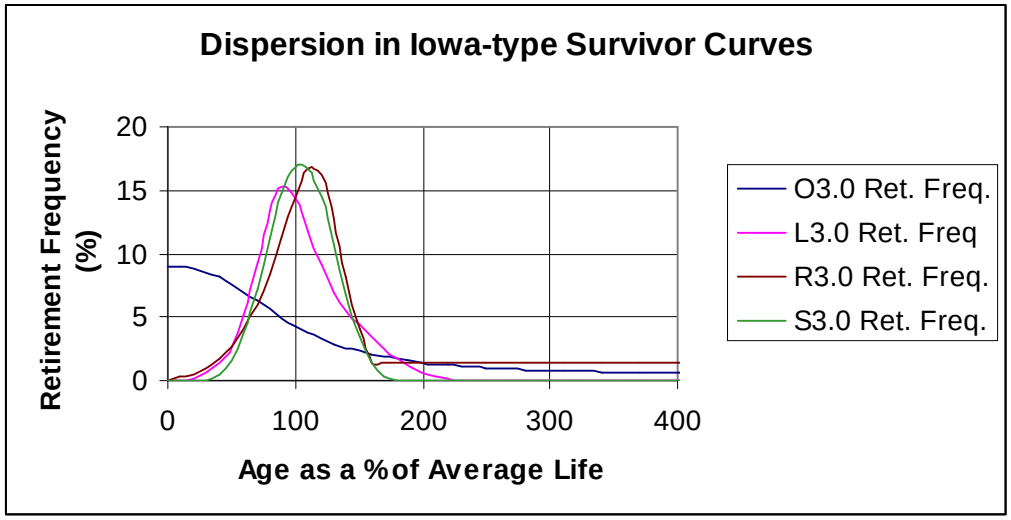


The above figure depicts a typical Iowa-type survivor curve, an S3.0 Iowa-type survivor curve. In this case the survivor curve has been generalized to a service life of 100% of the property's average life, in this generalized form the survivor curve statistics can be utilized with any individual service life in the age-life service life and depreciation calculations. There are four characteristics displayed in the above chart depicting the manner in which property survives and retires about the group's average life, those characteristics are: the retirement frequency (blue), the percent surviving (red), the percent condition (brown) and the percent depreciated (green). The retirement frequency represents the retirement of individual property items about the group's average service life. As can be seen the retirements are distributes about the group's average life with some items retiring before the average life and some items retiring at or after the group's service life. The group's survivor curve is developed from subtracting the retirements as they occur as the property ages. The depreciation curve depicts how much of the property group's life has been consumed; while the condition curve depict

how much of the property group's life remains. The condition and depreciation curves are complementary in that condition equals 100% minus depreciation and vice versa.

The theory of Iowa Survivor Curves was presented in the 1920s and 30s by Robley Winfrey based on research at Iowa State University (then the Iowa Engineering Experiment Station). Winfrey's research was first published in Bulletin 103 - Life Characteristics of Physical Property and Bulletin 125 - Statistical Analysis of Industrial Property Retirements. (Incidentally, both publications are out of print, I have a copy of Bulletin 125 but not Bulletin 103, I'm still trying to get a copy of that piece of depreciation literature.). Bulletin 125 was updated in 1967 by Professor Harold Cowles of Iowa State University's Department of Industrial Engineering. In conducting his research, Winfrey collected data on industrial property survival and retirement from various sources and analyzed that data as a function of property's age at retirement and ultimately the property groups' service life when all the property in the group was fully retired.

Winfrey discovered the industrial property's survival and retirement fits three basic patterns with relationship to the property's average life:



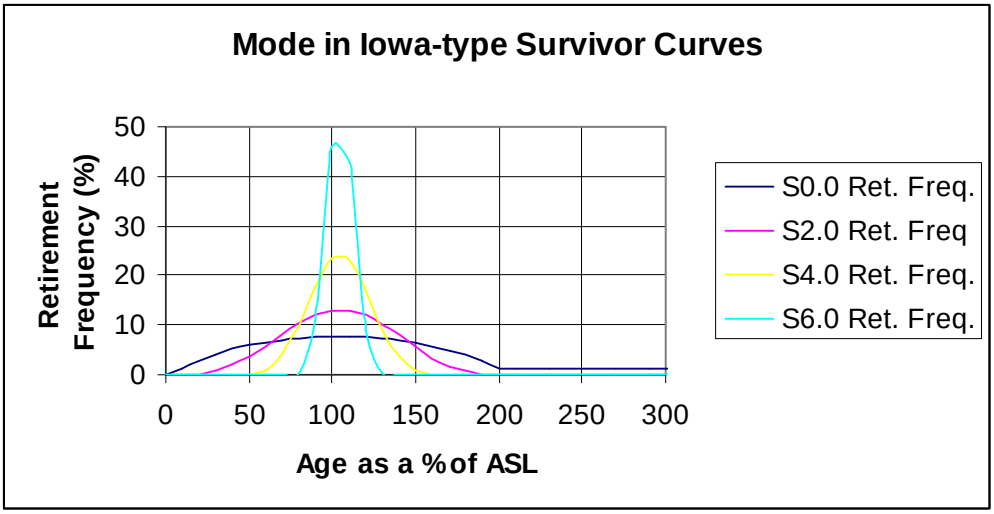
Symmetrically moded (S-type Iowa Survivor Curves) (green) – The S-type Iowa Survivor Curve is one wherein the property's retirements are symmetrically distributed about the mode. Mode in statistics is defined as the highest frequency, in this case retirement frequency. Thus an S-type Iowa curve is like a normal curve; however, its shape is not identical to a normal distribution function.

Right moded (R-type Iowa Curves) (brown) – the R-type Iowa curve has its mode skewed to the right of the property's average life; therefore, the retirements tend to be distributed later in the property's life and there are less retirements earlier in the property's life.

Left moded (L-type Iowa Curve) (red) – The L-type Iowa curve has its mode skewed to the left of the property's average life; therefore, the retirements tend to be distributed earlier in the property's life and there are less retirements later in the property's life.

In the utility industry, the plant, i.e., mains, treatment and pumping plant equipment tends to have a R-type survival/retirement dispersion as it is designed to provide service over extended periods, requiring little maintenance, and it designers have significant experience in designing and placing such property.

In conjunction with the above-described R-, S-, and L-type survival/retirement patterns, Winfrey determine that there were several patterns of the manner in which the retirements' peakedness occur around the average life. In this case, Winfrey described the peakedness of the property retirements with peakedness enumerations of 0, 1, 2, 3, 4, 5, and 6. The low peakedness numbers 0 and 1 represent low levels of retirements being distributed over the property entire life, while high peakedness numbers, 5 and 6 represent retirement patterns where the majority or all the retirement occur tightly grouped around the property's average life. Peakedness numbers 2, 3, and 4 are middle of the road, so to speak, in terms of peakedness.



Origin moded (O-type) survivor curve (blue) – Harold Cowles in his 1967 update of Bulletin 125 introduced the O-type survivor curve with the mode of the curve at the origin or at age equal to zero (0) years. This class of Iowa curves was over looked by Winfrey possibly because it made little intuitive sense that industrial retirement of property would have their maximum retirement frequency at age equal to zero. However, Cowles felt for completeness they should be included. O-type survivor curves do reflect the survival pattern of intangible assets.

Iowa-type survivor curves are parametric, as opposed to formalistic, in that they were derived from empirical survival/retirement data which Winfrey collected. There are Iowa curve equations are presented in Bulletin 125; however, in most cases users reference standardized Iowa Survivor Curve tables. The Iowa-type survivor curves used in this appraisal have been generalized to a service life of 100% of the property's average life. By generalizing the service life to 100% of average life these tables can be used to generate survival and retirement statistics for property of any service life.

It should be apparent that Iowa-types survivor curves are valid for any type property as the curves only depict how that property survives and retires about the average life of a group of similar property.

Generalized Iowa-type Survivor Curves

As was discussed earlier, most users of the Iowa-type survivor curves use standardized tables of Iowa curves. The most usable form of these standardized tables are tables which have been generalized to a standard life of 100% of the property's average life. Based on these generalized tables the user can determine the property's remaining life by knowing the Iowa-type survivor curve (mode and peakedness characteristics), the property's (group's) service life, and the specific property's (for which the remaining life is desired) age. The following table reflects how the remaining life, as well as its condition, is determined:

Year	Study Date	Age	Iowa Curve	Service Life	Age % of ASL	Iowa Lookup	Iowa Condition	Remaining Life	Total Life	Condition
				ASL						
		years		years	%			years	years	%
Input		Calc	Input	Input	Calc	Calc	lookup	Calc	Calc	Calc
1970	2006	35.5	R3.0	25	142	R3.0142	0.066388	1.7	37.2	4.47%
1980	2006	25.5	R3.0	25	102	R3.0102	0.192543	4.8	30.3	15.88%
1990	2006	15.5	R3.0	25	62	R3.0062	0.442050	11.1	26.6	41.62%
2000	2006	5.5	R3.0	25	22	R3.0022	0.787294	19.7	25.2	78.16%
2004	2006	1.5	R3.0	25	6	R3.0006	0.941117	23.5	25.0	94.01%
2005	2006	0.5	R3.0	25	2	R3.0002	0.980320	24.5	25.0	98.00%

The above table was developed with reference to the standardized Iowa Survivor curves contained and represent a R3.0 25 year Iowa curve and life table. The standardized Iowa Curves are located in tab database. In order to reference the proper line of the Iowa Curve data the user looks up that data by reference to the property's age as percent of the service life (age % of ASL column) and the Iowa Survivor curve (Iowa Curve column), combining these two criteria the Iowa Lookup column will get the user to the proper Iowa Curve data.

In the above calculation the Iowa-type survivor curve is R3, the service life of the group is 25 years, and its age is defined by property's accounting records which specifies the investment in property by account (A group in service life terms) and by the year of installation of that property. The age is dependent upon the appraisal year (study date) and the year of placement. It is customary to assume that the property placed in any particular placement year was placed continuously during that year and therefore its age is best represented as if that investment was placed in the middle of the year, i.e., July 1; hence, the adoption of the "mid-year" convention where all property is treated as if placed the mid-year.

Service Life and Survival/retirement pattern

The service life and survival/retirement pattern are determined by an analysis of historical survival and retirement experience of the company's property. This historical experience must be adjusted for factor which are known to be impacting the property's

service life but may not exhibited their effect on the property's retirement. Here it is important that a distinction is made between industrial property's physical service life and its functional service life. While physically a type of property may be deployed and remain in use for many years, over those years factors of changing technology, consumers demand and patterns, and even regulation, lessen the property functional life when compared to its physical life. In an industry such as the communications industry, function obsolescence is the primary driver of depreciation.

The following table details the impact of the above-described lives on the condition calculations:

Year	Study Date	Age	Iowa Curve	Service Life	Age % of ASL	Iowa Lookup	Iowa Condition	Remaining Life	Total Life	Condition
				ASL						
		years		years	%			years	years	%
Input		Calc	Input	Input	Calc	Calc	lookup	Calc	Calc	Calc
1970	2006	35.5	R3.0	30	118	R3.0118	0.131771	4.0	39.5	10.02%
1979	2006	26.5	R3.0	30	88	R3.0088	0.264919	7.9	34.4	23.07%
1981	2006	24.5	R3.0	25	98	R3.0098	0.211333	5.3	29.8	17.74%
1989	2006	16.5	R3.0	25	66	R3.0066	0.411848	10.3	26.8	38.42%
1990	2006	15.5	R3.0	20	78	R3.0078	0.327281	6.5	22.0	29.69%
2000	2006	5.5	R3.0	20	28	R3.0028	0.731331	14.6	20.1	72.67%
2004	2006	1.5	R3.0	20	8	R3.0008	0.921605	18.4	19.9	92.47%
2005	2006	0.5	R3.0	20	3	R3.0003	0.970499	19.4	19.9	97.49%

Statistical Analyses of Industrial Property Retirements

by

Robley Winfrey



BULLETIN 125
REVISED

ENGINEERING RESEARCH INSTITUTE
IOWA STATE UNIVERSITY • AMES, IOWA

IOWA CURVES

Iowa-type survivor curves are based on a set of empirical data collected (mainly in the 1930s) for the purpose of statistically predicting future service expectancy (remaining service) for physical properties.

The techniques used and methods applied are exactly analogous to those used by the insurance industry for the purpose of predicting human mortality (life expectancy) when determining appropriate insurance premium rates. The only distinction to be made is that the life insurance companies are investigating the life or longevity characteristics of human beings and the studies which developed the Iowa-type survivor curves were developed to predict the longevity or service life experience for physical, inanimate objects. The seminal statistical analyses for industrial property were conducted under the auspices of the Iowa Research Station now known as Iowa State University and were published in Statistical Analyses of Industrial Property Retirements, Bulletin 125, Engineering Research Institute, Iowa State University.

From the preface to the revised 1967 edition of Bulletin 125:

> "With the original publication of Bulletin 125 by the Iowa Engineering Experiment Station in 1935 (now known as the Engineering Research Institute), a significant contribution was made to the practice of industrial property life estimation. This was in the form, first, of a single volume, readily available, which presented in considerable detail the procedures for statistically analyzing historical property retirement data. Secondly, but no less significant, was the presentation of a set of 18 generalized density functions descriptive of industrial property retirement dispersion, mathematically described in terms of the Pearson frequency curve family, but with parameters established empirically from the analysis of a wide range of actual retirement experience.
>
> These curves, the cumulative form of which are commonly referred to as the Iowa-type Survivor Curves, have been used extensively since their introduction and, at the present time, the set is accepted as the standard of industrial property retirement dispersion. Because of the very simple mnemonic coding system which suggests the varying statistical characteristics involved, the Iowa Curves have also become widely used and recognized in the identification or classification of retirement dispersions, even for patterns derived in terms of analytical techniques not using the Curves."

The tables which follow this discussion are the ones used to estimate the remaining life of investment at particular age for an account with a particular service life.

Statistical Analyses of Industrial Property Retirements

by Robley Winfrey

(Revised April, 1967 by Harold A. Cowles, Professor, Department of Industrial Engineering)

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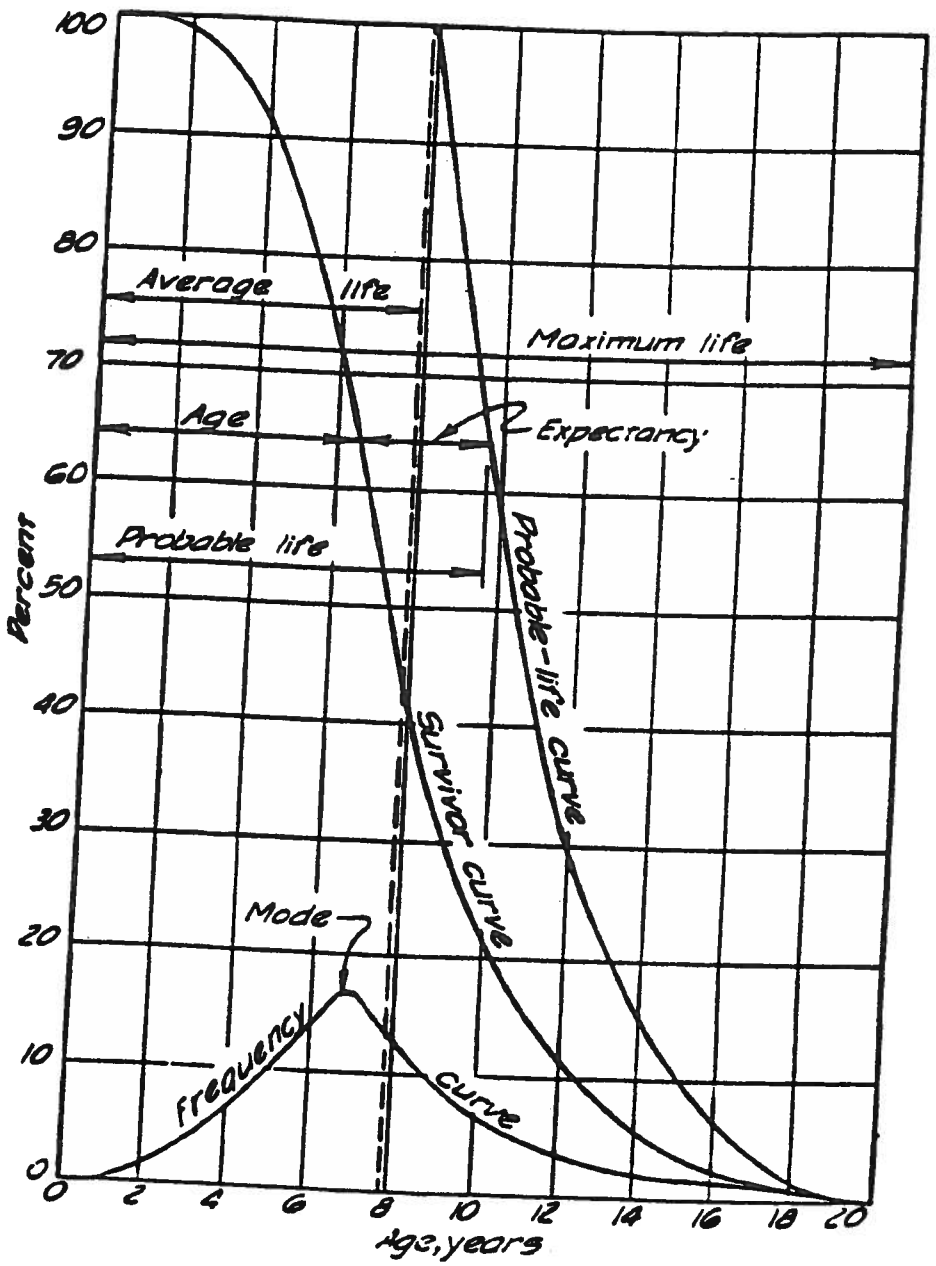


FIG. 1.—A typical survivor curve and its derived curves.

8. The *service life* of a unit is that period of time (or service) extending from the date of its installation to the date of its retirement from service. While the service life of physical property is usually expressed in years it may also be expressed in terms of units of production (screws, wheels, cars, pounds, miles, car-miles), time units of less than a year (months, hours, minutes), or combinations of physical units or services and time (lamp-hours, ton-years).

9. The *probable service life* of an individual unit is that period of time extending from its date of installation to the forecasted date when it probably will be retired from service.

10. The *expectancy* of life of an individual unit is that period of time extending from the observation age (usually the present) to the forecasted date when the unit probably will be retired from service. Age plus expectancy always equals probable life.

11. The *average service life of* a group of individual units is the quotient obtained by dividing the sum of the service lives of all the units by the number of units. The average service life (in years) is equal to the area under the survivor curve in percent-years (or unit-years) divided by 100 percent (or the total number of units).

12. The *probable average service life of* a group of individual units is the average of the probable service lives of the units of the group.

13. The *expectancy* of life of a group of individual units is that period of time extending from the observation age (usually the present) to the average of the forecasted dates when the units probably will be retired. The observation age plus the expectancy always equals the probable average service life.

Note: Service life and average service life are always known quantities since they represent completed service life; probable service life and probable average service life always must be estimated since they are forecasts of uncompleted service.

14. *Maximum life* or *maximum age* is the age of the last unit of a given group to be retired from service; it is also the age at which the survivor curve has a zero ordinate, or zero percent surviving.

15. Property units which are taken out of service for any reason whatsoever are called *retirements*. Retirements may include original units (units of the initial installation) as well as "second-generation" units, that is, replacements (or renewals) which were installed to take the place of the original units as they were removed.

16. *Replacements* are the units put in service to replace retirements.

17. *Renewals* are replacements "in kind" which have exactly the same life characteristics as the retirements.

18. *Installations* are new units placed in service, not as replacement units, but as additions to the property.

19. All renewals, replacements, and installations are *placements*.

20. *Survivor curves* show the number of units of a given group

which are surviving in service at given ages. The ordinates to the curve give at any particular age the percentage (or the actual number) of the original number which are yet surviving in service. The abscissa is measured in years or other suitable service unit. The *original survivor curve* is the curve drawn through the points calculated from the original data without adjustment. Since this original survivor curve is generally irregular it is smoothed to produce a *smoothed survivor curve*, sometimes referred to as an *adjusted curve*.

Survivor curves have in some publications been referred to as *mortality curves*. However, the term *survivor curve* is used in this report because the curves referred to show the *percent surviving*, not the *percent retired*, and because the term *mortality* suggests human beings and not inanimate objects.

21. A *stub survivor curve* is an incomplete survivor curve; that is, one which does not extend to zero percent surviving because of a lack of retirement data on the longer-lived units.

22. A *probable-life curve* shows the probable average life of the survivors at any age from zero to maximum life.

23. If the percent surviving is read at the beginning of each successive age-interval and the differences in these successive readings plotted at ages corresponding to the midpoints of the intervals, the resulting points form a *frequency curve*, or *distribution curve*. Since the ordinates indicate the percentage of the units retired during each interval, the curve shows in what manner the retirements are distributed over the period from zero age to maximum life.

24. The point on the frequency curve having the highest ordinate is called the *mode*. The year in which the mode occurs is called the *modal year*.

25. A *maximum-life cycle* is a period of time corresponding in length to the maximum life of the units. An industrial property may continue to be operated through several maximum-life cycles of some of the units of which it is composed.

26. An *average-life cycle* is a period of time corresponding in length to the *average* life.

27. If a property is continued in service for a long time and maintained with a constant number of like units of substantially the same potential average life, it will reach a *normal condition* or *stabilized condition*, after which the average age of the units in service and the annual renewals will be constant year after year.

28. *Normal renewals* are the annual renewals after the property group has reached a stabilized condition. Normal renewals, in percent of the original number of units, are equal to 100 percent divided by the average life.

29. *Generalized curves* are those whose ordinates are expressed in percent of the total number of units and whose abscissas (age) are expressed in percent of average life.

30. *Type curves* are those theoretical curves derived by the methods described in this report from a study of actual retirements. They depict typical survivor and frequency curves for industrial property. Actual survivor curves are compared with type survivor curves in the process of determining probable average lives.

MORTALITY TABLES AND CURVES OF HUMAN BEINGS

By a study of population and deaths, life insurance companies have arrived at life tables for human beings of different nationalities. From these life tables the normal death rate and life expectancy for people at different ages can be determined as a basis for life insurance premiums and reserves. Life tables can be prepared from the vital statistics for any desired number of years in combination with census returns. By means of mathematical formulas a life table is adjusted to remove any slight irregularities that may exist in the original data.

Table 1 is the United States life table for white males, based upon deaths for the 10 years from 1901 to 1910. Unlike industrial property units whose average lives are continually being affected by many forces, the human average life and distribution of deaths according to age change very little over several generations. The life curve, however, varies considerably for different races as is illustrated in Fig. 2. The deaths at different ages are shown for the United States by the frequency curves in Fig. 3.

This reference to the United States life tables is made to show the similarity between the life characteristics of human beings and industrial properties. The essential differences are three. First, human beings experience a heavy infant mortality which results in a bi-modal frequency curve, one mode occurring between ages 0 and 1, and the other between ages 75 and 76. Second, the mode at the age-interval 75–76 occurs at a much greater percentage of average life than is usually found with physical property employed in industry. Third, the curves for industrial equipment vary in shape over wide limits while human mortality curves vary relatively little. The Makehamized curve in Fig. 3 is one that has been smoothed. (It does not represent the same group of lives as the lower curves of the figure.)

ANALYZING RETIREMENT DATA

The foregoing section discussed the life tables for humans and the accompanying curves. Similar analyses can be made of the behavior of the physical equipment employed in industry when sufficient information is available. The processes employed for analyzing the retirements of industrial property are not so easily handled as are those employed for mortality data of human beings, nor are the results usually as uniform because of the small number of units observed and the more numerous, less uniform causes of retirement of industrial

CHART NO. 9

SURVIVOR, PROBABLE LIFE AND FREQUENCY CURVES
FOR THE RIGHT-MODAL IOWA TYPE CURVES

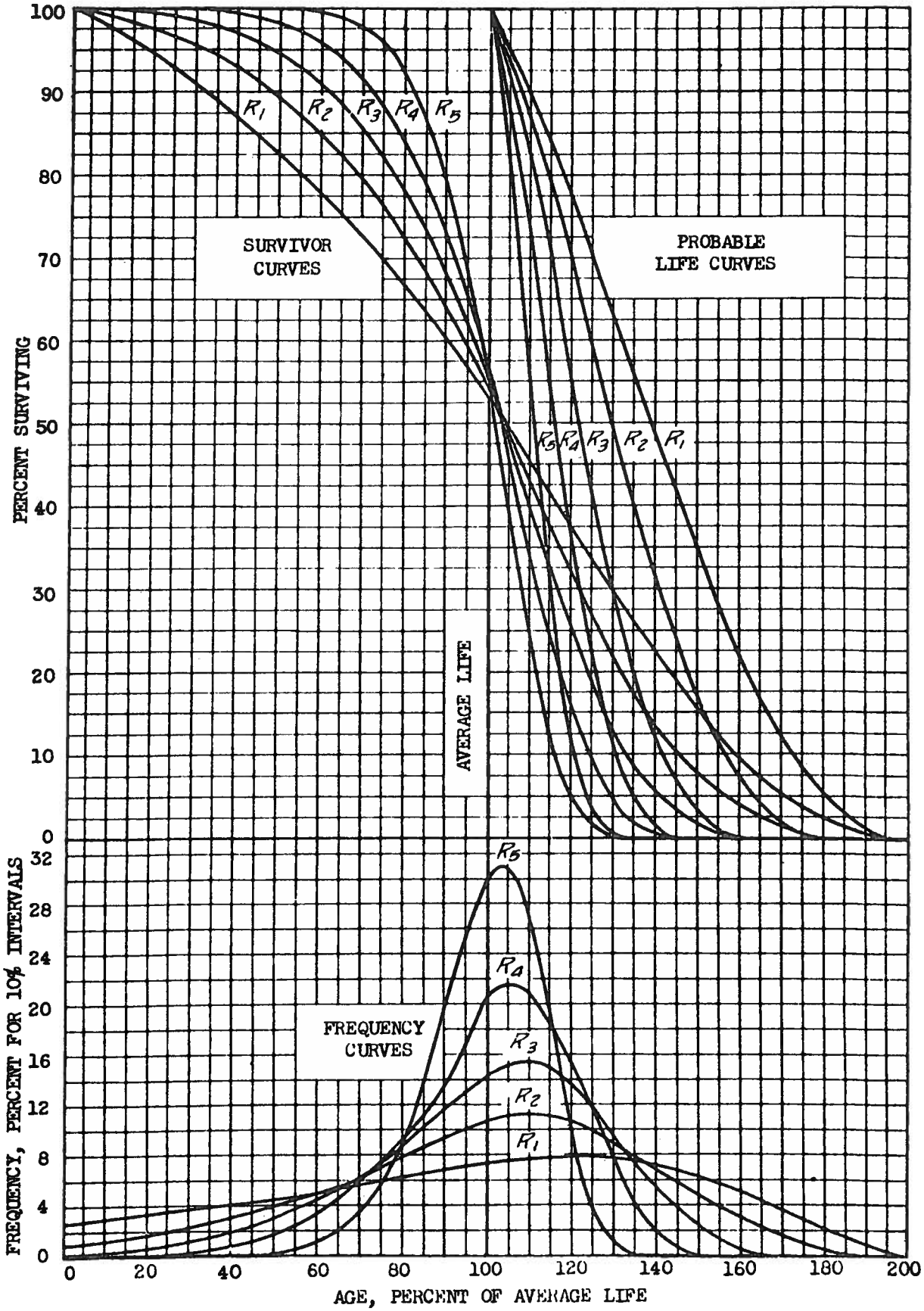


CHART NO. 8

SURVIVOR, PROBABLE LIFE AND FREQUENCY CURVES
FOR THE SYMMETRICAL IOWA TYPE CURVES

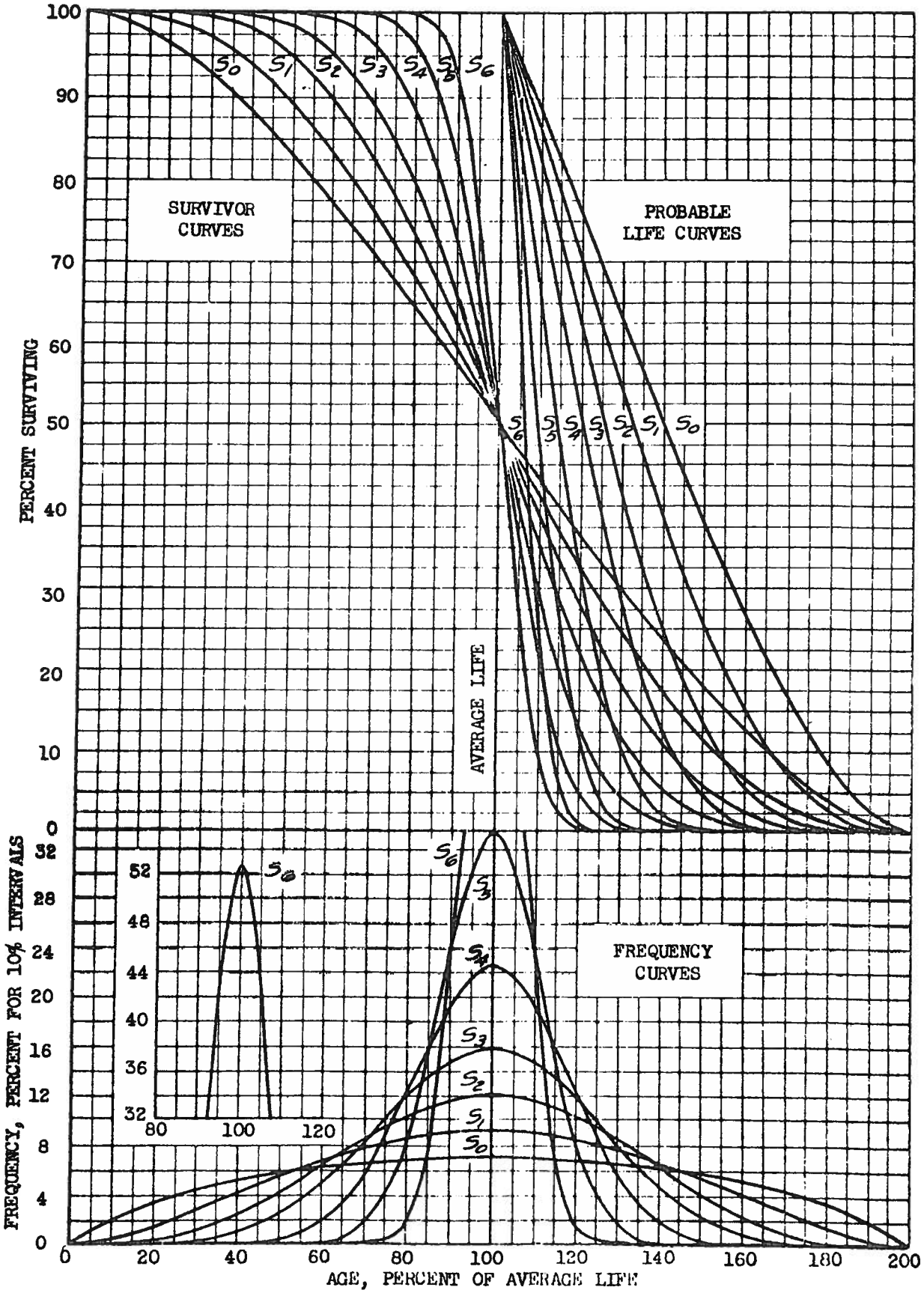


CHART NO. 7

SURVIVOR, PROBABLE LIFE AND FREQUENCY CURVES
FOR THE LEFT-MODAL IOWA TYPE CURVES

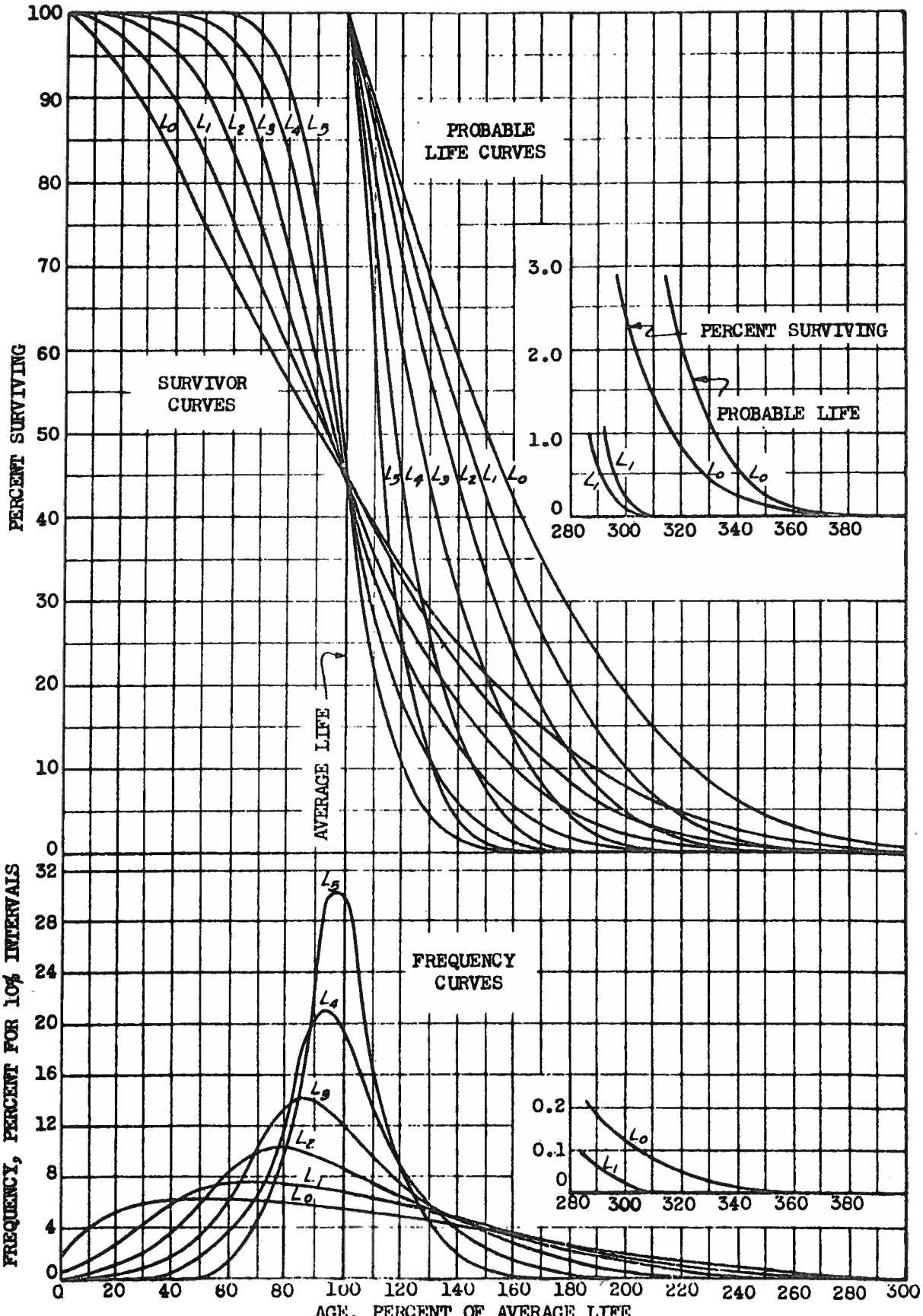
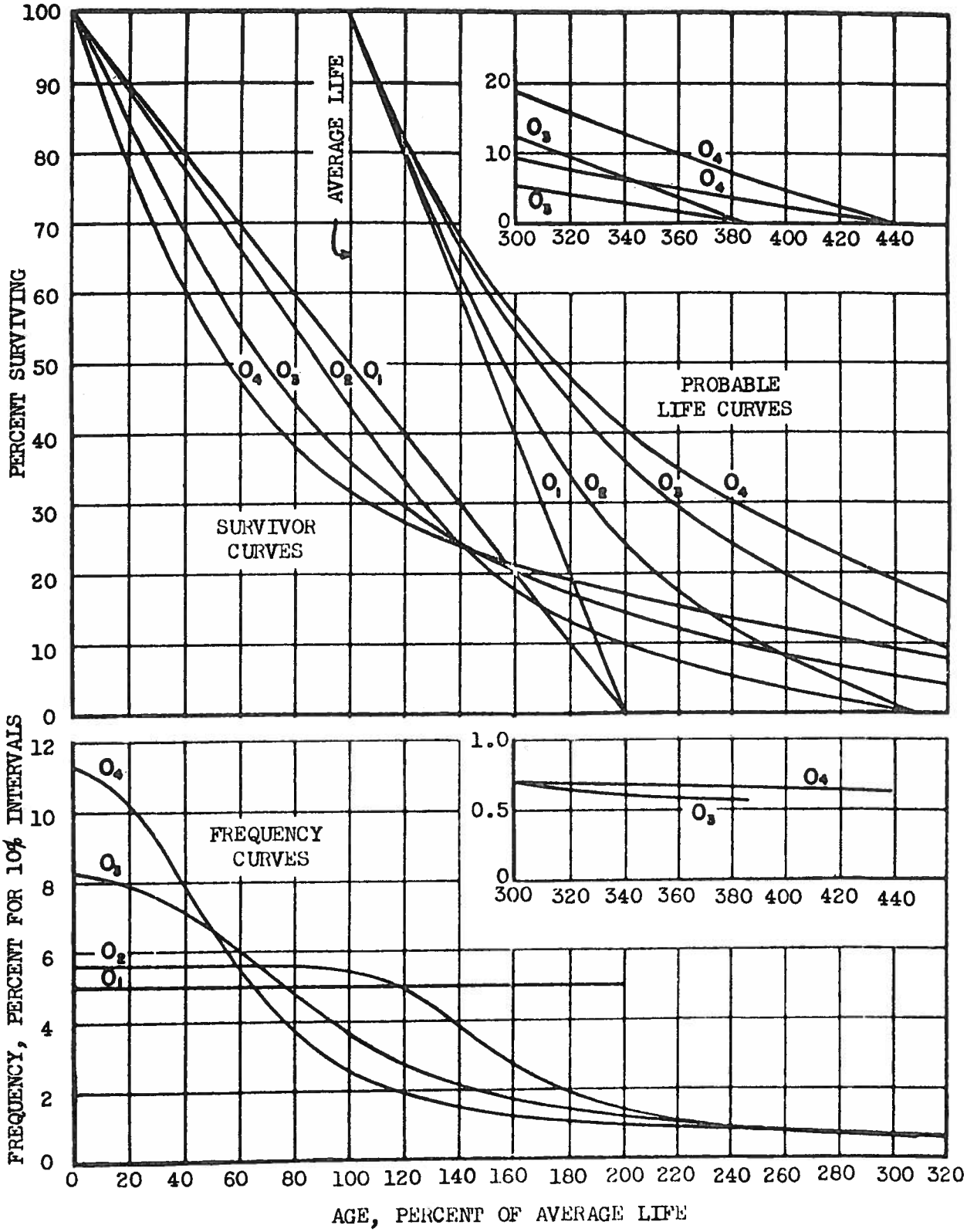


CHART NO. 10

SURVIVOR, PROBABLE LIFE AND FREQUENCY CURVES
FOR THE ORIGIN-MODAL TYPE CURVES



Iowacurves.xls

Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.0000	R2.0	0	0.0948315	100.0000000	100.0000000	0.0000000
R2.0001	R2.0	1	0.0981016	99.9051685	99.0944462	0.9055538
R2.0002	R2.0	2	0.1014623	99.8070669	98.1913567	1.8086433
R2.0003	R2.0	3	0.1049099	99.7056046	97.2907686	2.7092314
R2.0004	R2.0	4	0.1084509	99.6006947	96.3927202	3.6072798
R2.0005	R2.0	5	0.1120825	99.4922438	95.4972458	4.5027542
R2.0006	R2.0	6	0.1158104	99.3801613	94.6043863	5.3956137
R2.0007	R2.0	7	0.1196318	99.2643509	93.7141762	6.2858238
R2.0008	R2.0	8	0.1235532	99.1447191	92.8266525	7.1733475
R2.0009	R2.0	9	0.1275731	99.0211659	91.9418526	8.0581474
R2.0010	R2.0	10	0.1316938	98.8935928	91.0598126	8.9401874
R2.0011	R2.0	11	0.1359167	98.7618990	90.1805687	9.8194313
R2.0012	R2.0	12	0.1402454	98.6259823	89.3041592	10.6958408
R2.0013	R2.0	13	0.1446791	98.4857369	88.4306173	11.5693827
R2.0014	R2.0	14	0.1492214	98.3410578	87.5599813	12.4400187
R2.0015	R2.0	15	0.1538735	98.1918364	86.6922846	13.3077154
R2.0016	R2.0	16	0.1586370	98.0379629	85.8275662	14.1724338
R2.0017	R2.0	17	0.1635142	97.8793259	84.9658604	15.0341396
R2.0018	R2.0	18	0.1685056	97.7158117	84.1072016	15.8927984
R2.0019	R2.0	19	0.1736164	97.5473061	83.2516279	16.7483721
R2.0020	R2.0	20	0.1788426	97.3736897	82.3991718	17.6008282
R2.0021	R2.0	21	0.1841926	97.1948471	81.5498714	18.4501286
R2.0022	R2.0	22	0.1896649	97.0106545	80.7037592	19.2962408
R2.0023	R2.0	23	0.1952619	96.8209896	79.8608723	20.1391277
R2.0024	R2.0	24	0.2009860	96.6257277	79.0212450	20.9787550
R2.0025	R2.0	25	0.2068376	96.4247417	78.1849127	21.8150873
R2.0026	R2.0	26	0.2128210	96.2179041	77.3519096	22.6480904
R2.0027	R2.0	27	0.2189369	96.0050831	76.5222740	23.4777260
R2.0028	R2.0	28	0.2251892	95.7861462	75.6960373	24.3039627
R2.0029	R2.0	29	0.2315760	95.5609570	74.8732357	25.1267643
R2.0030	R2.0	30	0.2381039	95.3293810	74.0539045	25.9460955
R2.0031	R2.0	31	0.2447710	95.0912771	73.2380800	26.7619200
R2.0032	R2.0	32	0.2515831	94.8465061	72.4257956	27.5742044
R2.0033	R2.0	33	0.2585392	94.5949230	71.6170883	28.3829117
R2.0034	R2.0	34	0.2656450	94.3363838	70.8119927	29.1880073
R2.0035	R2.0	35	0.2728977	94.0707388	70.0105457	29.9894543
R2.0036	R2.0	36	0.2803049	93.7978411	69.2127819	30.7872181
R2.0037	R2.0	37	0.2878657	93.5175362	68.4187384	31.5812616
R2.0038	R2.0	38	0.2955808	93.2296705	67.6284504	32.3715496
R2.0039	R2.0	39	0.3034544	92.9340897	66.8419552	33.1580448
R2.0040	R2.0	40	0.3114920	92.6306353	66.0592899	33.9407101
R2.0041	R2.0	41	0.3196878	92.3191433	65.2808571	34.7191429
R2.0042	R2.0	42	0.3280507	91.9994555	64.5055971	35.4944029
R2.0043	R2.0	43	0.3365783	91.6714048	63.7346439	36.2653561
R2.0044	R2.0	44	0.3452769	91.3348265	62.9676700	37.0323300

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.0045	R2.0	45	0.3541450	90.9895496	62.2047148	37.7952852
R2.0046	R2.0	46	0.3631840	90.6354046	61.4458170	38.5541830
R2.0047	R2.0	47	0.3723984	90.2722206	60.6910148	39.3089852
R2.0048	R2.0	48	0.3817892	89.8998222	59.9403491	40.0596509
R2.0049	R2.0	49	0.3913574	89.5180330	59.1938582	40.8061418
R2.0050	R2.0	50	0.4011030	89.1266756	58.4515839	41.5484161
R2.0051	R2.0	51	0.4110289	88.7255726	57.7135668	42.2864332
R2.0052	R2.0	52	0.4211368	88.3145437	56.9798470	43.0201530
R2.0053	R2.0	53	0.4314261	87.8934069	56.2504678	43.7495322
R2.0054	R2.0	54	0.4419002	87.4619808	55.5254688	44.4745312
R2.0055	R2.0	55	0.4525547	87.0200806	54.8048959	45.1951041
R2.0056	R2.0	56	0.4633961	86.5675259	54.0887899	45.9112101
R2.0057	R2.0	57	0.4744196	86.1041298	53.3771148	46.6228852
R2.0058	R2.0	58	0.4856272	85.6297102	52.6701531	47.3298469
R2.0059	R2.0	59	0.4970178	85.1440830	51.9677110	48.0322890
R2.0060	R2.0	60	0.5085907	84.6470652	51.2699108	48.7300892
R2.0061	R2.0	61	0.5203457	84.1384745	50.5767999	49.4232001
R2.0062	R2.0	62	0.5322781	83.6181288	49.8884211	50.1115789
R2.0063	R2.0	63	0.5443878	83.0858507	49.2042208	50.7957792
R2.0064	R2.0	64	0.5566711	82.5414629	48.5260449	51.4739551
R2.0065	R2.0	65	0.5691252	81.9847918	47.8521390	52.1478610
R2.0066	R2.0	66	0.5817490	81.4156666	47.1831479	52.8168521
R2.0067	R2.0	67	0.5945339	80.8339176	46.5191188	53.4808812
R2.0068	R2.0	68	0.6074762	80.2393837	45.8600979	54.1399021
R2.0069	R2.0	69	0.6205731	79.6319075	45.2061300	54.7938700
R2.0070	R2.0	70	0.6338167	79.0113344	44.5572619	55.4427381
R2.0071	R2.0	71	0.6471968	78.3775177	43.9135399	56.0864601
R2.0072	R2.0	72	0.6607103	77.7303209	43.2750101	56.7249899
R2.0073	R2.0	73	0.6743469	77.0696106	42.6417151	57.3582849
R2.0074	R2.0	74	0.6880913	76.3952637	42.0137038	57.9862962
R2.0075	R2.0	75	0.7019453	75.7071724	41.3910160	58.6089840
R2.0076	R2.0	76	0.7158861	75.0052271	40.7736988	59.2263012
R2.0077	R2.0	77	0.7299071	74.2893410	40.1617951	59.8382049
R2.0078	R2.0	78	0.7439918	73.5594339	39.5553460	60.4446540
R2.0079	R2.0	79	0.7581263	72.8154421	38.9543939	61.0456061
R2.0080	R2.0	80	0.7722978	72.0573158	38.3589792	61.6410208
R2.0081	R2.0	81	0.7864914	71.2850180	37.7691412	62.2308588
R2.0082	R2.0	82	0.8006802	70.4985266	37.1849198	62.8150802
R2.0083	R2.0	83	0.8148537	69.6978464	36.6063528	63.3936472
R2.0084	R2.0	84	0.8289880	68.8829927	36.0334740	63.9665260
R2.0085	R2.0	85	0.8430577	68.0540047	35.4663181	64.5336819
R2.0086	R2.0	86	0.8570489	67.2109470	34.9049168	65.0950832
R2.0087	R2.0	87	0.8709355	66.3538981	34.3493028	65.6506972
R2.0088	R2.0	88	0.8846855	65.4829626	33.7995038	66.2004962
R2.0089	R2.0	89	0.8982801	64.5982771	33.2555461	66.7444539

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.0090	R2.0	90	0.9116889	63.6999970	32.7174568	67.2825432
R2.0091	R2.0	91	0.9248881	62.7883081	32.1852560	67.8147440
R2.0092	R2.0	92	0.9378390	61.8634200	31.6589661	68.3410339
R2.0093	R2.0	93	0.9505158	60.9255810	31.1386020	68.8613980
R2.0094	R2.0	94	0.9628930	59.9750652	30.6241779	69.3758221
R2.0095	R2.0	95	0.9749274	59.0121722	30.1157100	69.8842900
R2.0096	R2.0	96	0.9865956	58.0372448	29.6132040	70.3867960
R2.0097	R2.0	97	0.9978571	57.0506492	29.1166680	70.8833320
R2.0098	R2.0	98	1.0086742	56.0527921	28.6261051	71.3738949
R2.0099	R2.0	99	1.0190200	55.0441179	28.1415110	71.8584890
R2.0100	R2.0	100	1.0288558	54.0250979	27.6628840	72.3371160
R2.0101	R2.0	101	1.0381442	52.9962421	27.1902180	72.8097820
R2.0102	R2.0	102	1.0468449	51.9580979	26.7234991	73.2765009
R2.0103	R2.0	103	1.0549312	50.9112530	26.2627111	73.7372889
R2.0104	R2.0	104	1.0623607	49.8563218	25.8078351	74.1921649
R2.0105	R2.0	105	1.0691033	48.7939611	25.3588469	74.6411531
R2.0106	R2.0	106	1.0751200	47.7248578	24.9157200	75.0842800
R2.0107	R2.0	107	1.0803718	46.6497378	24.4784200	75.5215800
R2.0108	R2.0	108	1.0848422	45.5693660	24.0469079	75.9530921
R2.0109	R2.0	109	1.0884819	44.4845238	23.6211450	76.3788550
R2.0110	R2.0	110	1.0912700	43.3960419	23.2010810	76.7989190
R2.0111	R2.0	111	1.0931697	42.3047719	22.7866659	77.2133341
R2.0112	R2.0	112	1.0941701	41.2116022	22.3778369	77.6221631
R2.0113	R2.0	113	1.0942240	40.1174321	21.9745369	78.0254631
R2.0114	R2.0	114	1.0933342	39.0232081	21.5766909	78.4233091
R2.0115	R2.0	115	1.0914621	37.9298739	21.1842289	78.8157711
R2.0116	R2.0	116	1.0885978	36.8384118	20.7970691	79.2029309
R2.0117	R2.0	117	1.0847301	35.7498140	20.4151239	79.5848761
R2.0118	R2.0	118	1.0798369	34.6650839	20.0383019	79.9616981
R2.0119	R2.0	119	1.0739369	33.5852470	19.6665001	80.3334999
R2.0120	R2.0	120	1.0669980	32.5113101	19.2996221	80.7003779
R2.0121	R2.0	121	1.0590372	31.4443121	18.9375479	81.0624521
R2.0122	R2.0	122	1.0501070	30.3852749	18.5801630	81.4198370
R2.0123	R2.0	123	1.0400660	29.3351679	18.2273769	81.7726231
R2.0124	R2.0	124	1.0290709	28.2951019	17.8789959	82.1210041
R2.0125	R2.0	125	1.0170991	27.2660310	17.5349121	82.4650879
R2.0126	R2.0	126	1.0041568	26.2489319	17.1949849	82.8050151
R2.0127	R2.0	127	0.9902881	25.2447751	16.8590529	83.1409471
R2.0128	R2.0	128	0.9755079	24.2544870	16.5269830	83.4730170
R2.0129	R2.0	129	0.9598532	23.2789791	16.1985951	83.8014049
R2.0130	R2.0	130	0.9433670	22.3191259	15.8737270	84.1262730
R2.0131	R2.0	131	0.9260879	21.3757589	15.5522090	84.4477910
R2.0132	R2.0	132	0.9080550	20.4496710	15.2338660	84.7661340
R2.0133	R2.0	133	0.8893190	19.5416160	14.9185150	85.0814850
R2.0134	R2.0	134	0.8699369	18.6522970	14.6059730	85.3940270

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.0135	R2.0	135	0.8499541	17.7823601	14.2960570	85.7039430
R2.0136	R2.0	136	0.8294290	16.9324060	13.9885750	86.0114250
R2.0137	R2.0	137	0.8084200	16.1029770	13.6833420	86.3166580
R2.0138	R2.0	138	0.7869870	15.2945570	13.3801709	86.6198291
R2.0139	R2.0	139	0.7651829	14.5075700	13.0788760	86.9211240
R2.0140	R2.0	140	0.7430681	13.7423871	12.7792740	87.2207260
R2.0141	R2.0	141	0.7207081	12.9993190	12.4811831	87.5188169
R2.0142	R2.0	142	0.6981599	12.2786109	12.1844341	87.8155659
R2.0143	R2.0	143	0.6754730	11.5804510	11.8888620	88.1111380
R2.0144	R2.0	144	0.6527110	10.9049780	11.5943070	88.4056930
R2.0145	R2.0	145	0.6299220	10.2522670	11.3006270	88.6993730
R2.0146	R2.0	146	0.6071579	9.6223450	11.0076849	88.9923151
R2.0147	R2.0	147	0.5844650	9.0151870	10.7153600	89.2846400
R2.0148	R2.0	148	0.5618890	8.4307220	10.4235460	89.5764540
R2.0149	R2.0	149	0.5394630	7.8688330	10.1321560	89.8678440
R2.0150	R2.0	150	0.5172310	7.3293700	9.8411110	90.1588891
R2.0151	R2.0	151	0.4952170	6.8121390	9.5503610	90.4496390
R2.0152	R2.0	152	0.4734520	6.3169220	9.2598670	90.7401331
R2.0153	R2.0	153	0.4519570	5.8434700	8.9696111	91.0303890
R2.0154	R2.0	154	0.4307510	5.3915130	8.6795980	91.3204020
R2.0155	R2.0	155	0.4098480	4.9607620	8.3898460	91.6101540
R2.0156	R2.0	156	0.3892590	4.5509140	8.1003940	91.8996060
R2.0157	R2.0	157	0.3689940	4.1616550	7.8112940	92.1887060
R2.0158	R2.0	158	0.3490550	3.7926610	7.5226200	92.4773800
R2.0159	R2.0	159	0.3294490	3.4436060	7.2344580	92.7655420
R2.0160	R2.0	160	0.3101780	3.1141570	6.9468990	93.0531010
R2.0161	R2.0	161	0.2912410	2.8039790	6.6600590	93.3399410
R2.0162	R2.0	162	0.2726440	2.5127380	6.3740460	93.6259540
R2.0163	R2.0	163	0.2543900	2.2400940	6.0889820	93.9110180
R2.0164	R2.0	164	0.2364840	1.9857040	5.8049920	94.1950080
R2.0165	R2.0	165	0.2189350	1.7492200	5.5221940	94.4778060
R2.0166	R2.0	166	0.2017570	1.5302850	5.2407130	94.7592870
R2.0167	R2.0	167	0.1849660	1.3285280	4.9606590	95.0393410
R2.0168	R2.0	168	0.1685830	1.1435620	4.6821490	95.3178510
R2.0169	R2.0	169	0.1526310	0.9749790	4.4052860	95.5947140
R2.0170	R2.0	170	0.1371620	0.8223480	4.1301220	95.8698780
R2.0171	R2.0	171	0.1221950	0.6851860	3.8568020	96.1431980
R2.0172	R2.0	172	0.1077830	0.5629910	3.5853840	96.4146160
R2.0173	R2.0	173	0.0939780	0.4552080	3.3159460	96.6840540
R2.0174	R2.0	174	0.0808330	0.3612300	3.0485230	96.9514770
R2.0175	R2.0	175	0.0684150	0.2803970	2.7832120	97.2167880
R2.0176	R2.0	176	0.0567860	0.2119820	2.5201260	97.4798740
R2.0177	R2.0	177	0.0460210	0.1551960	2.2592980	97.7407020
R2.0178	R2.0	178	0.0361913	0.1091750	2.0008840	97.9991160
R2.0179	R2.0	179	0.0273739	0.0729837	1.7451020	98.2548980

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.5000	R2.5	0	0.0551548	100.0000000	100.0000000	0.0000000
R2.5001	R2.5	1	0.0574713	99.9448452	99.0549097	0.9450903
R2.5002	R2.5	2	0.0598783	99.8873739	98.1116142	1.8883858
R2.5003	R2.5	3	0.0623808	99.8274956	97.1701632	2.8298368
R2.5004	R2.5	4	0.0649805	99.7651148	96.2306089	3.7693911
R2.5005	R2.5	5	0.0676823	99.7001343	95.2930031	4.7069969
R2.5006	R2.5	6	0.0704880	99.6324520	94.3573971	5.6426029
R2.5007	R2.5	7	0.0734014	99.5619640	93.4238472	6.5761528
R2.5008	R2.5	8	0.0764256	99.4885626	92.4924040	7.5075960
R2.5009	R2.5	9	0.0795669	99.4121370	91.5631256	8.4368744
R2.5010	R2.5	10	0.0828257	99.3325701	90.6360693	9.3639307
R2.5011	R2.5	11	0.0862064	99.2497444	89.7112904	10.2887096
R2.5012	R2.5	12	0.0897122	99.1635380	88.7888441	11.2111559
R2.5013	R2.5	13	0.0933485	99.0738258	87.8687897	12.1312103
R2.5014	R2.5	14	0.0971183	98.9804773	86.9511881	13.0488119
R2.5015	R2.5	15	0.1010247	98.8833590	86.0360956	13.9639044
R2.5016	R2.5	16	0.1050710	98.7823343	85.1235743	14.8764257
R2.5017	R2.5	17	0.1092635	98.6772633	84.2136803	15.7863197
R2.5018	R2.5	18	0.1136026	98.5679998	83.3064766	16.6935234
R2.5019	R2.5	19	0.1180954	98.4543972	82.4020252	17.5979748
R2.5020	R2.5	20	0.1227426	98.3363018	81.5003834	18.4996166
R2.5021	R2.5	21	0.1275521	98.2135592	80.6016140	19.3983860
R2.5022	R2.5	22	0.1325226	98.0860071	79.7057791	20.2942209
R2.5023	R2.5	23	0.1376619	97.9534845	78.8129368	21.1870632
R2.5024	R2.5	24	0.1429729	97.8158226	77.9231520	22.0768480
R2.5025	R2.5	25	0.1484576	97.6728497	77.0364828	22.9635172
R2.5026	R2.5	26	0.1541233	97.5243921	76.1529923	23.8470077
R2.5027	R2.5	27	0.1599703	97.3702688	75.2727404	24.7272596
R2.5028	R2.5	28	0.1660032	97.2102985	74.3957863	25.6042137
R2.5029	R2.5	29	0.1722278	97.0442953	73.5221920	26.4778080
R2.5030	R2.5	30	0.1786452	96.8720675	72.6520176	27.3479824
R2.5031	R2.5	31	0.1852608	96.6934223	71.7853222	28.2146778
R2.5032	R2.5	32	0.1920747	96.5081615	70.9221630	29.0778370
R2.5033	R2.5	33	0.1990958	96.3160868	70.0626001	29.9373999
R2.5034	R2.5	34	0.2063245	96.1169910	69.2066917	30.7933083
R2.5035	R2.5	35	0.2137642	95.9106665	68.3544951	31.6455049
R2.5036	R2.5	36	0.2214194	95.6969023	67.5060663	32.4939337
R2.5037	R2.5	37	0.2292928	95.4754829	66.6614609	33.3385391
R2.5038	R2.5	38	0.2373877	95.2461901	65.8207359	34.1792641
R2.5039	R2.5	39	0.2457084	95.0088024	64.9839459	35.0160541
R2.5040	R2.5	40	0.2542592	94.7630940	64.1511440	35.8488560
R2.5041	R2.5	41	0.2630376	94.5088348	63.3223858	36.6776142
R2.5042	R2.5	42	0.2720566	94.2457972	62.4977222	37.5022778
R2.5043	R2.5	43	0.2813111	93.9737406	61.6772060	38.3227940
R2.5044	R2.5	44	0.2908077	93.6924295	60.8608909	39.1391091

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.5045	R2.5	45	0.3005543	93.4016218	60.0488248	39.9511752
R2.5046	R2.5	46	0.3105459	93.1010675	59.2410641	40.7589359
R2.5047	R2.5	47	0.3207922	92.7905216	58.4376559	41.5623441
R2.5048	R2.5	48	0.3312959	92.4697294	57.6386509	42.3613491
R2.5049	R2.5	49	0.3420601	92.1384335	56.8441010	43.1558990
R2.5050	R2.5	50	0.3530903	91.7963734	56.0540552	43.9459448
R2.5051	R2.5	51	0.3643885	91.4432831	55.2685661	44.7314339
R2.5052	R2.5	52	0.3759584	91.0788946	54.4876838	45.5123162
R2.5053	R2.5	53	0.3878079	90.7029362	53.7114601	46.2885399
R2.5054	R2.5	54	0.3999405	90.3151283	52.9399471	47.0600529
R2.5055	R2.5	55	0.4123592	89.9151878	52.1731982	47.8268018
R2.5056	R2.5	56	0.4250708	89.5028286	51.4112682	48.5887318
R2.5057	R2.5	57	0.4380798	89.0777578	50.6542120	49.3457880
R2.5058	R2.5	58	0.4513912	88.6396780	49.9020872	50.0979128
R2.5059	R2.5	59	0.4650126	88.1882868	49.1549511	50.8450489
R2.5060	R2.5	60	0.4789476	87.7232742	48.4128661	51.5871339
R2.5061	R2.5	61	0.4932022	87.2443266	47.6758952	52.3241048
R2.5062	R2.5	62	0.5077830	86.7511244	46.9441018	53.0558982
R2.5063	R2.5	63	0.5226945	86.2433414	46.2175550	53.7824450
R2.5064	R2.5	64	0.5379439	85.7206469	45.4963250	54.5036750
R2.5065	R2.5	65	0.5535354	85.1827030	44.7804852	55.2195148
R2.5066	R2.5	66	0.5694743	84.6291676	44.0701108	55.9298892
R2.5067	R2.5	67	0.5857687	84.0596933	43.3652830	56.6347170
R2.5068	R2.5	68	0.6024160	83.4739246	42.6660848	57.3339152
R2.5069	R2.5	69	0.6194267	82.8715086	41.9726019	58.0273981
R2.5070	R2.5	70	0.6368008	82.2520819	41.2849250	58.7150750
R2.5071	R2.5	71	0.6545391	81.6152811	40.6031480	59.3968520
R2.5072	R2.5	72	0.6726418	80.9607420	39.9273682	60.0726318
R2.5073	R2.5	73	0.6911087	80.2881002	39.2576852	60.7423148
R2.5074	R2.5	74	0.7099390	79.5969915	38.5942020	61.4057980
R2.5075	R2.5	75	0.7291259	78.8870525	37.9370279	62.0629721
R2.5076	R2.5	76	0.7486620	78.1579266	37.2862740	62.7137260
R2.5077	R2.5	77	0.7685376	77.4092646	36.6420512	63.3579488
R2.5078	R2.5	78	0.7887430	76.6407270	36.0044770	63.9955230
R2.5079	R2.5	79	0.8092565	75.8519840	35.3736682	64.6263318
R2.5080	R2.5	80	0.8300667	75.0427275	34.7497439	65.2502561
R2.5081	R2.5	81	0.8511477	74.2126608	34.1328259	65.8671741
R2.5082	R2.5	82	0.8724718	73.3615131	33.5230379	66.4769621
R2.5083	R2.5	83	0.8940096	72.4890413	32.9204998	67.0795002
R2.5084	R2.5	84	0.9157238	71.5950317	32.3253360	67.6746640
R2.5085	R2.5	85	0.9375753	70.6793079	31.7376659	68.2623341
R2.5086	R2.5	86	0.9595194	69.7417326	31.1576109	68.8423891
R2.5087	R2.5	87	0.9815073	68.7822132	30.5852881	69.4147119
R2.5088	R2.5	88	1.0034790	67.8007059	30.0208130	69.9791870
R2.5089	R2.5	89	1.0253773	66.7972269	29.4642980	70.5357020

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.5090	R2.5	90	1.0471344	65.7718496	28.9158480	71.0841520
R2.5091	R2.5	91	1.0686831	64.7247152	28.3755679	71.6244321
R2.5092	R2.5	92	1.0899420	63.6560321	27.8435540	72.1564460
R2.5093	R2.5	93	1.1108289	62.5660901	27.3198969	72.6801031
R2.5094	R2.5	94	1.1312651	61.4552612	26.8046770	73.1953230
R2.5095	R2.5	95	1.1511522	60.3239961	26.2979729	73.7020271
R2.5096	R2.5	96	1.1704039	59.1728439	25.7998481	74.2001519
R2.5097	R2.5	97	1.1889191	58.0024400	25.3103621	74.6896379
R2.5098	R2.5	98	1.2065949	56.8135209	24.8295610	75.1704390
R2.5099	R2.5	99	1.2233358	55.6069260	24.3574791	75.6425209
R2.5100	R2.5	100	1.2390403	54.3835902	23.8941431	76.1058569
R2.5101	R2.5	101	1.2536021	53.1445499	23.4395671	76.5604329
R2.5102	R2.5	102	1.2669158	51.8909478	22.9937501	77.0062499
R2.5103	R2.5	103	1.2788939	50.6240320	22.5566781	77.4433219
R2.5104	R2.5	104	1.2894273	49.3451381	22.1283281	77.8716719
R2.5105	R2.5	105	1.2984328	48.0557108	21.7086580	78.2913420
R2.5106	R2.5	106	1.3058210	46.7572780	21.2976141	78.7023859
R2.5107	R2.5	107	1.3115058	45.4514570	20.8951299	79.1048701
R2.5108	R2.5	108	1.3154220	44.1399512	20.5011189	79.4988811
R2.5109	R2.5	109	1.3175020	42.8245292	20.1154850	79.8845150
R2.5110	R2.5	110	1.3176890	41.5070272	19.7381129	80.2618871
R2.5111	R2.5	111	1.3159404	40.1893382	19.3688741	80.6311259
R2.5112	R2.5	112	1.3122248	38.8733978	19.0076220	80.9923780
R2.5113	R2.5	113	1.3065191	37.5611730	18.6541979	81.3458021
R2.5114	R2.5	114	1.2988228	36.2546539	18.3084259	81.6915741
R2.5115	R2.5	115	1.2891360	34.9558311	17.9701180	82.0298820
R2.5116	R2.5	116	1.2774830	33.6666951	17.6390679	82.3609321
R2.5117	R2.5	117	1.2638931	32.3892121	17.3150611	82.6849389
R2.5118	R2.5	118	1.2484150	31.1253190	16.9978631	83.0021369
R2.5119	R2.5	119	1.2311139	29.8769040	16.6872311	83.3127689
R2.5120	R2.5	120	1.2120590	28.6457901	16.3829119	83.6170881
R2.5121	R2.5	121	1.1913381	27.4337311	16.0846400	83.9153600
R2.5122	R2.5	122	1.1690731	26.2423930	15.7921439	84.2078561
R2.5123	R2.5	123	1.1452968	25.0733199	15.5051580	84.4948420
R2.5124	R2.5	124	1.1201971	23.9280231	15.2233681	84.7766319
R2.5125	R2.5	125	1.0938761	22.8078260	14.9465010	85.0534990
R2.5126	R2.5	126	1.0664589	21.7139499	14.6742671	85.3257329
R2.5127	R2.5	127	1.0380819	20.6474910	14.4063790	85.5936210
R2.5128	R2.5	128	1.0088780	19.6094091	14.1425540	85.8574460
R2.5129	R2.5	129	0.9789822	18.6005311	13.8825150	86.1174850
R2.5130	R2.5	130	0.9485328	17.6215489	13.6259940	86.3740060
R2.5131	R2.5	131	0.9176611	16.6730161	13.3727360	86.6272640
R2.5132	R2.5	132	0.8864870	15.7553550	13.1224999	86.8775001
R2.5133	R2.5	133	0.8551400	14.8688680	12.8750581	87.1249419
R2.5134	R2.5	134	0.8237340	14.0137280	12.6302040	87.3697960

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.5135	R2.5	135	0.7923711	13.1899940	12.3877521	87.6122479
R2.5136	R2.5	136	0.7611500	12.3976229	12.1475360	87.8524640
R2.5137	R2.5	137	0.7301579	11.6364729	11.9094091	88.0905909
R2.5138	R2.5	138	0.6994760	10.9063150	11.6732490	88.3267510
R2.5139	R2.5	139	0.6691670	10.2068390	11.4389530	88.5610470
R2.5140	R2.5	140	0.6392890	9.5376720	11.2064340	88.7935660
R2.5141	R2.5	141	0.6098980	8.8983830	10.9756200	89.0243800
R2.5142	R2.5	142	0.5810320	8.2884851	10.7464550	89.2535450
R2.5143	R2.5	143	0.5527210	7.7074530	10.5188921	89.4811079
R2.5144	R2.5	144	0.5249980	7.1547320	10.2928760	89.7071240
R2.5145	R2.5	145	0.4978830	6.6297340	10.0683579	89.9316421
R2.5146	R2.5	146	0.4713970	6.1318510	9.8452730	90.1547270
R2.5147	R2.5	147	0.4455530	5.6604540	9.6235380	90.3764620
R2.5148	R2.5	148	0.4203759	5.2149010	9.4030380	90.5969620
R2.5149	R2.5	149	0.3958700	4.7945250	9.1836420	90.8163580
R2.5150	R2.5	150	0.3720580	4.3986550	8.9651520	91.0348480
R2.5151	R2.5	151	0.3489550	4.0265970	8.7473331	91.2526670
R2.5152	R2.5	152	0.3265810	3.6776420	8.5298860	91.4701140
R2.5153	R2.5	153	0.3049580	3.3510610	8.3124470	91.6875531
R2.5154	R2.5	154	0.2841100	3.0461030	8.0945830	91.9054170
R2.5155	R2.5	155	0.2640620	2.7619930	7.8757930	92.1242070
R2.5156	R2.5	156	0.2448380	2.4979310	7.6555050	92.3444950
R2.5157	R2.5	157	0.2264680	2.2530930	7.4330760	92.5669240
R2.5158	R2.5	158	0.2089740	2.0266250	7.2078220	92.7921780
R2.5159	R2.5	159	0.1923820	1.8176510	6.9790150	93.0209850
R2.5160	R2.5	160	0.1767130	1.6252690	6.7459320	93.2540680
R2.5161	R2.5	161	0.1619790	1.4485560	6.5078890	93.4921110
R2.5162	R2.5	162	0.1481900	1.2865770	6.2642780	93.7357220
R2.5163	R2.5	163	0.1353470	1.1383870	6.0146450	93.9853550
R2.5164	R2.5	164	0.1234370	1.0030400	5.7587730	94.2412270
R2.5165	R2.5	165	0.1124400	0.8796030	5.4967510	94.5032490
R2.5166	R2.5	166	0.1023100	0.7671630	5.2291050	94.7708950
R2.5167	R2.5	167	0.0929890	0.6648530	4.9568360	95.0431640
R2.5168	R2.5	168	0.0843740	0.5718640	4.6815480	95.3184520
R2.5169	R2.5	169	0.0763160	0.4874900	4.4052840	95.5947160
R2.5170	R2.5	170	0.0685810	0.4111740	4.1301250	95.8698750
R2.5171	R2.5	171	0.0610970	0.3425930	3.8568110	96.1431890
R2.5172	R2.5	172	0.0538920	0.2814960	3.5853870	96.4146130
R2.5173	R2.5	173	0.0469890	0.2276040	3.3159430	96.6840570
R2.5174	R2.5	174	0.0404160	0.1806150	3.0485420	96.9514580
R2.5175	R2.5	175	0.0342080	0.1401990	2.7832260	97.2167740
R2.5176	R2.5	176	0.0283930	0.1059910	2.5201240	97.4798760
R2.5177	R2.5	177	0.0230100	0.0775980	2.2592850	97.7407150
R2.5178	R2.5	178	0.0181160	0.0545880	2.0008610	97.9991390
R2.5179	R2.5	179	0.0136670	0.0364720	1.7451220	98.2548780

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R2.5180	R2.5	180	0.0098240	0.0228050	1.4924140	98.5075860
R2.5181	R2.5	181	0.0065460	0.0129810	1.2434710	98.7565290
R2.5182	R2.5	182	0.0038930	0.0064350	0.9997670	99.0002330
R2.5183	R2.5	183	0.0019010	0.0025420	0.7651460	99.2348540
R2.5184	R2.5	184	0.0006080	0.0006410	0.5514820	99.4485180
R2.5185	R2.5	185	0.0000330	0.0000330	0.5000000	99.5000000
R2.5186	R2.5	186	0.0000000	0.0000000	0.0000000	100.0000000

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1 Lookup	2 Curve	3 Age %	4 % Ret	5 % Surv	6 % Cond	7 % Depr Resv
R3.0000	R3.0	0	0.0154791	100.0000000	100.0000000	0.0000000
R3.0001	R3.0	1	0.0168400	99.9845209	99.0154038	0.9845962
R3.0002	R3.0	2	0.0182953	99.9676809	98.0319996	1.9680004
R3.0003	R3.0	3	0.0198507	99.9493856	97.0498524	2.9501476
R3.0004	R3.0	4	0.0215111	99.9295349	96.0690317	3.9309683
R3.0005	R3.0	5	0.0232811	99.9080238	95.0896082	4.9103918
R3.0006	R3.0	6	0.0251655	99.8847427	94.1116552	5.8883448
R3.0007	R3.0	7	0.0271702	99.8595772	93.1352463	6.8647537
R3.0008	R3.0	8	0.0292997	99.8324070	92.1604576	7.8395424
R3.0009	R3.0	9	0.0315600	99.8031073	91.1873674	8.8126326
R3.0010	R3.0	10	0.0339584	99.7715473	90.2160540	9.7839460
R3.0011	R3.0	11	0.0364952	99.7375889	89.2465992	10.7534008
R3.0012	R3.0	12	0.0391798	99.7010937	88.2790852	11.7209148
R3.0013	R3.0	13	0.0420189	99.6619139	87.3135939	12.6864061
R3.0014	R3.0	14	0.0450144	99.6198950	86.3502102	13.6497898
R3.0015	R3.0	15	0.0481758	99.5748806	85.3890209	14.6109791
R3.0016	R3.0	16	0.0515060	99.5267048	84.4301109	15.5698891
R3.0017	R3.0	17	0.0550118	99.4751988	83.4735680	16.5264320
R3.0018	R3.0	18	0.0586996	99.4201870	82.5194798	17.4805202
R3.0019	R3.0	19	0.0625744	99.3614874	81.5679340	18.4320660
R3.0020	R3.0	20	0.0666428	99.2989130	80.6190205	19.3809795
R3.0021	R3.0	21	0.0709104	99.2322702	79.6728268	20.3271732
R3.0022	R3.0	22	0.0753794	99.1613598	78.7294426	21.2705574
R3.0023	R3.0	23	0.0800638	99.0859804	77.7889566	22.2110434
R3.0024	R3.0	24	0.0849600	99.0059166	76.8514566	23.1485434
R3.0025	R3.0	25	0.0900774	98.9209566	75.9170332	24.0829668
R3.0026	R3.0	26	0.0954256	98.8308792	74.9857712	25.0142288
R3.0027	R3.0	27	0.1010027	98.7354536	74.0577602	25.9422398
R3.0028	R3.0	28	0.1068191	98.6344509	73.1330843	26.8669157
R3.0029	R3.0	29	0.1128788	98.5276318	72.2118292	27.7881708
R3.0030	R3.0	30	0.1191874	98.4147530	71.2940807	28.7059193
R3.0031	R3.0	31	0.1257477	98.2955656	70.3799210	29.6200790
R3.0032	R3.0	32	0.1325683	98.1698179	69.4694319	30.5305681
R3.0033	R3.0	33	0.1396523	98.0372496	68.5626936	31.4373064
R3.0034	R3.0	34	0.1470041	97.8975973	67.6597862	32.3402138
R3.0035	R3.0	35	0.1546307	97.7505932	66.7607861	33.2392139
R3.0036	R3.0	36	0.1625337	97.5959625	65.8657694	34.1342306
R3.0037	R3.0	37	0.1707211	97.4334288	64.9748087	35.0251913
R3.0038	R3.0	38	0.1791944	97.2627077	64.0879793	35.9120207
R3.0039	R3.0	39	0.1879616	97.0835133	63.2053480	36.7946520
R3.0040	R3.0	40	0.1970244	96.8955517	62.3269858	37.6730142
R3.0041	R3.0	41	0.2063894	96.6985273	61.4529600	38.5470400
R3.0042	R3.0	42	0.2160606	96.4921379	60.5833340	39.4166660
R3.0043	R3.0	43	0.2260437	96.2760773	59.7181711	40.2818289
R3.0044	R3.0	44	0.2363405	96.0500336	58.8575339	41.1424661

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R3.0045	R3.0	45	0.2469616	95.8136931	58.0014839	41.9985161
R3.0046	R3.0	46	0.2579089	95.5667315	57.1500778	42.8499222
R3.0047	R3.0	47	0.2691869	95.3088226	56.3033738	43.6966262
R3.0048	R3.0	48	0.2808028	95.0396357	55.4614301	44.5385699
R3.0049	R3.0	49	0.2927637	94.7588329	54.6243000	45.3757000
R3.0050	R3.0	50	0.3050775	94.4660692	53.7920389	46.2079611
R3.0051	R3.0	51	0.3177452	94.1609917	52.9647021	47.0352979
R3.0052	R3.0	52	0.3307829	93.8432465	52.1423440	47.8576560
R3.0053	R3.0	53	0.3441897	93.5124636	51.3250179	48.6749821
R3.0054	R3.0	54	0.3579797	93.1682739	50.5127802	49.4872198
R3.0055	R3.0	55	0.3721629	92.8102942	49.7056861	50.2943139
R3.0056	R3.0	56	0.3867464	92.4381313	48.9037910	51.0962090
R3.0057	R3.0	57	0.4017400	92.0513849	48.1071558	51.8928442
R3.0058	R3.0	58	0.4171553	91.6496449	47.3158379	52.6841621
R3.0059	R3.0	59	0.4330063	91.2324896	46.5299010	53.4700990
R3.0060	R3.0	60	0.4493046	90.7994833	45.7494102	54.2505898
R3.0061	R3.0	61	0.4660597	90.3501787	44.9744310	55.0255690
R3.0062	R3.0	62	0.4832878	89.8841190	44.2050362	55.7949638
R3.0063	R3.0	63	0.5010013	89.4008312	43.4412990	56.5587010
R3.0064	R3.0	64	0.5192156	88.8998299	42.6832981	57.3167019
R3.0065	R3.0	65	0.5379458	88.3806143	41.9311161	58.0688839
R3.0066	R3.0	66	0.5572013	87.8426685	41.1848378	58.8151622
R3.0067	R3.0	67	0.5770016	87.2854672	40.4445572	59.5554428
R3.0068	R3.0	68	0.5973559	86.7084656	39.7103682	60.2896318
R3.0069	R3.0	69	0.6182804	86.1111097	38.9823709	61.0176291
R3.0070	R3.0	70	0.6397857	85.4928293	38.2606740	61.7393260
R3.0071	R3.0	71	0.6618805	84.8530436	37.5453868	62.4546132
R3.0072	R3.0	72	0.6845751	84.1911631	36.8366242	63.1633758
R3.0073	R3.0	73	0.7078676	83.5065880	36.1345072	63.8654928
R3.0074	R3.0	74	0.7317868	82.7987204	35.4391561	64.5608439
R3.0075	R3.0	75	0.7563066	82.0669336	34.7507062	65.2492938
R3.0076	R3.0	76	0.7814388	81.3106270	34.0692878	65.9307122
R3.0077	R3.0	77	0.8071690	80.5291882	33.3950372	66.6049628
R3.0078	R3.0	78	0.8334932	79.7220192	32.7280932	67.2719068
R3.0079	R3.0	79	0.8603878	78.8885260	32.0685968	67.9314032
R3.0080	R3.0	80	0.8878355	78.0281382	31.4166920	68.5833080
R3.0081	R3.0	81	0.9158049	77.1403027	30.7725229	69.2274771
R3.0082	R3.0	82	0.9442616	76.2244978	30.1362350	69.8637650
R3.0083	R3.0	83	0.9731655	75.2802362	29.5079711	70.4920289
R3.0084	R3.0	84	1.0024595	74.3070707	28.8878751	71.1121249
R3.0085	R3.0	85	1.0320921	73.3046112	28.2760870	71.7239130
R3.0086	R3.0	86	1.0619917	72.2725191	27.6727450	72.3272550
R3.0087	R3.0	87	1.0920782	71.2105274	27.0779829	72.9220171
R3.0088	R3.0	88	1.1222725	70.1184492	26.4919291	73.5080709
R3.0089	R3.0	89	1.1524744	68.9961767	25.9147060	74.0852940

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1 Lookup	2 Curve	3 Age %	4 % Ret	5 % Surv	6 % Cond	7 % Depr Resv
R3.0090	R3.0	90	1.1825809	67.8437023	25.3464310	74.6535690
R3.0091	R3.0	91	1.2124787	66.6611214	24.7872109	75.2127891
R3.0092	R3.0	92	1.2420444	65.4486427	24.2371471	75.7628529
R3.0093	R3.0	93	1.2711425	64.2065983	23.6963310	76.3036690
R3.0094	R3.0	94	1.2996359	62.9354558	23.1648400	76.8351600
R3.0095	R3.0	95	1.3273778	61.6358199	22.6427441	77.3572559
R3.0096	R3.0	96	1.3542113	60.3084421	22.1301019	77.8698981
R3.0097	R3.0	97	1.3799820	58.9542308	21.6269579	78.3730421
R3.0098	R3.0	98	1.4045148	57.5742488	21.1333439	78.8666561
R3.0099	R3.0	99	1.4276528	56.1697340	20.6492770	79.3507230
R3.0100	R3.0	100	1.4492231	54.7420812	20.1747630	79.8252370
R3.0101	R3.0	101	1.4690599	53.2928581	19.7097900	80.2902100
R3.0102	R3.0	102	1.4869881	51.8237982	19.2543340	80.7456660
R3.0103	R3.0	103	1.5028572	50.3368101	18.8083510	81.1916490
R3.0104	R3.0	104	1.5164928	48.8339529	18.3717880	81.6282120
R3.0105	R3.0	105	1.5277629	47.3174601	17.9445670	82.0554330
R3.0106	R3.0	106	1.5365224	45.7896972	17.5266011	82.4733989
R3.0107	R3.0	107	1.5426388	44.2531748	17.1177840	82.8822160
R3.0108	R3.0	108	1.5460029	42.7105360	16.7179930	83.2820070
R3.0109	R3.0	109	1.5465211	41.1645331	16.3270869	83.6729131
R3.0110	R3.0	110	1.5441080	39.6180120	15.9449101	84.0550899
R3.0111	R3.0	111	1.5387101	38.0739040	15.5712870	84.4287130
R3.0112	R3.0	112	1.5302810	36.5351939	15.2060260	84.7939740
R3.0113	R3.0	113	1.5188141	35.0049129	14.8489180	85.1510820
R3.0114	R3.0	114	1.5043109	33.4860988	14.4997360	85.5002640
R3.0115	R3.0	115	1.4868099	31.9817879	14.1582340	85.8417660
R3.0116	R3.0	116	1.4663680	30.4949780	13.8241530	86.1758470
R3.0117	R3.0	117	1.4430571	29.0286100	13.4972171	86.5027829
R3.0118	R3.0	118	1.4169929	27.5855529	13.1771280	86.8228720
R3.0119	R3.0	119	1.3882911	26.1685600	12.8635780	87.1364220
R3.0120	R3.0	120	1.3571188	24.7802689	12.5562360	87.4437640
R3.0121	R3.0	121	1.3236401	23.4231501	12.2547650	87.7452350
R3.0122	R3.0	122	1.2880390	22.0995100	11.9588110	88.0411890
R3.0123	R3.0	123	1.2505269	20.8114710	11.6680059	88.3319941
R3.0124	R3.0	124	1.2113230	19.5609441	11.3819740	88.6180260
R3.0125	R3.0	125	1.1706541	18.3496211	11.1003320	88.8996680
R3.0126	R3.0	126	1.1287601	17.1789670	10.8226880	89.1773120
R3.0127	R3.0	127	1.0858769	16.0502069	10.5486490	89.4513510
R3.0128	R3.0	128	1.0422470	14.9643300	10.2778220	89.7221780
R3.0129	R3.0	129	0.9981119	13.9220830	10.0098190	89.9901810
R3.0130	R3.0	130	0.9536992	12.9239711	9.7442570	90.2557430
R3.0131	R3.0	131	0.9092329	11.9702719	9.4807680	90.5192320
R3.0132	R3.0	132	0.8649200	11.0610390	9.2190000	90.7810000
R3.0133	R3.0	133	0.8209611	10.1961190	8.9586190	91.0413810
R3.0134	R3.0	134	0.7775309	9.3751580	8.6993200	91.3006800

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R3.0135	R3.0	135	0.7347881	8.5976270	8.4408310	91.5591691
R3.0136	R3.0	136	0.6928700	7.8628390	8.1829081	91.8170919
R3.0137	R3.0	137	0.6518970	7.1699690	7.9253460	92.0746540
R3.0138	R3.0	138	0.6119650	6.5180720	7.6679810	92.3320190
R3.0139	R3.0	139	0.5731500	5.9061070	7.4106960	92.5893040
R3.0140	R3.0	140	0.5355110	5.3329570	7.1534120	92.8465880
R3.0141	R3.0	141	0.4990880	4.7974460	6.8960930	93.1039070
R3.0142	R3.0	142	0.4639030	4.2983580	6.6387510	93.3612490
R3.0143	R3.0	143	0.4299690	3.8344550	6.3814340	93.6185660
R3.0144	R3.0	144	0.3972850	3.4044860	6.1242290	93.8757710
R3.0145	R3.0	145	0.3658450	3.0072010	5.8672540	94.1327460
R3.0146	R3.0	146	0.3356360	2.6413560	5.6106530	94.3893470
R3.0147	R3.0	147	0.3066410	2.3057200	5.3545910	94.6454090
R3.0148	R3.0	148	0.2788620	1.9990790	5.0992460	94.9007540
R3.0149	R3.0	149	0.2522770	1.7202170	4.8448220	95.1551780
R3.0150	R3.0	150	0.2268850	1.4679400	4.5915160	95.4084840
R3.0151	R3.0	151	0.2026930	1.2410550	4.3395140	95.6604860
R3.0152	R3.0	152	0.1797100	1.0383620	4.0890000	95.9110000
R3.0153	R3.0	153	0.1579600	0.8586520	3.8401530	96.1598470
R3.0154	R3.0	154	0.1374690	0.7006920	3.5931400	96.4068600
R3.0155	R3.0	155	0.1182750	0.5632230	3.3480970	96.6519030
R3.0156	R3.0	156	0.1004170	0.4449480	3.1051630	96.8948370
R3.0157	R3.0	157	0.0839420	0.3445310	2.8644800	97.1355200
R3.0158	R3.0	158	0.0688930	0.2605890	2.6261500	97.3738500
R3.0159	R3.0	159	0.0553160	0.1916960	2.3902580	97.6097420
R3.0160	R3.0	160	0.0432485	0.1363800	2.1569580	97.8430420
R3.0161	R3.0	161	0.0327163	0.0931315	1.9263620	98.0736380
R3.0162	R3.0	162	0.0237359	0.0604152	1.6987790	98.3012210
R3.0163	R3.0	163	0.0163033	0.0366793	1.4745100	98.5254900
R3.0164	R3.0	164	0.0103913	0.0203760	1.2542690	98.7457310
R3.0165	R3.0	165	0.0059434	0.0099847	1.0392430	98.9607570
R3.0166	R3.0	166	0.0028646	0.0040413	0.8322900	99.1677100
R3.0167	R3.0	167	0.0010104	0.0011767	0.6413070	99.3586930
R3.0168	R3.0	168	0.0001662	0.0001662	0.4999820	99.5000180
R3.0169	R3.0	169	0.0000000	0.0000000	0.0000000	100.0000000

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R4.0000	R4.0	0	0.0008278	100.0000000	100.0000000	0.0000000
R4.0001	R4.0	1	0.0009632	99.9991722	99.0013161	0.9986839
R4.0002	R4.0	2	0.0011139	99.9982090	98.0022631	1.9977369
R4.0003	R4.0	3	0.0012894	99.9970951	97.0033197	2.9966803
R4.0004	R4.0	4	0.0014858	99.9958057	96.0045939	3.9954061
R4.0005	R4.0	5	0.0017109	99.9943199	95.0060129	4.9939871
R4.0006	R4.0	6	0.0019645	99.9926090	94.0076304	5.9923696
R4.0007	R4.0	7	0.0022536	99.9906445	93.0094681	6.9905319
R4.0008	R4.0	8	0.0025768	99.9883909	92.0115519	7.9884481
R4.0009	R4.0	9	0.0029430	99.9858141	91.0139113	8.9860887
R4.0010	R4.0	10	0.0033541	99.9828711	90.0165749	9.9834251
R4.0011	R4.0	11	0.0038157	99.9795170	89.0195789	10.9804211
R4.0012	R4.0	12	0.0043325	99.9757013	88.0229569	11.9770431
R4.0013	R4.0	13	0.0049095	99.9713688	87.0267496	12.9732504
R4.0014	R4.0	14	0.0055561	99.9664593	86.0310001	13.9689999
R4.0015	R4.0	15	0.0062743	99.9609032	85.0357533	14.9642467
R4.0016	R4.0	16	0.0070753	99.9546289	84.0410605	15.9589395
R4.0017	R4.0	17	0.0079612	99.9475536	83.0469732	16.9530268
R4.0018	R4.0	18	0.0089484	99.9395924	82.0535498	17.9464502
R4.0019	R4.0	19	0.0100383	99.9306440	81.0608521	18.9391479
R4.0020	R4.0	20	0.0112429	99.9206057	80.0689449	19.9310551
R4.0021	R4.0	21	0.0125732	99.9093628	79.0778990	20.9221010
R4.0022	R4.0	22	0.0140372	99.8967896	78.0877886	21.9122114
R4.0023	R4.0	23	0.0156517	99.8827524	77.0986939	22.9013061
R4.0024	R4.0	24	0.0174217	99.8671007	76.1106977	23.8893023
R4.0025	R4.0	25	0.0193634	99.8496790	75.1238899	24.8761101
R4.0026	R4.0	26	0.0214911	99.8303156	74.1383648	25.8616352
R4.0027	R4.0	27	0.0238161	99.8088245	73.1542206	26.8457794
R4.0028	R4.0	28	0.0263576	99.7850084	72.1715622	27.8284378
R4.0029	R4.0	29	0.0291262	99.7586508	71.1904984	28.8095016
R4.0030	R4.0	30	0.0321426	99.7295246	70.2111445	29.7888555
R4.0031	R4.0	31	0.0354223	99.6973820	69.2336187	30.7663813
R4.0032	R4.0	32	0.0389815	99.6619597	68.2580481	31.7419519
R4.0033	R4.0	33	0.0428438	99.6229782	67.2845621	32.7154379
R4.0034	R4.0	34	0.0470247	99.5801344	66.3132954	33.6867046
R4.0035	R4.0	35	0.0515423	99.5331097	65.3443880	34.6556120
R4.0036	R4.0	36	0.0564251	99.4815674	64.3779860	35.6220140
R4.0037	R4.0	37	0.0616894	99.4251423	63.4142370	36.5857630
R4.0038	R4.0	38	0.0673580	99.3634529	62.4532971	37.5467029
R4.0039	R4.0	39	0.0734539	99.2960949	61.4953232	38.5046768
R4.0040	R4.0	40	0.0800018	99.2226410	60.5404782	39.4595218
R4.0041	R4.0	41	0.0870266	99.1426392	59.5889268	40.4110732
R4.0042	R4.0	42	0.0945492	99.0556126	58.6408401	41.3591599
R4.0043	R4.0	43	0.1025982	98.9610634	57.6963892	42.3036108
R4.0044	R4.0	44	0.1111975	98.8584652	56.7557492	43.2442508

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R4.0045	R4.0	45	0.1203727	98.7472677	55.8190970	44.1809030
R4.0046	R4.0	46	0.1301480	98.6268950	54.8866129	45.1133871
R4.0047	R4.0	47	0.1405506	98.4967470	53.9584770	46.0415230
R4.0048	R4.0	48	0.1516085	98.3561964	53.0348692	46.9651308
R4.0049	R4.0	49	0.1633424	98.2045879	52.1159720	47.8840280
R4.0050	R4.0	50	0.1757803	98.0412455	51.2019682	48.7980318
R4.0051	R4.0	51	0.1889468	97.8654652	50.2930360	49.7069640
R4.0052	R4.0	52	0.2028656	97.6765184	49.3893561	50.6106439
R4.0053	R4.0	53	0.2175588	97.4736528	48.4911060	51.5088940
R4.0054	R4.0	54	0.2326536	97.2560940	47.5984602	52.4015398
R4.0055	R4.0	55	0.2497578	97.0234404	46.7115922	53.2884078
R4.0056	R4.0	56	0.2665119	96.7736826	45.8306670	54.1693330
R4.0057	R4.0	57	0.2845173	96.5071707	44.9558511	55.0441489
R4.0058	R4.0	58	0.3034000	96.2226534	44.0873008	55.9126992
R4.0059	R4.0	59	0.3231707	95.9192534	43.2251711	56.7748289
R4.0060	R4.0	60	0.3438416	95.5960827	42.3696070	57.6303930
R4.0061	R4.0	61	0.3654260	95.2522411	41.5207481	58.4792519
R4.0062	R4.0	62	0.3879290	94.8868151	40.6787262	59.3212738
R4.0063	R4.0	63	0.4113550	94.4988861	39.8436651	60.1563349
R4.0064	R4.0	64	0.4357090	94.0875311	39.0156770	60.9843230
R4.0065	R4.0	65	0.4609852	93.6518221	38.1948690	61.8051310
R4.0066	R4.0	66	0.4871807	93.1908369	37.3813329	62.6186671
R4.0067	R4.0	67	0.5142860	92.7036562	36.5751538	63.4248462
R4.0068	R4.0	68	0.5422850	92.1893702	35.7764020	64.2235980
R4.0069	R4.0	69	0.5711651	91.6470852	34.9851360	65.0148640
R4.0070	R4.0	70	0.6009006	91.0759201	34.2014031	65.7985969
R4.0071	R4.0	71	0.6314631	90.4750195	33.4252348	66.5747652
R4.0072	R4.0	72	0.6628237	89.8435564	32.6566491	67.3433509
R4.0073	R4.0	73	0.6949434	89.1807327	31.8956490	68.1043510
R4.0074	R4.0	74	0.7277765	88.4857893	31.1422219	68.8577781
R4.0075	R4.0	75	0.7612782	87.7580128	30.3963370	69.6036630
R4.0076	R4.0	76	0.7953930	86.9967346	29.6579499	70.3420501
R4.0077	R4.0	77	0.8300562	86.2013416	28.9269941	71.0730059
R4.0078	R4.0	78	0.8652038	85.3712854	28.2033880	71.7966120
R4.0079	R4.0	79	0.9007626	84.5060816	27.4870250	72.5129750
R4.0080	R4.0	80	0.9366550	83.6053190	26.7777820	73.2222180
R4.0081	R4.0	81	0.9727898	82.6686640	26.0755160	73.9244840
R4.0082	R4.0	82	1.0092020	81.6958742	25.3800550	74.6199450
R4.0083	R4.0	83	1.0464849	80.6866722	24.6912470	75.3087530
R4.0084	R4.0	84	1.0855894	79.6401873	24.0091240	75.9908760
R4.0085	R4.0	85	1.1274805	78.5545979	23.3340089	76.6659911
R4.0086	R4.0	86	1.1729546	77.4271174	22.6665139	77.3334861
R4.0087	R4.0	87	1.2225552	76.2541628	22.0074830	77.9925170
R4.0088	R4.0	88	1.2765531	75.0316076	21.3579230	78.6420770
R4.0089	R4.0	89	1.3349047	73.7550545	20.7189319	79.2810681

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R4.0090	R4.0	90	1.3973417	72.4201498	20.0916240	79.9083760
R4.0091	R4.0	91	1.4632540	71.0228081	19.4770801	80.5229199
R4.0092	R4.0	92	1.5318708	69.5595541	18.8762820	81.1237180
R4.0093	R4.0	93	1.6022349	68.0276833	18.2900851	81.7099149
R4.0094	R4.0	94	1.6732702	66.4254484	17.7191961	82.2808039
R4.0095	R4.0	95	1.7437983	64.7521782	17.1641600	82.8358400
R4.0096	R4.0	96	1.8126111	63.0083799	16.6253510	83.3746490
R4.0097	R4.0	97	1.8785019	61.1957688	16.1029799	83.8970201
R4.0098	R4.0	98	1.9403057	59.3172669	15.5971090	84.4028910
R4.0099	R4.0	99	1.9969244	57.3769612	15.1076440	84.8923560
R4.0100	R4.0	100	2.0473556	55.3800368	14.6343750	85.3656250
R4.0101	R4.0	101	2.0907240	53.3326812	14.1769710	85.8230290
R4.0102	R4.0	102	2.1262794	51.2419572	13.7350060	86.2649940
R4.0103	R4.0	103	2.1534547	49.1156778	13.3079650	86.6920350
R4.0104	R4.0	104	2.1718040	46.9622231	12.8952750	87.1047250
R4.0105	R4.0	105	2.1810722	44.7904191	12.4962990	87.5037010
R4.0106	R4.0	106	2.1811419	42.6093469	12.1103610	87.8896390
R4.0107	R4.0	107	2.1720638	40.4282050	11.7367520	88.2632480
R4.0108	R4.0	108	2.1540241	38.2561412	11.3747400	88.6252600
R4.0109	R4.0	109	2.1273389	36.1021171	11.0235781	88.9764219
R4.0110	R4.0	110	2.0924511	33.9747782	10.6825140	89.3174860
R4.0111	R4.0	111	2.0498882	31.8823271	10.3507971	89.6492029
R4.0112	R4.0	112	2.0002858	29.8324389	10.0276790	89.9723210
R4.0113	R4.0	113	1.9443300	27.8321531	9.7124300	90.2875700
R4.0114	R4.0	114	1.8827472	25.8878231	9.4043380	90.5956620
R4.0115	R4.0	115	1.8162958	24.0050759	9.1027160	90.8972840
R4.0116	R4.0	116	1.7457612	22.1887801	8.8069040	91.1930960
R4.0117	R4.0	117	1.6718969	20.4430189	8.5162840	91.4837160
R4.0118	R4.0	118	1.5954540	18.7711220	8.2302750	91.7697250
R4.0119	R4.0	119	1.5171400	17.1756680	7.9483430	92.0516570
R4.0120	R4.0	120	1.4376240	15.6585280	7.6700060	92.3299940
R4.0121	R4.0	121	1.3575180	14.2209040	7.3948390	92.6051610
R4.0122	R4.0	122	1.2773730	12.8633860	7.1224760	92.8775240
R4.0123	R4.0	123	1.1976880	11.5860130	6.8526120	93.1473880
R4.0124	R4.0	124	1.1188790	10.3883250	6.5850130	93.4149870
R4.0125	R4.0	125	1.0413181	9.2694460	6.3195140	93.6804860
R4.0126	R4.0	126	0.9653040	8.2281280	6.0560060	93.9439940
R4.0127	R4.0	127	0.8910890	7.2628240	5.7944580	94.2055420
R4.0128	R4.0	128	0.8188760	6.3717350	5.5348880	94.4651120
R4.0129	R4.0	129	0.7488360	5.5528590	5.2773810	94.7226190
R4.0130	R4.0	130	0.6811100	4.8040230	5.0220640	94.9779360
R4.0131	R4.0	131	0.6158200	4.1229130	4.7691140	95.2308860
R4.0132	R4.0	132	0.5530780	3.5070930	4.5187400	95.4812600
R4.0133	R4.0	133	0.4930080	2.9540150	4.2715210	95.7284790
R4.0134	R4.0	134	0.4357350	2.4610070	4.0273490	95.9726510

Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
R4.0135	R4.0	135	0.3814000	2.0252720	3.7864600	96.2135400
R4.0136	R4.0	136	0.3301680	1.6438720	3.5490210	96.4509790
R4.0137	R4.0	137	0.2822160	1.3137040	3.3315155	66.6848450
R4.0138	R4.0	138	0.2377380	1.0314880	3.0849780	96.9150220
R4.0139	R4.0	139	0.1969280	0.7937500	2.8585810	97.1414190
R4.0140	R4.0	140	0.1599700	0.5968220	2.6360510	97.3639490
R4.0141	R4.0	141	0.1270220	0.4368520	2.4174760	97.5825240
R4.0142	R4.0	142	0.0981870	0.3098300	2.2029340	97.7970660
R4.0143	R4.0	143	0.0734960	0.2116430	1.9925030	98.0074970
R4.0144	R4.0	144	0.0529003	0.1381470	1.7862840	98.2137160
R4.0145	R4.0	145	0.0362607	0.0852467	1.5844010	98.4155990
R4.0146	R4.0	146	0.0233463	0.0489860	1.3870900	98.6129100
R4.0147	R4.0	147	0.0138307	0.0256397	1.1948260	98.8051740
R4.0148	R4.0	148	0.0072948	0.0118090	1.0086400	98.9913600
R4.0149	R4.0	149	0.0032339	0.0045142	0.8306070	99.1693930
R4.0150	R4.0	150	0.0010741	0.0012803	0.6657290	99.3342710
R4.0151	R4.0	151	0.0002001	0.0002061	0.5292780	99.4707220
R4.0152	R4.0	152	0.0000060	0.0000060	0.5000830	99.4999170
R4.0153	R4.0	153	0.0000000	0.0000000	0.0000000	100.0000000

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
S3.0000	S3.0	0	0.0000000	100.0000000	100.0000000	0.0000000
S3.0001	S3.0	1	0.0000000	100.0000000	99.0000000	1.0000000
S3.0002	S3.0	2	0.0000000	100.0000000	98.0000000	2.0000000
S3.0003	S3.0	3	0.0000000	100.0000000	97.0000000	3.0000000
S3.0004	S3.0	4	0.0000000	100.0000000	96.0000000	4.0000000
S3.0005	S3.0	5	0.0000000	100.0000000	95.0000000	5.0000000
S3.0006	S3.0	6	0.0000009	100.0000000	94.0000000	6.0000000
S3.0007	S3.0	7	0.0000029	99.9999991	93.0000010	6.9999990
S3.0008	S3.0	8	0.0000057	99.9999962	92.0000038	7.9999962
S3.0009	S3.0	9	0.0000124	99.9999905	91.0000086	8.9999914
S3.0010	S3.0	10	0.0000229	99.9999781	90.0000200	9.9999800
S3.0011	S3.0	11	0.0000410	99.9999552	89.0000401	10.9999599
S3.0012	S3.0	12	0.0000706	99.9999142	88.0000773	11.9999227
S3.0013	S3.0	13	0.0001154	99.9998436	87.0001392	12.9998608
S3.0014	S3.0	14	0.0001821	99.9997282	86.0002394	13.9997606
S3.0015	S3.0	15	0.0002785	99.9995461	85.0003939	14.9996061
S3.0016	S3.0	16	0.0004120	99.9992676	84.0006294	15.9993706
S3.0017	S3.0	17	0.0005932	99.9988556	83.0009728	16.9990272
S3.0018	S3.0	18	0.0008402	99.9982624	82.0014629	17.9985371
S3.0019	S3.0	19	0.0011616	99.9974222	81.0021467	18.9978533
S3.0020	S3.0	20	0.0015783	99.9962606	80.0030832	19.9969168
S3.0021	S3.0	21	0.0021086	99.9946823	79.0043373	20.9956627
S3.0022	S3.0	22	0.0027761	99.9925737	78.0059929	21.9940071
S3.0023	S3.0	23	0.0036030	99.9897976	77.0081453	22.9918547
S3.0024	S3.0	24	0.0046177	99.9861946	76.0109024	23.9890976
S3.0025	S3.0	25	0.0058498	99.9815769	75.0143890	24.9856110
S3.0026	S3.0	26	0.0073300	99.9757271	74.0187492	25.9812508
S3.0027	S3.0	27	0.0090951	99.9683971	73.0241404	26.9758596
S3.0028	S3.0	28	0.0111771	99.9593020	72.0307388	27.9692612
S3.0029	S3.0	29	0.0136185	99.9481249	71.0387383	28.9612617
S3.0030	S3.0	30	0.0164585	99.9345064	70.0483513	29.9516487
S3.0031	S3.0	31	0.0197382	99.9180479	69.0598068	30.9401932
S3.0032	S3.0	32	0.0235014	99.8983097	68.0733528	31.9266472
S3.0033	S3.0	33	0.0277939	99.8748083	67.0892544	32.9107456
S3.0034	S3.0	34	0.0326624	99.8470144	66.1077900	33.8922100
S3.0035	S3.0	35	0.0381479	99.8143520	65.1292582	34.8707418
S3.0036	S3.0	36	0.0443048	99.7762041	64.1539688	35.8460312
S3.0037	S3.0	37	0.0511732	99.7318993	63.1822462	36.8177538
S3.0038	S3.0	38	0.0588046	99.6807261	62.2144260	37.7855740
S3.0039	S3.0	39	0.0672397	99.6219215	61.2508540	38.7491460
S3.0040	S3.0	40	0.0765267	99.5546818	60.2918859	39.7081141
S3.0041	S3.0	41	0.0867071	99.4781551	59.3378830	40.6621170
S3.0042	S3.0	42	0.0978231	99.3914480	58.3892121	41.6107879
S3.0043	S3.0	43	0.1099110	99.2936249	57.4462428	42.5537572
S3.0044	S3.0	44	0.1230097	99.1837139	56.5093489	43.4906511

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
S3.0045	S3.0	45	0.1371507	99.0607042	55.5788989	44.4211011
S3.0046	S3.0	46	0.1523667	98.9235535	54.6552620	45.3447380
S3.0047	S3.0	47	0.1686792	98.7711868	53.7388029	46.2611971
S3.0048	S3.0	48	0.1861134	98.6025076	52.8298788	47.1701212
S3.0049	S3.0	49	0.2046880	98.4163942	51.9288392	48.0711608
S3.0050	S3.0	50	0.2244149	98.2117062	51.0360251	48.9639749
S3.0051	S3.0	51	0.2453012	97.9872913	50.1517639	49.8482361
S3.0052	S3.0	52	0.2673512	97.7419901	49.2763739	50.7236261
S3.0053	S3.0	53	0.2905626	97.4746389	48.4101572	51.5898428
S3.0054	S3.0	54	0.3149290	97.1840763	47.5534000	52.4466000
S3.0055	S3.0	55	0.3404341	96.8691473	46.7063732	53.2936268
S3.0056	S3.0	56	0.3670616	96.5287132	45.8693328	54.1306672
S3.0057	S3.0	57	0.3947830	96.1616516	45.0425129	54.9574871
S3.0058	S3.0	58	0.4235687	95.7668686	44.2261319	55.7738681
S3.0059	S3.0	59	0.4533825	95.3432999	43.4203882	56.5796118
S3.0060	S3.0	60	0.4841824	94.8899174	42.6254621	57.3745379
S3.0061	S3.0	61	0.5159149	94.4057350	41.8415122	58.1584878
S3.0062	S3.0	62	0.5485287	93.8898201	41.0686789	58.9313211
S3.0063	S3.0	63	0.5819635	93.3412914	40.3070850	59.6929150
S3.0064	S3.0	64	0.6161499	92.7593279	39.5568309	60.4431691
S3.0065	S3.0	65	0.6510201	92.1431780	38.8179989	61.1820011
S3.0066	S3.0	66	0.6864967	91.4921579	38.0906539	61.9093461
S3.0067	S3.0	67	0.7224970	90.8056612	37.3748412	62.6251588
S3.0068	S3.0	68	0.7589350	90.0831642	36.6705899	63.3294101
S3.0069	S3.0	69	0.7957239	89.3242292	35.9779110	64.0220890
S3.0070	S3.0	70	0.8327675	88.5285053	35.2967982	64.7032018
S3.0071	S3.0	71	0.8699665	87.6957378	34.6272311	65.3727689
S3.0072	S3.0	72	0.9072227	86.8257713	33.9691749	66.0308251
S3.0073	S3.0	73	0.9444323	85.9185486	33.3225799	66.6774201
S3.0074	S3.0	74	0.9814892	84.9741163	32.6873822	67.3126178
S3.0075	S3.0	75	1.0182848	83.9926271	32.0635042	67.9364958
S3.0076	S3.0	76	1.0547151	82.9743423	31.4508619	68.5491381
S3.0077	S3.0	77	1.0906649	81.9196272	30.8493540	69.1506460
S3.0078	S3.0	78	1.1260299	80.8289623	30.2588730	69.7411270
S3.0079	S3.0	79	1.1606951	79.7029324	29.6793010	70.3206990
S3.0080	S3.0	80	1.1945553	78.5422373	29.1105120	70.8894880
S3.0081	S3.0	81	1.2275000	77.3476820	28.5523710	71.4476290
S3.0082	S3.0	82	1.2594261	76.1201820	28.0047390	71.9952610
S3.0083	S3.0	83	1.2902269	74.8607559	27.4674680	72.5325320
S3.0084	S3.0	84	1.3198013	73.5705290	26.9404030	73.0595970
S3.0085	S3.0	85	1.3480530	72.2507277	26.4233890	73.5766110
S3.0086	S3.0	86	1.3748846	70.9026747	25.9162619	74.0837381
S3.0087	S3.0	87	1.4002104	69.5277901	25.4188600	74.5811400
S3.0088	S3.0	88	1.4239378	68.1275797	24.9310110	75.0689890
S3.0089	S3.0	89	1.4459896	66.7036419	24.4525449	75.5474551

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
S3.0090	S3.0	90	1.4662924	65.2576523	23.9832900	76.0167100
S3.0091	S3.0	91	1.4847698	63.7913599	23.5230711	76.4769289
S3.0092	S3.0	92	1.5013619	62.3065901	23.0717111	76.9282889
S3.0093	S3.0	93	1.5160102	60.8052282	22.6290381	77.3709619
S3.0094	S3.0	94	1.5286632	59.2892180	22.1948710	77.8051290
S3.0095	S3.0	95	1.5392757	57.7605548	21.7690370	78.2309630
S3.0096	S3.0	96	1.5478119	56.2212791	21.3513601	78.6486399
S3.0097	S3.0	97	1.5542393	54.6734672	20.9416640	79.0583360
S3.0098	S3.0	98	1.5585370	53.1192279	20.5397761	79.4602239
S3.0099	S3.0	99	1.5606909	51.5606909	20.1455231	79.8544769
S3.0100	S3.0	100	1.5606909	50.0000000	19.7587349	80.2412651
S3.0101	S3.0	101	1.5585370	48.4393091	19.3792419	80.6207581
S3.0102	S3.0	102	1.5542393	46.8807721	19.0068769	80.9931231
S3.0103	S3.0	103	1.5478119	45.3265328	18.6414750	81.3585250
S3.0104	S3.0	104	1.5392757	43.7787209	18.2828729	81.7171271
S3.0105	S3.0	105	1.5286631	42.2394452	17.9309101	82.0690899
S3.0106	S3.0	106	1.5160103	40.7107821	17.5854299	82.4145701
S3.0107	S3.0	107	1.5013619	39.1947718	17.2462750	82.7537250
S3.0108	S3.0	108	1.4847698	37.6934099	16.9132950	83.0867050
S3.0109	S3.0	109	1.4662919	36.2086401	16.5863359	83.4136641
S3.0110	S3.0	110	1.4459901	34.7423482	16.2652550	83.7347450
S3.0111	S3.0	111	1.4239380	33.2963581	15.9499090	84.0500910
S3.0112	S3.0	112	1.4002102	31.8724201	15.6401500	84.3598500
S3.0113	S3.0	113	1.3748848	30.4722099	15.3358450	84.6641550
S3.0114	S3.0	114	1.3480530	29.0973251	15.0368600	84.9631400
S3.0115	S3.0	115	1.3198011	27.7492721	14.7430561	85.2569439
S3.0116	S3.0	116	1.2902269	26.4294710	14.4543080	85.5456920
S3.0117	S3.0	117	1.2594261	25.1392441	14.1704850	85.8295150
S3.0118	S3.0	118	1.2275000	23.8798180	13.8914710	86.1085290
S3.0119	S3.0	119	1.1945550	22.6523180	13.6171401	86.3828599
S3.0120	S3.0	120	1.1606951	21.4577630	13.3473700	86.6526300
S3.0121	S3.0	121	1.1260300	20.2970679	13.0820510	86.9179490
S3.0122	S3.0	122	1.0906648	19.1710379	12.8210681	87.1789319
S3.0123	S3.0	123	1.0547152	18.0803731	12.5643160	87.4356840
S3.0124	S3.0	124	1.0182848	17.0256579	12.3116800	87.6883200
S3.0125	S3.0	125	0.9814891	16.0073731	12.0630680	87.9369320
S3.0126	S3.0	126	0.9444329	15.0258840	11.8183630	88.1816370
S3.0127	S3.0	127	0.9072221	14.0814511	11.5774790	88.4225210
S3.0128	S3.0	128	0.8699670	13.1742290	11.3403140	88.6596860
S3.0129	S3.0	129	0.8327670	12.3042620	11.1067700	88.8932300
S3.0130	S3.0	130	0.7957240	11.4714950	10.8767610	89.1232390
S3.0131	S3.0	131	0.7589350	10.6757710	10.6501980	89.3498020
S3.0132	S3.0	132	0.7224970	9.9168360	10.4270001	89.5729999
S3.0133	S3.0	133	0.6864971	9.1943390	10.2070690	89.7929310
S3.0134	S3.0	134	0.6510199	8.5078420	9.9903250	90.0096750

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
S3.0135	S3.0	135	0.6161500	7.8568220	9.7766990	90.2233011
S3.0136	S3.0	136	0.5819630	7.2406720	9.5661089	90.4338911
S3.0137	S3.0	137	0.5485290	6.6587090	9.3584729	90.6415271
S3.0138	S3.0	138	0.5159150	6.1101800	9.1537210	90.8462790
S3.0139	S3.0	139	0.4841820	5.5942650	8.9517880	91.0482121
S3.0140	S3.0	140	0.4533830	5.1100830	8.7525981	91.2474020
S3.0141	S3.0	141	0.4235690	4.6567000	8.5560840	91.4439160
S3.0142	S3.0	142	0.3947830	4.2331310	8.3621800	91.6378200
S3.0143	S3.0	143	0.3670610	3.8383480	8.1708230	91.8291770
S3.0144	S3.0	144	0.3404340	3.4712870	7.9819520	92.0180480
S3.0145	S3.0	145	0.3149290	3.1308530	7.7955040	92.2044960
S3.0146	S3.0	146	0.2905630	2.8159240	7.6114220	92.3885780
S3.0147	S3.0	147	0.2673510	2.5253610	7.4296480	92.5703520
S3.0148	S3.0	148	0.2453010	2.2580100	7.2501270	92.7498730
S3.0149	S3.0	149	0.2244150	2.0127090	7.0728060	92.9271940
S3.0150	S3.0	150	0.2046880	1.7882940	6.8976320	93.1023680
S3.0151	S3.0	151	0.1861140	1.5836060	6.7245530	93.2754470
S3.0152	S3.0	152	0.1686790	1.3974920	6.5535220	93.4464780
S3.0153	S3.0	153	0.1523660	1.2288130	6.3844900	93.6155100
S3.0154	S3.0	154	0.1371510	1.0764470	6.2174110	93.7825890
S3.0155	S3.0	155	0.1230100	0.9392960	6.0522380	93.9477620
S3.0156	S3.0	156	0.1099110	0.8162860	5.8889290	94.1110710
S3.0157	S3.0	157	0.0978230	0.7063750	5.7274410	94.2725590
S3.0158	S3.0	158	0.0867070	0.6085520	5.5677320	94.4322680
S3.0159	S3.0	159	0.0765270	0.5218450	5.4097620	94.5902380
S3.0160	S3.0	160	0.0672400	0.4453180	5.2534920	94.7465080
S3.0161	S3.0	161	0.0588040	0.3780780	5.0988860	94.9011140
S3.0162	S3.0	162	0.0511730	0.3192740	4.9459060	95.0540940
S3.0163	S3.0	163	0.0443050	0.2681010	4.7945200	95.2054800
S3.0164	S3.0	164	0.0381480	0.2237960	4.6446910	95.3553090
S3.0165	S3.0	165	0.0326620	0.1856480	4.4963870	95.5036130
S3.0166	S3.0	166	0.0277940	0.1529860	4.3495800	95.6504200
S3.0167	S3.0	167	0.0235020	0.1251920	4.2042330	95.7957670
S3.0168	S3.0	168	0.0197375	0.1016900	4.0603190	95.9396810
S3.0169	S3.0	169	0.0164582	0.0819525	3.9178100	96.0821900
S3.0170	S3.0	170	0.0136189	0.0654943	3.7766790	96.2233210
S3.0171	S3.0	171	0.0111777	0.0518754	3.6369070	96.3630930
S3.0172	S3.0	172	0.0090944	0.0406977	3.4984640	96.5015360
S3.0173	S3.0	173	0.0073307	0.0316033	3.3613300	96.6386700
S3.0174	S3.0	174	0.0058498	0.0242726	3.2254840	96.7745160
S3.0175	S3.0	175	0.0046178	0.0184228	3.0909090	96.9090910
S3.0176	S3.0	176	0.0036030	0.0138050	2.9575850	97.0424150
S3.0177	S3.0	177	0.0027755	0.0102020	2.8255000	97.1745000
S3.0178	S3.0	178	0.0021089	0.0074265	2.6946400	97.3053600
S3.0179	S3.0	179	0.0015783	0.0053176	2.5649990	97.4350010

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Iowa-type Retirement - Survival Tables

Percent Retired, Surviving, Condition, and Depreciation Reserve
as a function of Age as a Percent of Average Service Life

1	2	3	4	5	6	7
Lookup	Curve	Age %	% Ret	% Surv	% Cond	% Depr Resv
S3.0180	S3.0	180	0.0011617	0.0037393	2.4365660	97.5634340
S3.0181	S3.0	181	0.0008396	0.0025776	2.3093440	97.6906560
S3.0182	S3.0	182	0.0005946	0.0017381	2.1833410	97.8166590
S3.0183	S3.0	183	0.0004116	0.0011435	2.0585660	97.9414340
S3.0184	S3.0	184	0.0002778	0.0007319	1.9350420	98.0649580
S3.0185	S3.0	185	0.0001821	0.0004541	1.8128020	98.1871980
S3.0186	S3.0	186	0.0001156	0.0002720	1.6918880	98.3081120
S3.0187	S3.0	187	0.0000706	0.0001564	1.5723710	98.4276290
S3.0188	S3.0	188	0.0000413	0.0000858	1.4543500	98.5456500
S3.0189	S3.0	189	0.0000229	0.0000446	1.3379620	98.6620380
S3.0190	S3.0	190	0.0000119	0.0000217	1.2234140	98.7765860
S3.0191	S3.0	191	0.0000058	0.0000097	1.1110030	98.8889970
S3.0192	S3.0	192	0.0000025	0.0000040	1.0011880	98.9988120
S3.0193	S3.0	193	0.0000010	0.0000014	0.8946340	99.1053660
S3.0194	S3.0	194	0.0000003	0.0000004	0.7925260	99.2074740
S3.0195	S3.0	195	0.0000001	0.0000001	0.6968450	99.3031550
S3.0196	S3.0	196	0.0000000	0.0000000	0.6112800	99.3887200
S3.0197	S3.0	197	0.0000000	0.0000000	0.5431250	99.4568750
S3.0198	S3.0	198	0.0000000	0.0000000	0.5056800	99.4943200
S3.0199	S3.0	199	0.0000000	0.0000000	0.5000000	99.5000000
S3.0200	S3.0	200	0.0000000	0.0000000	0.0000000	100.0000000

VOLUME 11

PENNSYLVANIA-AMERICAN WATER COMPANY

2020 GENERAL BASE RATE CASE
R-2020-3019369 (WATER)
R-2020-3019371 (WASTEWATER)

EXHIBIT NO. 11-C, 11-D
DEPRECIATION STUDY

WATER OPERATIONS EXCLUDING STEELTON
AS OF DECEMBER 31, 2021, 2022

EXHIBIT NO. 11-C - DEPRECIATION STUDY

WATER OPERATIONS EXCLUDING STEELTON

AS OF DECEMBER 31, 2021

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

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

WATER OPERATIONS EXCLUDING STEELTON

2021 DEPRECIATION STUDY

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

Prepared by:

Gannett Fleming

Excellence Delivered ***As Promised***

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

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

WATER OPERATIONS EXCLUDING STEELTON

2021 DEPRECIATION STUDY

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

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

April 22, 2020

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

Attention: Ashley E. Everette
Director, Rates and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to water plant as of December 31, 2021. The results of our study at December 31, 2020 are presented in our report titled "2020 Depreciation Study - Calculated Annual Depreciation Accruals Related to Water Plant as of December 31, 2020". The same methods, procedures and estimates are used in both studies.

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

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
President

JJS:mle

066548.100

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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY

WATER OPERATIONS EXCLUDING STEELTON

DEPRECIATION STUDY

RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Tables 1 through 5 presented on pages 3 through 13 summarize the results of the depreciation study as of December 31, 2021. Table 1 sets forth the development of the net original cost by account as of December 31, 2021. Table 2 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of December 31, 2021, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 3 presents the bringforward of the book reserve to December 31, 2021. Table 4 sets forth the calculation of the depreciation accruals for the twelve months ended December 31, 2021. Table 5 presents the annual amortization of experienced and estimated net salvage based on the period 2017 through 2021.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-8. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2017 through 2021, beginning on pages III-2 through III-6.

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

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

	DEPRCIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2021	- CUSTOMER ADVANCES	- CONTRIBUTIONS IN AID OF CONSTRUCTION	- EXCLUDED PROPERTY	= NET ORIGINAL COST AS OF DECMEBER 31, 2021
	(1)	(2)	(3)	(4)	(5)	(6)
INTANGIBLE PLANT						
301.00	ORGANIZATION	766,405.12				766,405.12
302.00	FRANCHISES AND CONSENTS	2,404,599.20				2,404,599.20
303.00	MISCELLANEOUS INTANGIBLE PLANT	1,453,020.77				1,453,020.77
	TOTAL INTANGIBLE PLANT	**4,624,025.09**	**0.00**	**0.00**	**0.00**	**4,624,025.09**
NONDEPRECIABLE PLANT						
303.20	POWER AND PUMPING LAND	4,315,318.23				4,315,318.23
303.30	PURIFICATION LAND	15,412.25				15,412.25
303.40	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY	3,724,070.21		215,927.20		3,508,143.01
303.50	DISTRIBUTION RESERVOIRS AND STANDPIPE LAND	2,001,789.51				2,001,789.51
303.51	TRANSMISSION AND DISTRIBUTION - LAND	1,762,423.06				1,762,423.06
303.52	TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY	5,288,947.81				5,288,947.81
303.61	OFFICE LAND	5,260,832.58				5,260,832.58
	TOTAL NONDEPRECIABLE PLANT	**22,368,793.65**	**0.00**	**215,927.20**	**0.00**	**22,152,866.45**
DEPRECIABLE PLANT						
303.14	WATER RIGHTS - HIBERNIA	1,942,822.51				1,942,822.51
303.35	WASTE HANDLING AND TREATMENT LAND	155,025.17				155,025.17
303.99	COMPREHENSIVE PLANNING STUDIES	9,710,061.35				9,710,061.35
304.15	OTHER WATER SOURCE STRUCTURES	44,248,707.65				44,248,707.65
304.20	POWER AND PUMPING STRUCTURES	121,818,280.30		1,289,607.60	41,310.00	120,487,362.70
304.30	PURIFICATION BUILDINGS	289,983,841.49		169,605.01	230,375.00	289,583,861.48
304.36	WASTE HANDLING AND TREATMENT STRUCTURES	11,668,886.83				11,668,886.83
304.38	WASTE HANDLING AND TREATMENT STRUCTURES PAINTING	65,958.42				65,958.42
304.39	PURIFICATION BUILDINGS - TANK PAINTING	119,362.95				119,362.95
304.61	OFFICE BUILDINGS	44,005,306.44		60,000.00	12,834.00	43,932,472.44
304.62	STORES, SHOP AND GARAGE BUILDINGS	55,111,889.86		576.00		55,111,313.86
304.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	4,132,815.74				4,132,815.74
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	135,672,663.72		3,575.00		135,669,088.72
306.00	LAKE, RIVER AND OTHER INTAKES	18,257,338.08		41,551.00		18,215,787.08
307.00	WELLS AND SPRINGS	10,694,793.00		71,610.27		10,623,182.73
310.00	POWER GENERATION EQUIPMENT	19,954,396.50		118,273.00	26,561.00	19,809,562.50
311.20	PUMPING EQUIPMENT - ELECTRIC PUMPING EQUIPMENT	25,829,705.97		1,954,569.05	116,716.00	23,758,420.92
311.50	PUMPING EQUIPMENT - OTHER	2,389,457.83				2,389,457.83
311.52	PUMPING EQUIPMENT - SOURCE OF SUPPLY	14,212,241.21				14,212,241.21
311.53	PUMPING EQUIPMENT - WATER TREATMENT	46,865,937.19				46,865,937.19
311.54	PUMPING EQUIPMENT - TRANSMISSION AND DISTRIBUTION	6,787,710.63				6,787,710.63
320.10	PURIFICATION SYSTEM - LARGE STRUCTURES	278,019,906.37		27,162.27	627,852.00	277,364,892.10
320.18	PURIFICATION SYSTEM - LARGE STRUCTURES PAINT	103,245.73				103,245.73
320.19	PURIFICATION SYSTEM - LARGE STRUCTURES PAINT	3,522,542.77				3,522,542.77
320.20	PURIFICATION SYSTEM - CHEMICAL TREATMENT	84,745,690.42		42,367.00		84,703,323.42
320.29	PURIFICATION SYSTEM - CHEM. TREATMENT PAINT	8,167.87				8,167.87
320.30	GRANULAR ACTIVATED CARBON	8,601,165.21				8,601,165.21
320.37	WASTE HANDLING AND TREATMENT - EQUIPMENT	14,969,798.93				14,969,798.93
330.00	DISTRIBUTION RESERVOIRS AND STANDPIPES	117,655,216.74		2,905,114.51		114,750,102.23

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

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

	DEPRCIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2021	-	CUSTOMER ADVANCES	-	CONTRIBUTIONS IN AID OF CONSTRUCTION	-	EXCLUDED PROPERTY	=	NET ORIGINAL COST AS OF DECMEBER 31, 2021
	(1)	(2)		(3)		(4)		(5)		(6)
330.10	ELEVATED TANKS AND STANDPIPES	14,100,477.17								14,100,477.17
330.20	GROUND LEVEL FACILITIES	18,929,725.89								18,929,725.89
330.30	BELOW GRADE FACILITIES	818,672.56								818,672.56
330.40	CLEARWELL	12,806,094.73								12,806,094.73
330.58	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	2,211,111.35								2,211,111.35
330.59	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	34,570,376.62								34,570,376.62
331.00	MAINS AND ACCESSORIES	3,064,685,925.46		63,514,361.86		200,747,868.78		502,366.00		2,799,921,328.82
333.00	SERVICES	649,550,756.85		5,782,801.70		11,851,183.63				631,916,771.52
334.00	METERS AND METER INSTALLATIONS	207,962,808.09				1,707,754.19				206,255,053.90
335.00	FIRE HYDRANTS	127,625,861.91		71,848.81		4,768,402.44				122,785,610.66
340.10	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	7,475,864.68								7,475,864.68
340.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTERS AND PERIPHERAL EQUIPMENT	24,511,435.46								24,511,435.46
340.30	OFFICE FURNITURE AND EQUIPMENT - COMPUTER SOFTWARE	45,994,769.94								45,994,769.94
340.31	OFFICE FURNITURE AND EQUIPMENT - COMPUTER SOFTWARE - BUSINESS TRANSFORMATION	62,990,459.09								62,990,459.09
340.50	OFFICE FURNITURE AND EQUIPMENT - OTHER OFFICE EQUIPMENT	7,644.67				354.00				7,290.67
341.00	TRANSPORTATION EQUIPMENT - NOT CLASSIFIED	349.00								349.00
341.10	TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS	28,802,310.96								28,802,310.96
341.20	TRANSPORTATION EQUIPMENT - EQUIPMENT	23,205,811.64								23,205,811.64
341.30	TRANSPORTATION EQUIPMENT - AUTOS	3,874,730.49								3,874,730.49
341.40	TRANSPORTATION EQUIPMENT - OTHER	10,439,225.68								10,439,225.68
342.00	STORES EQUIPMENT	448,033.65								448,033.65
343.00	TOOLS AND WORK EQUIPMENT	32,097,198.82				61.00				32,097,137.82
344.00	LABORATORY EQUIPMENT	2,606,821.35								2,606,821.35
345.00	POWER OPERATED EQUIPMENT	2,405,805.64								2,405,805.64
346.00	COMMUNICATOIN EQUIPMENT - EQUIPMENT	3,459,420.00								3,459,420.00
346.10	COMMUNICATOIN EQUIPMENT - NON-TELEPHONE	6,770,729.39								6,770,729.39
346.19	COMMUNICATOIN EQUIPMENT - REMOTE CONTROL AND INSTRUMENTATION	2,790,901.75								2,790,901.75
346.20	COMMUNICATOIN EQUIPMENT - TELEPHONE	188,390.60								188,390.60
347.00	MISCELLANEOUS EQUIPMENT	11,608,430.21				4,085.00				11,604,345.21
348.00	OTHER TANGIBLE EQUIPMENT	793,796.73								793,796.73
	TOTAL DEPRECIABLE PLANT	5,774,986,877.26		69,369,012.37		225,763,719.75		1,558,014.00		5,478,296,131.14
	TOTAL UTILITY PLANT IN SERVICE	5,801,979,696.00		69,369,012.37		225,979,646.95		1,558,014.00		5,505,073,022.68

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AS OF DECEMBER 31, 2021

	DEPRECIABLE GROUP	SURVIVOR CURVE		NET ORIGINAL COST AS OF DECEMBER 31, 2021	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
INTANGIBLE PLANT									
301.00	ORGANIZATION	NONDEPR.		766,405.12					
302.00	FRANCHISES AND CONSENTS	NONDEPR.		2,404,599.20					
303.00	MISCELLANEOUS INTANGIBLE PLANT	NONDEPR.		1,453,020.77					
	TOTAL INTANGIBLE PLANT			**4,624,025.09**					
NONDEPRECIABLE PLANT									
303.20	POWER AND PUMPING LAND	NONDEPR.		4,315,318.23					
303.30	PURIFICATION LAND	NONDEPR.		15,412.25					
303.40	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY	NONDEPR.		3,508,143.01					
303.50	DISTRIBUTION RESERVOIRS AND STANDPIPES LAND	NONDEPR.		2,001,789.51					
303.51	TRANSMISSION AND DISTRIBUTION - LAND	NONDEPR.		1,762,423.06					
303.52	TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY	NONDEPR.		5,288,947.81					
303.61	OFFICE LAND	NONDEPR.		5,260,832.58					
	TOTAL NONDEPRECIABLE PLANT			**22,152,866.45**					
DEPRECIABLE PLANT									
303.14	WATER RIGHTS - HIBERNIA	25-SQ		1,942,822.51	1,942,823	0	0	-	-
303.35	WASTE HANDLING AND TREATMENT LAND	100-R2	*	155,025.17	150,407	4,618	4,618	2.98	1.0
303.99	COMPREHENSIVE PLANNING STUDIES	5-SQ		9,710,061.35	7,494,569	2,215,492	751,049	7.73	2.9
304.15	OTHER WATER SOURCE STRUCTURES	60-R1.5		44,248,707.65	8,283,077	35,965,631	970,351	2.19	37.1
304.20	POWER AND PUMING STRUCTURES								
	LARGE STRUCTURES	70-R2.5	*	69,567,251.92	9,280,689	60,286,563	1,787,063	2.57	33.7
	OTHER STRUCTURES	55-R3		50,920,110.78	9,270,044	41,650,067	1,298,796	2.55	32.1
	TOTAL ACCOUNT 304.2			120,487,362.70	18,550,733	101,936,630	3,085,859	2.56	33.0
304.30	PURIFICATION BUILDINGS								
	LARGE STRUCTURES	60-R2.5	*	248,267,049.87	78,898,085	169,368,965	5,619,625	2.26	30.1
	OTHER STRUCTURES	60-R3		41,316,811.61	12,978,751	28,338,061	730,378	1.77	38.8
	TOTAL ACCOUNT 304.3			289,583,861.48	91,876,836	197,707,026	6,350,003	2.19	31.1
304.36	WASTE HANDLING AND TREATMENT STRUCTURES	60-S2.5	*	11,668,886.83	6,315,009	5,353,878	309,282	2.65	17.3
304.38	WASTE HANDLING AND TREATMENT STRUCTURES PAINTING	10-SQ		65,958.42	57,775	8,183	2,338	3.54	3.5
304.39	PURIFICATION BUILDINGS - TANK PAINTING	10-SQ		119,362.95	107,705	11,658	3,331	2.79	3.5
304.61	OFFICE BUILDINGS								
	LARGE STRUCTURES	50-R1.5	*	31,024,747.89	5,523,525	25,501,224	970,539	3.13	26.3
	OTHER STRUCTURES	50-R3		12,907,724.55	3,482,369	9,425,356	295,081	2.29	31.9
	TOTAL ACCOUNT 304.61			43,932,472.44	9,005,894	34,926,580	1,265,620	2.88	27.6

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AS OF DECEMBER 31, 2021

	DEPRECIABLE GROUP	SURVIVOR CURVE		NET ORIGINAL COST AS OF DECEMBER 31, 2021	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
304.62	STORES, SHOP AND GARAGE BUILDINGS								
	LARGE STRUCTURES	55-S0.5	*	48,973,108.70	11,428,586	37,544,523	1,323,667	2.70	28.4
	OTHER STRUCTURES	45-R3		6,138,205.16	3,952,462	2,185,743	82,351	1.34	26.5
	TOTAL ACCOUNT 304.62			55,111,313.86	15,381,048	39,730,266	1,406,018	2.55	28.3
304.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	35-S0.5		4,132,815.74	2,198,599	1,934,217	86,804	2.10	22.3
	TOTAL ACCOUNT 304			569,350,742.07	151,776,676	417,574,069	13,479,606	2.37	31.0
305.00	COLLECTING AND IMPOUNDING RESERVOIRS								
	LARGE RESERVOIRS	125-R2	*	128,044,777.60	18,481,585	109,563,192	1,809,335	1.41	60.6
	OTHER RESERVOIRS	75-R3		7,624,311.12	2,729,327	4,894,984	215,147	2.82	22.8
	TOTAL ACCOUNT 305			135,669,088.72	21,210,912	114,458,176	2,024,482	1.49	56.5
306.00	LAKE, RIVER AND OTHER INTAKES								
	LARGE INTAKES	55-S1	*	14,029,064.70	4,448,923	9,580,142	336,818	2.40	28.4
	OTHER INTAKES	50-S0.5		4,186,722.38	1,524,770	2,661,952	110,315	2.63	24.1
	TOTAL ACCOUNT 306			18,215,787.08	5,973,693	12,242,094	447,133	2.45	27.4
307.00	WELLS AND SPRINGS	55-S0		10,623,182.73	3,343,133	7,280,050	246,499	2.32	29.5
310.00	POWER GENERATION EQUIPMENT	43-S1		19,809,562.50	5,157,558	14,652,004	541,291	2.73	27.1
	PUMPING EQUIPMENT								
311.20	ELECTRIC	42-S0		23,758,420.92	4,483,984	19,274,437	769,961	3.24	25.0
311.50	OTHER	42-S0		2,389,457.83	559,308	1,830,150	74,670	3.12	24.5
311.52	SOURCE OF SUPPLY	42-S0		14,212,241.21	2,191,102	12,021,139	477,564	3.36	25.2
311.53	WATER TREATMENT	42-S0		46,865,937.19	18,885,547	27,980,390	1,331,345	2.84	21.0
311.54	TRANSMISSION AND DISTRIBUTION	42-S0		6,787,710.63	2,125,816	4,661,895	197,458	2.91	23.6
	TOTAL ACCOUNT 311			94,013,767.78	28,245,757	65,768,011	2,850,998	3.03	23.1
	PURIFICATION SYSTEM								
320.10	LARGE STRUCTURES								
	LARGE STRUCTURES	60-S0.5	*	255,675,564.06	73,452,571	182,222,993	7,332,914	2.87	24.9
	OTHER STRUCTURES	55-R3		21,689,328.04	3,259,936	18,429,392	451,433	2.08	40.8
	TOTAL ACCOUNT 320.1			277,364,892.10	76,712,507	200,652,385	7,784,347	2.81	25.8
320.18	LARGE STRUCTURES PAINT	10-SQ		103,245.73	103,246	0	0	-	-
320.19	LARGE STRUCTURES PAINT	10-SQ		3,522,542.77	3,513,661	8,882	2,537	0.07	3.5
320.20	CHEMICAL TREATMENT	36-R0.5		84,703,323.42	32,767,124	51,936,199	2,724,881	3.22	19.1
320.29	CHEMICAL TREATMENT PAINT	FULLY ACCRUED		8,167.87	8,168	0	0	-	-
320.30	GRANULAR ACTIVATED CARBON	7-L2		8,601,165.21	6,864,049	1,737,116	577,102	6.71	3.0
320.37	WASTE HANDLING AND TREATMENT - EQUIPMENT	30-R3		14,969,798.93	10,336,097	4,633,702	255,895	1.71	18.1
	TOTAL ACCOUNT 320			389,273,136.03	130,304,852	258,968,284	11,344,762	2.91	22.8

PENNSYLVANIA-AMERICAN WATER COMPANY
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TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AS OF DECEMBER 31, 2021

	DEPRECIABLE GROUP	SURVIVOR CURVE	NET ORIGINAL COST AS OF DECEMBER 31, 2021	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
330.00	DISTRIBUTION RESERVOIRS AND STANDPIPES	65-S0.5	114,750,102.23	37,604,850	77,145,252	2,040,752	1.78	37.8
330.10	ELEVATED TANKS AND STANDPIPES	65-S0.5	14,100,477.17	1,396,944	12,703,533	302,304	2.14	42.0
330.20	GROUND LEVEL FACILITIES	65-S0.5	18,929,725.89	1,478,786	17,450,940	411,613	2.17	42.4
330.30	BELOW GRADE FACILITIES	65-S0.5	818,672.56	134,722	683,951	16,514	2.02	41.4
330.40	CLEARWELL	65-S0.5	12,806,094.73	2,241,101	10,564,994	256,016	2.00	41.3
330.58	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	10-SQ	2,211,111.35	2,124,822	86,289	24,654	1.12	3.5
330.59	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	10-SQ	34,570,376.62	22,983,972	11,586,405	2,403,686	6.95	4.8
	TOTAL ACCOUNT 330		198,186,560.55	67,965,197	130,221,364	5,455,539	2.75	23.9
331.00	MAINS AND ACCESSORIES	110-R2	2,799,921,328.82	327,632,397	2,472,288,932	33,559,667	1.20	73.7
333.00	SERVICES	70-R2.5	631,916,771.52	153,302,150	478,614,622	10,466,170	1.66	45.7
334.00	METERS AND METER INSTALLATIONS	21-L1	206,255,053.90	85,792,067	120,462,987	10,770,670	5.22	11.2
335.00	FIRE HYDRANTS	75-R2.5	122,785,610.66	21,454,868	101,330,743	1,959,904	1.60	51.7
340.00	OFFICE FURNITURE AND EQUIPMENT							
	FURNITURE	20-SQ	7,475,864.68	1,347,541	6,128,324	386,093	5.16	15.9
	COMPUTERS AND PERIPHERAL EQUIPMENT	5-SQ	24,511,435.46	5,940,437	18,570,998	5,214,238	21.27	3.6
	COMPUTER SOFTWARE	5-SQ	45,994,769.94	21,924,860	24,069,910	8,444,686	18.36	2.9
	COMPUTER SOFTWARE - BUSINESS TRANSFORMATION	10-SQ	62,990,459.09	52,072,253	10,918,206	8,099,503	12.86	1.3
	OTHER OFFICE EQUIPMENT	10-SQ	7,290.67	1,744	5,547	740	10.15	7.5
	TOTAL ACCOUNT 340		140,979,819.84	81,286,835	59,692,985	22,145,260	15.71	2.7
341.00	TRANSPORATION EQUIPMENT							
	NOT CLASSIFIED	7-L3	349.00	349	0	0	-	-
	LIGHT DUTY TRUCKS	7-L3	28,802,310.96	17,540,380	11,261,931	2,978,791	10.34	3.8
	EQUIPMENT	7-L3	23,205,811.64	13,407,514	9,798,298	2,686,946	11.58	3.6
	AUTOS	7-L3	3,874,730.49	2,379,267	1,495,463	347,892	8.98	4.3
	OTHER	7-L3	10,439,225.68	5,565,457	4,873,769	1,261,319	12.08	3.9
	TOTAL ACCOUNT 341		66,322,427.77	38,892,967	27,429,461	7,274,948	10.97	3.8
342.00	STORES EQUIPMENT	20-SQ	448,033.65	97,064	350,970	26,762	5.97	13.1
343.00	TOOLS AND WORK EQUIPMENT	20-SQ	32,097,137.82	7,101,221	24,995,917	1,893,452	5.90	13.2
344.00	LABORATORY EQUIPMENT	20-L0.5	2,606,821.35	1,152,886	1,453,935	152,376	5.85	9.5
345.00	POWER OPERATED EQUIPMENT	19-S0.5	2,405,805.64	1,655,168	750,638	98,401	4.09	7.6
346.00	COMUNICATION EQUIPMENT							
	EQUIPMENT	15-SQ	3,459,420.00	476,123	2,983,297	226,521	6.55	13.2
	NON-TELEPHONE	15-SQ	6,770,729.39	1,148,483	5,622,246	452,423	6.68	12.4
	REMOTE CONTROL AND INSTRUMENTATION	10-SQ	2,790,901.75	1,618,957	1,171,945	256,489	9.19	4.6
	TELEPHONE	10-SQ	188,390.60	121,502	66,889	17,853	9.48	3.7
	TOTAL ACCOUNT 346		13,209,441.74	3,365,065	9,844,377	953,286	7.22	10.3

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO UTILITY PLANT AS OF DECEMBER 31, 2021

	DEPRECIABLE GROUP	SURVIVOR CURVE	NET ORIGINAL COST AS OF DECEMBER 31, 2021	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
347.00	MISCELLANEOUS EQUIPMENT	25-SQ	11,604,345.21	2,121,851	9,482,494	803,731	6.93	11.8
348.00	OTHER TANGIBLE EQUIPMENT	25-SQ	793,796.73	433,683	360,114	31,961	4.03	11.3
	TOTAL DEPRECIABLE PLANT		**5,478,296,131.14**	**1,147,853,799**	**4,330,442,337**	**127,282,565**	**2.32**	
	AMORTIZATION OF NET SALVAGE					**18,150,547**		
	TOTAL UTILITY PLANT IN SERVICE		**5,505,073,022.68**	**1,147,853,799**	**4,330,442,337**	**145,433,112**		

* Life Span Procedure was used. Curve shown is Interim Survivor Curve.

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2021, OF BOOK RESERVE AS OF DECEMBER 31, 2020

Account		BOOK RESERVE BALANCE AS OF 12/31/2020	+	PROJECTED DEPRECIATION ACCRUALS	-	PROJECTED RETIREMENTS	-	PROJECTED COST OF REMOVAL	+	PROJECTED SALVAGE	+	ACQUISITIONS	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2021
(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)
303.14		1,942,823		0										1,942,823
303.35		141,137		9,270										150,407
303.99		6,351,030		1,204,524		60,985								7,494,569
304.15		7,899,182		1,048,120		390,721		285,226		11,722				8,283,077
304.20		16,349,816		2,976,022		674,004		121,321		20,220				18,550,733
304.30		88,458,520		6,134,387		2,425,064		315,258		24,251				91,876,836
304.36		5,992,818		322,191										6,315,009
304.38		55,437		2,338										57,775
304.39		104,374		3,331										107,705
304.61		7,849,697		1,216,908		55,698		5,013						9,005,894
304.62		13,999,901		1,402,722		23,709		3,319		5,453				15,381,048
304.63		2,130,689		84,121		14,220		2,844		853				2,198,599
305.00		18,943,519		2,267,393										21,210,912
306.00		5,508,799		464,894										5,973,693
307.00		3,088,287		259,686		4,840								3,343,133
310.00		4,866,142		517,290		179,265		46,609						5,157,558
311.20		3,771,805		1,021,432		264,319		44,934						4,483,984
311.50		481,982		77,326										559,308
311.52		1,945,471		445,658		170,963		29,064						2,191,102
311.53		18,177,110		1,212,264		430,621		73,206						18,885,547
311.54		1,921,773		204,043										2,125,816
320.10		76,059,881		6,303,140		5,000,455		650,059						76,712,507
320.18		103,246		0										103,246
320.19		3,511,123		2,538										3,513,661
320.20		30,554,763		2,678,001		412,071		53,569						32,767,124
320.29		8,168		0										8,168
320.30		5,943,551		920,498										6,864,049
320.37		10,000,742		335,355										10,336,097
330.00		35,124,500		3,507,933		642,239		385,344						37,604,850
330.10		1,540,919		243,438		242,133		145,280						1,396,944
330.20		1,787,324		345,686		408,890		245,334						1,478,786
330.30		117,944		16,778										134,722

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2021, OF BOOK RESERVE AS OF DECEMBER 31, 2020

Account	BOOK RESERVE BALANCE AS OF 12/31/2020	+	PROJECTED DEPRECIATION ACCRUALS	-	PROJECTED RETIREMENTS	-	PROJECTED COST OF REMOVAL	+	PROJECTED SALVAGE	+	ACQUISITIONS	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2021
(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)
330.40	1,980,284		260,817										2,241,101
330.58	2,100,168		24,654										2,124,822
330.59	20,863,908		2,449,147		329,083								22,983,972
331.00	302,790,062		45,553,978		10,787,314		9,924,329						327,632,397
333.00	144,244,631		11,456,303		1,654,334		744,450						153,302,150
334.00	74,409,987		12,124,741		663,090		86,202		6,631				85,792,067
335.00	20,020,642		2,278,774		620,991		223,557						21,454,868
340.10	971,125		376,416										1,347,541
340.20	7,343,075		4,532,973		5,935,611								5,940,437
340.30	17,701,446		10,353,824		6,130,410								21,924,860
340.31	41,731,922		10,340,331										52,072,253
340.40	1,004		740										1,744
341.00	349		0										349
341.10	14,623,372		3,145,900		238,429		4,769		14,306				17,540,380
341.20	11,191,984		2,532,823		330,514		6,610		19,831				13,407,514
341.30	2,126,610		307,184		56,799		1,136		3,408				2,379,267
341.40	4,729,807		1,013,708		185,477		3,710		11,129				5,565,457
342.00	68,032		29,032										97,064
343.00	5,263,107		1,838,114										7,101,221
344.00	978,341		174,545										1,152,886
345.00	1,541,860		113,308										1,655,168
346.00	407,979		212,013		143,869								476,123
346.10	797,215		351,268										1,148,483
346.19	1,556,269		283,385		220,697								1,618,957
346.20	608,614		39,337		526,449								121,502
347.00	1,328,449		848,537		55,135								2,121,851
348.00	401,551		32,132										433,683
TOTAL	**1,054,514,266**		**145,901,271**		**39,278,399**		**13,401,143**		**117,804**		**0**		**1,147,853,799**

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

ACCOUNT	NET ORIGINALCOST AS OF 12/31/2020	NET ORIGINALCOST AS OF 12/31/2021	ACCRUAL RATE	AVERAGE ACCRUALS	AMORTIZATION OF NET SALVAGE	PROJECTED DEPRECIATION ACCRUALS
(1)	(2)	(3)	(4)	(5)*	(6)	(7)=(5)+(6)
303.14	1,942,822.51	1,942,822.51	0.00	(487)	487	0
303.35	155,025.17	155,025.17	5.98	9,270		9,270
303.99	8,413,546.31	9,710,061.35	13.83	1,203,911	613	1,204,524
304.15	40,603,116.18	44,248,707.65	2.14	906,382	141,738	1,048,120
304.20	110,059,548.11	120,487,362.70	2.56	2,930,331	45,691	2,976,022
304.30	266,957,000.42	289,583,861.48	2.15	5,850,996	283,391	6,134,387
304.36	11,668,886.83	11,668,886.83	2.69	313,454	8,737	322,191
304.38	65,958.42	65,958.42	3.54	2,338		2,338
304.39	119,362.95	119,362.95	2.79	3,331		3,331
304.61	43,412,787.39	43,932,472.44	2.97	1,298,373	(81,465)	1,216,908
304.62	54,890,101.85	55,111,313.86	2.58	1,418,230	(15,508)	1,402,722
304.63	4,000,139.23	4,132,815.74	2.06	83,448	673	84,121
305.00	135,669,088.72	135,669,088.72	1.47	1,996,136	271,257	2,267,393
306.00	18,215,787.08	18,215,787.08	2.51	456,818	8,076	464,894
307.00	9,898,022.81	10,623,182.73	2.34	235,405	24,281	259,686
310.00	18,136,948.65	19,809,562.50	2.71	495,783	21,507	517,290
311.20	21,292,217.56	23,758,420.92	3.28	725,917	295,515	1,021,432
311.50	2,389,457.83	2,389,457.83	3.24	77,326		77,326
311.52	12,617,080.84	14,212,241.21	3.35	445,658		445,658
311.53	42,848,060.38	46,865,937.19	2.80	1,212,264		1,212,264
311.54	6,787,710.63	6,787,710.63	3.01	204,043		204,043
320.10	225,716,944.63	277,364,892.10	2.44	5,905,753	397,387	6,303,140
320.18	103,245.73	103,245.73	0.00	0		0
320.19	3,522,542.77	3,522,542.77	0.07	2,538		2,538
320.20	80,858,527.99	84,703,323.42	3.26	2,678,001		2,678,001
320.29	8,167.87	8,167.87	0.00	0		0
320.30	8,601,165.21	8,601,165.21	9.68	832,282	88,216	920,498
320.37	14,969,798.93	14,969,798.93	1.81	271,256	64,099	335,355
330.00	106,929,232.38	114,750,102.23	1.80	1,970,376	1,537,557	3,507,933
330.10	10,930,110.10	14,100,477.17	2.06	243,438		243,438
330.20	15,192,040.47	18,929,725.89	2.09	345,686		345,686
330.30	818,672.56	818,672.56	2.05	16,778		16,778

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

ACCOUNT	NET ORIGINALCOST AS OF 12/31/2020	NET ORIGINALCOST AS OF 12/31/2021	ACCRUAL RATE	AVERAGE ACCRUALS	AMORTIZATION OF NET SALVAGE	PROJECTED DEPRECIATION ACCRUALS
(1)	(2)	(3)	(4)	(5)*	(6)	(7)=(5)+(6)
330.40	12,806,094.73	12,806,094.73	2.04	260,817		260,817
330.58	2,211,111.35	2,211,111.35	1.12	24,654		24,654
330.59	29,919,635.20	34,570,376.62	7.86	2,449,147		2,449,147
331.00	2,675,857,649.51	2,799,921,328.82	1.21	32,758,152	12,795,826	45,553,978
333.00	604,695,086.73	631,916,771.52	1.66	10,245,705	1,210,598	11,456,303
334.00	196,137,446.01	206,255,053.90	5.51	11,091,554	1,033,187	12,124,741
335.00	115,429,813.60	122,785,610.66	1.60	1,894,800	383,974	2,278,774
340.10	5,339,828.99	7,475,864.68	5.31	340,079	36,337	376,416
340.20	19,364,761.45	24,511,435.46	21.66	4,532,973		4,532,973
340.30	42,907,597.73	45,994,769.94	21.25	10,353,824		10,353,824
340.31	62,990,459.09	62,990,459.09	16.42	10,340,331		10,340,331
340.50	7,290.67	7,290.67	10.15	740		740
341.00	349.00	349.00	0.00	0		0
341.10	26,577,670.21	28,802,310.96	11.00	3,063,529	82,371	3,145,900
341.20	20,121,976.99	23,205,811.64	11.93	2,532,823		2,532,823
341.30	3,344,774.93	3,874,730.49	8.40	307,184		307,184
341.40	8,708,645.51	10,439,225.68	11.54	1,013,708		1,013,708
342.00	448,033.65	448,033.65	6.04	27,046	1,986	29,032
343.00	29,078,050.31	32,097,137.82	5.99	1,829,220	8,894	1,838,114
344.00	2,606,821.35	2,606,821.35	6.50	169,353	5,192	174,545
345.00	2,405,805.64	2,405,805.64	4.67	112,304	1,004	113,308
346.00	2,539,854.88	3,459,420.00	6.19	188,316	23,697	212,013
346.10	4,581,387.28	6,770,729.39	6.62	351,268		351,268
346.19	3,011,599.18	2,790,901.75	9.44	283,385		283,385
346.20	714,839.66	188,390.60	5.68	39,337		39,337
347.00	11,260,526.60	11,604,345.21	7.24	827,967	20,570	848,537
348.00	793,796.73	793,796.73	4.03	31,976	156	32,132
TOTAL	**5,161,654,025.49**	**5,478,296,131.14**		**127,205,227**	**18,696,044**	**145,901,271**

* Annual Accrual developed based on monthly averages.

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER OPERATIONS EXCLUDING STEELTON

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT	2017 GROSS SALVAGE	2017 COST OF REMOVAL		2018 GROSS SALVAGE	2018 COST OF REMOVAL		2019 GROSS SALVAGE	2019 COST OF REMOVAL		PROJECTED 2020 GROSS SALVAGE	PROJECTED 2020 COST OF REMOVAL		PROJECTED 2021 GROSS SALVAGE	PROJECTED 2021 COST OF REMOVAL		NET SALVAGE	SALVAGE ACCRUAL
(1)	(2)	(3)		(4)	(5)		(6)	(7)		(8)	(9)		(10)	(11)		(12)*	(13)=(12)/5
303.14					2,459.00											(2,459.00)	(492)
303.20		2,459.00			(2,459.00)											0.00	0
303.99								3,062.78								(3,062.78)	(613)
304.15		68,090.61		1,582.30	180,812.86		27,560.73	387,837.75		1,329.00	32,333.00		11,722.00	285,226.00		(912,106.19)	(182,421)
304.20		38,831.70		13,853.00	39,684.28		31,830.10	147,277.43		4,421.00	26,528.00		20,220.00	121,321.00		(303,318.31)	(60,664)
304.30		36,848.82		14,493.83	1,091,908.37		66,260.61	148,391.82		2,461.00	31,989.00		24,251.00	315,258.00		(1,516,929.57)	(303,386)
304.36					43,138.55			546.00								(43,684.55)	(8,737)
304.61		71,906.49					1,864,549.94	1,304,656.48			9,724.00			5,013.00		473,249.97	94,650
304.62		10,015.90		729.22	6,567.28		192,159.79	54,481.40		9,550.00	5,813.00		5,453.00	3,319.00		127,695.43	25,539
304.63		2,051.43			3,068.49		25,209.50	8,030.27		1,607.00	5,357.00		853.00	2,844.00		6,318.31	1,264
305.00		5,620.91						1,266,548.34								(1,272,169.25)	(254,434)
306.00		16,836.83						17,003.99								(33,840.82)	(6,768)
307.00		618.42			1,391.04			118,341.25								(120,350.71)	(24,070)
310.00		2,903.30			11,634.03			42,462.99			4,760.00			46,609.00		(108,369.32)	(21,674)
311.00	880.05	72,179.55			191,399.40		13,739.63	1,092,490.18			33,004.00			147,204.00		(1,521,657.45)	(304,331)
320.00	3.44	115,579.33		512.50	619,426.48		229.83	924,729.91			225,992.00			703,628.00		(2,588,609.95)	(517,722)
320.30		1,622.00						423,003.27								(424,625.27)	(84,925)
320.37		7,150.00			29,963.00		23.00	90,807.00								(127,897.00)	(25,579)
330.00		645,827.57		162.78	2,820,506.21			2,686,207.69			165,227.00			775,958.00		(7,093,563.69)	(1,418,713)
331.00	107,310.05	7,290,999.85		25,598.82	11,746,655.36		13,124.96	21,381,790.52			12,141,393.00			9,924,329.00		(62,339,133.90)	(12,467,827)
333.00	2,339.38	1,164,164.90		(214.01)	1,300,493.65		9,792.38	1,897,743.49			714,893.00			744,450.00		(5,809,827.29)	(1,161,965)
334.00	98,185.09	960,401.22		115,629.32	913,142.15		93,029.52	2,727,391.38		8,480.00	110,240.00		6,631.00	86,202.00		(4,475,421.82)	(895,084)
335.00	248.83	227,143.79		2,311.49	309,652.61		4,063.03	908,970.88			204,109.00			223,557.00		(1,866,809.93)	(373,362)
340.00		6,364.74		8,779.58	30,861.14		10,745.87	122,477.36								(140,177.79)	(28,036)
341.00		1,430.78		205,163.90	148,702.02		261,902.01	761,298.60		50,503.00	16,835.00		48,674.00	16,225.00		(378,248.49)	(75,650)
342.00					245.80			9,682.12								(9,927.92)	(1,986)
343.00		8,345.37			7,924.48		48,579.17	57,836.24								(25,526.92)	(5,105)
344.00		1,202.11			4,823.99			14,919.23								(20,945.33)	(4,189)
345.00		98.42			860.13		12,288.18	15,876.66								(4,547.03)	(909)
346.00		646.24		132.58	30,002.27			87,193.50								(117,709.43)	(23,542)
347.00		12,915.37			20,027.66		8,306.50	73,665.55								(98,302.08)	(19,660)
348.00					(29.21)			808.08								(778.87)	(156)
TOTAL	208,966.84	10,772,254.65		388,735.31	19,552,862.04		2,683,394.75	36,775,532.16		78,351.00	13,728,197.00		117,804.00	13,401,143.00		(90,752,736.95)	(18,150,547)

ummation of Columns (2) through (11).

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

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

2022 DEPRECIATION STUDY

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

Prepared by:

Gannett Fleming

Excellence Delivered ***As Promised***

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

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

2022 DEPRECIATION STUDY

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

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

April 22, 2020

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

Attention Ashley E. Everette
Director, Rates & Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of December 31, 2022. The results of our study at December 31, 2020 are presented in our report titled "2020 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2020". The same methods, procedures and estimates are used in both studies.

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

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
President

JJS:mle

066548.100

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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY

WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

SUMMARY OF RESULTS

Tables 1 through 5 presented on pages I-3 through I-7 summarize the results of the depreciation study as of December 31, 2022. Table 1 sets forth the development of the net original cost by account as of December 31, 2022. Table 2 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of December 31, 2022, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 3 presents the bringforward of the book reserve to December 31, 2022. Table 4 sets forth the calculation of the depreciation accruals for the twelve months ended December 31, 2022. Table 5 presents the annual amortization of experienced and estimated net salvage based on the period 2018 through 2022.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-7. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2018 through 2022, beginning on pages III-2 through III-4.

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

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

DEPRCIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2022	- CUSTOMER ADVANCES	- CONTRIBUTIONS IN AID OF CONSTRUCTION	- EXCLUDED PROPERTY	= NET ORIGINAL COST AS OF DECMEBER 31, 2022
(1)	(2)	(3)	(4)	(5)	(6)
DEPRECIABLE PLANT					
354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION	1,372,711.27				1,372,711.27
354.30 STRUCTURES AND IMPROVEMENTS - SPP	17,988,212.97		2,734,528.70		15,253,684.27
354.40 STRUCTURES AND IMPROVEMENTS - TDP	55,042,602.26		1,853,012.73		53,189,589.53
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL	3,153,826.87				3,153,826.87
355.00 POWER GENERATION EQUIPMENT	4,180,589.06		144,517.16		4,036,071.90
360.10 COLLECTION SEWERS - FORCE MAINS	50,575,251.29	157,753.14	11,251,126.61		39,166,371.54
361.10 COLLECTION SEWERS - GRAVITY MAINS	120,095,333.20	133,423.53	13,295,536.11		106,666,373.56
361.20 MANHOLES	17,657,269.96		4,387,312.76		13,269,957.20
363.00 SERVICES	24,656,795.81	70,197.45	3,753,803.46		20,832,794.90
364.00 FLOW MEASURING DEVICES	371,151.65		14,726.81		356,424.84
365.00 FLOW MEASURING INSTALLATIONS	14,938.00				14,938.00
370.00 RECEIVING WELLS	143,419.77				143,419.77
371.00 PUMPING EQUIPMENT	13,374,027.20		66,626.22		13,307,400.98
380.00 TREATMENT EQUIPMENT	67,907,787.21		2,200,080.47		65,707,706.74
381.00 PLANT SEWERS	6,212,540.44		30,192.33		6,182,348.11
382.00 OUTFALL SEWER LINES	604,388.91				604,388.91
389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	582,205.16				582,205.16
389.60 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	1,707,500.00				1,707,500.00
390.00 OFFICE FURNITURE AND EQUIPMENT	168,706.08				168,706.08
391.00 TRANSPORTATION EQUIPMENT	3,034,840.81				3,034,840.81
392.00 STORES EQUIPMENT	107,351.44				107,351.44
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	1,505,097.79				1,505,097.79
394.00 LABORATORY EQUIPMENT	729,305.71				729,305.71
395.00 POWER OPERATED EQUIPMENT	917,645.43		10,000.00		907,645.43
396.00 COMMUNICATION EQUIPMENT	1,744,213.66				1,744,213.66
397.00 MISCELLANEOUS EQUIPMENT	661,593.59		29,000.00		632,593.59
398.00 OTHER TANGIBLE PLANT	14,231.50				14,231.50
TOTAL DEPRECIABLE PLANT	**394,523,537.04**	**361,374.12**	**39,770,463.36**	**0.00**	**354,391,699.56**
NONDEPRECIABLE PLANT					
352.10 FRANCHISES	221,139.78				221,139.78
353.20 LAND AND LAND RIGHTS - COLLECTION	1,093,483.20				1,093,483.20
353.30 LAND AND LAND RIGHTS - SPP	85,560.07				85,560.07
353.40 LAND AND LAND RIGHTS - TDP	1,717,020.09		125,000.00		1,592,020.09
TOTAL NONDEPRECIABLE PLANT	**3,117,203.14**	**0.00**	**125,000.00**	**0.00**	**2,992,203.14**
TOTAL UTILITY PLANT	**397,640,740.18**	**361,374.12**	**39,895,463.36**	**0.00**	**357,383,902.70**

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

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

	DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2022	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
	DEPRECIABLE PLANT							
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	45-R3	1,372,711.27	97,323	1,275,388	38,320	2.79	33.3
354.30	STRUCTURES AND IMPROVEMENTS - SPP	55-S0	15,253,684.27	5,449,788	9,803,896	300,957	1.97	32.6
354.40	STRUCTURES AND IMPROVEMENTS - TDP	55-S0	53,189,589.53	13,447,768	39,741,821	1,254,377	2.36	31.7
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	35-S1	3,153,826.87	1,687,584	1,466,242	63,310	2.01	23.2
355.00	POWER GENERATION EQUIPMENT	35-S0.5	4,036,071.90	2,807,978	1,228,094	63,471	1.57	19.3
360.10	COLLECTION SEWERS - FORCE MAINS	75-R3	39,166,371.54	3,526,886	35,639,485	678,631	1.73	52.5
361.10	COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	106,666,373.56	13,972,547	92,693,827	1,691,826	1.59	54.8
361.20	MANHOLES	50-S2.5	13,269,957.20	2,036,681	11,233,276	348,535	2.63	32.2
363.00	SERVICES	47-R3	20,832,794.90	4,780,861	16,051,934	531,451	2.55	30.2
364.00	FLOW MEASURING DEVICES	15-L2.5	356,424.84	170,648	185,777	36,426	10.22	5.1
365.00	FLOW MEASURING INSTALLATIONS	25-S2	14,938.00	2,513	12,425	1,154	7.73	10.8
370.00	RECEIVING WELLS	50-R3	143,419.77	34,923	108,497	3,219	2.24	33.7
371.00	PUMPING EQUIPMENT	30-S0.5	13,307,400.98	2,331,656	10,975,745	602,548	4.53	18.2
380.00	TREATMENT EQUIPMENT	35-S1.5	65,707,706.74	18,480,154	47,227,552	2,355,132	3.58	20.1
381.00	PLANT SEWERS	50-R3	6,182,348.11	1,591,522	4,590,827	140,418	2.27	32.7
382.00	OUTFALL SEWER LINES	50-R3	604,388.91	244,690	359,698	12,727	2.11	28.3
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	20-S2.5	582,205.16	231,563	350,642	31,102	5.34	11.3
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	5-SQ	1,707,500.00	457,989	1,249,511	357,607	20.94	3.5
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	168,706.08	37,591	131,115	13,043	7.73	10.1
391.00	TRANSPORTATION EQUIPMENT	14-L4	3,034,840.81	718,213	2,316,627	235,403	7.76	9.8
392.00	STORES EQUIPMENT	25-SQ	107,351.44	33,748	73,604	4,273	3.98	17.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	1,505,097.79	299,112	1,205,986	78,428	5.21	15.4
394.00	LABORATORY EQUIPMENT	15-SQ	729,305.71	275,058	454,248	43,556	5.97	10.4
395.00	POWER OPERATED EQUIPMENT	22-R2	907,645.43	389,500	518,146	39,364	4.34	13.2
396.00	COMMUNICATION EQUIPMENT	15-SQ	1,744,213.66	998,400	745,814	107,830	6.18	6.9
397.00	MISCELLANEOUS EQUIPMENT	15-SQ	632,593.59	205,091	427,503	33,372	5.28	12.8
398.00	OTHER TANGIBLE PLANT	25-SQ	14,231.50	2,461	11,771	547	3.84	21.5
	TOTAL DEPRECIABLE PLANT		**354,391,699.56**	**74,312,248**	**280,079,451**	**9,067,027**	**2.56**	**30.9**
	NONDEPRECIABLE PLANT							
352.10	FRANCHISES		221,139.78					
353.20	LAND AND LAND RIGHTS - COLLECTION		1,093,483.20					
353.30	LAND AND LAND RIGHTS - SPP		85,560.07					
353.40	LAND AND LAND RIGHTS - TDP		1,592,020.09					
	TOTAL NONDEPRECIABLE PLANT		**2,992,203.14**					
	AMORTIZATION OF NET SALVAGE					897,190		
	TOTAL UTILITY PLANT		**357,383,902.70**	**74,312,248**	**280,079,451**	**9,964,217**		

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

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

ACCOUNT	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2021	+	PROJECTED DEPRECIATION ACCRUALS	-	PROJECTED RETIREMENTS	-	PROJECTED COST OF REMOVAL	+	PROJECTED SALVAGE	+	ACQUISITIONS	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2022
(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)
354.20	49,219		63,092		1,401		13,587						97,323
354.30	5,144,884		325,647		18,356		2,386						5,449,788
354.40	12,232,042		1,272,456		56,167		562						13,447,768
354.70	1,613,097		88,037		3,218		10,331						1,687,584
355.00	2,739,150		68,828										2,807,978
360.10	2,894,314		759,287		62,421		64,294						3,526,886
361.10	12,678,919		1,999,555		480,223		225,705						13,972,547
361.20	1,778,786		417,490		22,832		137,220		457				2,036,681
363.00	4,422,337		604,967		122,608		123,835						4,780,861
364.00	127,900		42,748										170,648
365.00	1,315		1,198										2,513
370.00	31,682		3,241										34,923
371.00	1,690,669		652,922		9,472		2,463						2,331,656
380.00	16,084,154		2,433,983		33,913		4,070						18,480,154
381.00	1,449,946		141,576										1,591,522
382.00	231,500		13,190										244,690
389.10	199,257		32,306										231,563
389.60	106,944		351,045										457,989
390.00	24,328		13,263										37,591
391.00	533,900		218,897		29,813		4,770						718,213
392.00	29,475		4,273										33,748
393.00	227,278		71,834										299,112
394.00	233,029		42,973		859		86						275,058
395.00	361,954		35,148		7,453		149						389,500
396.00	887,391		113,680		2,450		221						998,400
397.00	176,585		28,506										205,090
398.00	1,652		809										2,461
TOTAL	65,951,706		9,800,949		851,187		589,676		457		0		74,312,248

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

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

ACCOUNT	NET ORIGINAL COST AS OF 12/31/2021	NET ORIGINAL COST AS OF 12/31/2022	ACCRUAL RATE	DEPRECIATION ACCRUALS	AMORTIZATION OF NET SALVAGE	PROJECTED DEPRECIATION ACCRUALS
(1)	(2)	(3)	(4)	(5)*	(6)	(7)=(5)+(6)
354.20	1,350,155.77	1,372,711.27	2.84	38,574	24,518	63,092
354.30	14,958,113.65	15,253,684.27	2.01	302,788	22,859	325,647
354.40	52,285,165.25	53,189,589.53	2.41	1,267,886	4,570	1,272,456
354.70	3,102,005.24	3,153,826.87	2.01	62,724	25,313	88,037
355.00	4,036,071.90	4,036,071.90	1.63	65,788	3,040	68,828
360.10	38,161,242.14	39,166,371.54	1.75	673,706	85,581	759,287
361.10	99,296,640.99	106,666,373.56	1.60	1,633,382	366,173	1,999,555
361.20	12,812,001.40	13,269,957.20	2.63	342,146	75,344	417,490
363.00	18,663,546.11	20,832,794.90	2.55	500,757	104,210	604,967
364.00	356,424.84	356,424.84	11.98	42,700	48	42,748
365.00	14,938.00	14,938.00	8.02	1,198		1,198
370.00	143,419.77	143,419.77	2.26	3,241		3,241
371.00	13,154,873.34	13,307,400.98	4.71	619,894	33,028	652,922
380.00	64,581,620.12	65,707,706.74	3.67	2,371,867	62,116	2,433,983
381.00	6,182,348.11	6,182,348.11	2.29	141,576		141,576
382.00	604,388.91	604,388.91	2.13	12,873	317	13,190
389.10	582,205.16	582,205.16	5.48	31,905	401	32,306
389.60	1,655,000.00	1,707,500.00	20.97	351,045		351,045
390.00	168,706.08	168,706.08	7.76	13,092	171	13,263
391.00	2,554,774.18	3,034,840.81	7.83	213,813	5,084	218,897
392.00	107,351.44	107,351.44	3.98	4,273		4,273
393.00	1,199,614.28	1,505,097.79	5.29	71,382	452	71,834
394.00	628,336.51	729,305.71	6.14	41,616	1,357	42,973
395.00	787,628.77	907,645.43	4.17	34,678	470	35,148
396.00	1,669,700.06	1,744,213.66	6.33	107,931	5,749	113,680
397.00	496,492.71	632,593.59	4.84	26,200	2,306	28,506
398.00	14,231.50	14,231.50	3.93	559	250	809
TOTAL	339,566,996.23	354,391,699.56		8,977,592	823,357	9,800,949

* Total accruals shown are based on average monthly balances.

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER SSS OPERATIONS EXCLUDING SADSBURY AND EXETER

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT	2018			2019			PROJECTED 2020			PROJECTED 2021			PROJECTED 2022				
	GROSS SALVAGE	-	COST OF REMOVAL	+	GROSS SALVAGE	-	COST OF REMOVAL	+	GROSS SALVAGE	-	COST OF REMOVAL	+	GROSS SALVAGE	-	COST OF REMOVAL	=	NET SALVAGE	SALVAGE ACCRUAL
(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)		(11)		(12)*	(13)=(12)/5
354.20			2,367				27,531				29,175				63,211				13,587		(135,871)	(27,174)
354.30			87				61,135				5,124				11,101				2,386		(79,833)	(15,967)
354.40			(18,539)				1,986				1,206				2,613				562		12,172	2,434
354.70			36,100				18,075				22,182				48,060				10,331		(134,747)	(26,949)
355.00			4,539				9,730														(14,269)	(2,854)
360.10			85,350				245,202				41,420				54,123				64,294		(490,390)	(98,078)
361.10			345,943				1,038,559				170,104				222,272				225,705		(2,002,583)	(400,517)
361.20							109,567		440		132,346		452		135,702		457		137,220		(513,485)	(102,697)
363.00			48,455				150,830				130,023				122,465				123,835		(575,608)	(115,122)
364.00							240														(240)	(48)
371.00			(18,885)				141,438				37,534								2,463		(162,550)	(32,510)
380.00			12,304				214,843				11,073				65,469				4,070		(307,759)	(61,552)
382.00			981																		(981)	(196)
389.10			(3,678)				5,682														(2,003)	(401)
390.00			94																		(94)	(19)
391.00			9,708				6,029				5,013				4,669				4,770		(30,189)	(6,038)
393.00							1,931														(1,931)	(386)
394.00			118				5,593				1,012								86		(6,809)	(1,362)
395.00							2,048				157				146				149		(2,500)	(500)
396.00							1,898				21,079				293				221		(23,491)	(4,698)
397.00			6,019				5,513														(11,532)	(2,306)
398.00							1,251														(1,251)	(250)
TOTAL	0		510,964		0		2,049,082		440		607,449		452		730,122		457		589,676		(4,485,944)	(897,190)

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

Pennsylvania American Water Company

Valley Township, Chester County, Pennsylvania

Water System
Appraisal Work Papers
As of December 17, 2019

PAWC General Rate Cases Depreciation Studies
Water and Wastewater 2017

AUS Consultants
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8555 West Forest Home Avenue
Greenfield, Wisconsin 53228
Office Telephone: 414-529-5755
J. Weinert's Cell: 414-698-8371
J. Weinert's E-Mail: weinertj@auswest.net

VOLUME 11

PENNSYLVANIA-AMERICAN WATER COMPANY

2017 GENERAL BASE RATE CASE

R-2017-2595853

EXHIBIT NO. 11-C - DEPRECIATION STUDY

WATER OPERATIONS AS OF

DECEMBER 31, 2018

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

PENNSYLVANIA-AMERICAN WATER COMPANY

HERSHEY, PENNSYLVANIA

2018 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WATER PLANT
AS OF DECEMBER 31, 2018

Prepared by:



Excellence Delivered As Promised

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

PENNSYLVANIA-AMERICAN WATER COMPANY

Hershey, Pennsylvania

2018 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2018

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming

*Excellence Delivered **As Promised***

April 21, 2017

Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033

Attention: Mr. John R. Cox
Manager of Rates and Regulations

Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to water plant as of December 31, 2018. The results of our study at December 31, 2013 are presented in our report titled "2017 Depreciation Study - Calculated Annual Depreciation Accruals Related to Water Plant as of December 31, 2017". The same methods, procedures and estimates are used in both studies.

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

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
Sr. Vice President

JJS:mlw

062027.100

Gannett Fleming Valuation and Rate Consultants, LLC
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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY

DEPRECIATION STUDY

RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Tables 1 through 5 presented on pages 3 through 10 summarize the results of the depreciation study as of December 31, 2018. Table 1 sets forth the development of the net original cost by account as of December 31, 2018. Table 2 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of December 31, 2018, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 3 presents the bringforward of the book reserve to December 31, 2018. Table 4 sets forth the calculation of the depreciation accruals for the twelve months ended December 31, 2018. Table 5 presents the annual amortization of experienced and estimated net salvage based on the period 2014 through 2018.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2014 through 2018, beginning on pages III-2 through III-5.

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2018

	DEPRCIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2018 (2)	- CUSTOMER ADVANCES (3)	- CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	- EXCLUDED PROPERTY (5)	= NET ORIGINAL COST AS OF DECMEBER 31, 2018 (6)
INTANGIBLE PLANT						
301.00	ORGANIZATION	774,398.06				774,398.06
302.00	FRANCHISES AND CONSENTS	2,404,599.20				2,404,599.20
303.00	MISCELLANEOUS INTANGIBLE PLANT	15,569.16				15,569.16
	TOTAL INTANGIBLE PLANT	**3,194,566.42**	**0.00**	**0.00**	**0.00**	**3,194,566.42**
NONDEPRECIABLE PLANT						
303.20	POWER AND PUMPING LAND	3,576,428.03				3,576,428.03
303.30	PURIFICATION LAND	15,412.25				15,412.25
303.40	TRANS. AND DISTR. LAND AND RIGHTS OF WAY	4,578,480.03		215,927.20		4,362,552.83
303.50	DISTRIBUTION RESERVOIRS AND STANDPIPE LAND	2,389,882.77				2,389,882.77
303.51	TRANSMISSION AND DISTRIBUTION - LAND	1,762,423.06				1,762,423.06
303.52	TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY	5,288,947.81				5,288,947.81
303.61	OFFICE LAND	3,918,022.99				3,918,022.99
	TOTAL NONDEPRECIABLE PLANT	**21,529,596.94**	**0.00**	**215,927.20**	**0.00**	**21,313,669.74**
DEPRECIABLE PLANT						
303.14	WATER RIGHTS - HIBERNIA	1,942,822.51				1,942,822.51
303.35	WASTE HANDLING AND TREATMENT LAND	155,025.17				155,025.17
303.99	COMPREHENSIVE PLANNING STUDIES	9,920,726.11				9,920,726.11
304.15	OTHER WATER SOURCE STRUCTURES	34,442,969.90				34,442,969.90
304.20	POWER AND PUMPING STRUCTURES	107,320,207.30		1,289,607.60	41,310.00	105,989,289.70
304.30	PURIFICATION BUILDINGS	274,724,337.33		169,605.01	230,375.00	274,324,357.32
304.36	WASTE HANDLING AND TREATMENT STRUCTURE	11,733,221.74				11,733,221.74
304.38	WASTE HANDLING & TREATMENT STRUCTURE PAINTING	65,958.42				65,958.42
304.39	PURIFICATION BUILDINGS - TANK PAINTING	134,806.79				134,806.79
304.61	OFFICE BUILDINGS	40,019,986.62		60,000.00	12,834.00	39,947,152.62
304.62	STORES, SHOP AND GARAGE BUILDINGS	55,222,287.14		576.00		55,221,711.14
304.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	4,933,374.39				4,933,374.39
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	134,357,766.90		3,575.00		134,354,191.90
306.00	LAKE, RIVER AND OTHER INTAKES	20,005,870.35		41,551.00		19,964,319.35
307.00	WELLS AND SPRINGS	11,241,893.43		71,610.27		11,170,283.16
310.00	OTHER POWER PRODUCTION EQUIPMENT	18,152,052.81		118,273.00	26,561.00	18,007,218.81
311.20	ELECTRIC PUMPING EQUIPMENT	21,282,287.19		1,954,569.05	116,716.00	19,211,002.14
311.50	OTHER	1,634,152.00				1,634,152.00
311.52	SOURCE OF SUPPLY	8,509,617.14				8,509,617.14
311.53	WATER TREATMENT	47,732,222.90				47,732,222.90
311.54	TRANSMISSION AND DISTRIBUTION	8,693,988.14				8,693,988.14

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2018

	DEPRCIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2018	- CUSTOMER ADVANCES	- CONTRIBUTIONS IN AID OF CONSTRUCTION	- EXCLUDED PROPERTY	= NET ORIGINAL COST AS OF DECMEBER 31, 2018
	(1)	(2)	(3)	(4)	(5)	(6)
320.10	PURIFICATION SYSTEM - LARGE STRUCTURES	203,017,958.78		27,162.27	627,852.00	202,362,944.51
320.18	PURIFICATION SYSTEM - LARGE STRUCTURES PAINT	103,245.73				103,245.73
320.19	PURIFICATION SYSTEM - LARGE STRUCTURES PAINT	3,770,702.48				3,770,702.48
320.20	PURIFICATION SYSTEM - CHEMICAL TREATMENT	83,453,443.30		42,367.00		83,411,076.30
320.29	PURIFICATION SYSTEM - CHEM. TREATMENT PAINT	8,167.87				8,167.87
320.30	GRANULAR ACTIVATED CARBON	8,693,834.87				8,693,834.87
320.37	WASTE HANDLING & TREATMENT - EQUIPMENT	16,075,077.23				16,075,077.23
330.00	DISTRIBUTION RESERVOIRS AND STANDPIPES	101,037,841.09		2,905,114.51		98,132,726.58
330.10	ELEVATED TANKS AND STANDPIPES	17,636,401.77				17,636,401.77
330.20	GROUND LEVEL FACILITIES	22,144,158.48				22,144,158.48
330.30	BELOW GRADE FACILITIES	818,744.06				818,744.06
330.40	CLEARWELL	14,179,641.14				14,179,641.14
330.58	DISTR. RESERVOIRS AND STANDPIPES - PAINTING	2,375,281.44				2,375,281.44
330.59	DISTR. RESERVOIRS AND STANDPIPES - PAINTING	36,418,707.41				36,418,707.41
331.00	MAINS AND ACCESSORIES	2,676,234,771.44	81,810,993.14	178,351,203.78	502,366.00	2,415,570,208.52
333.00	SERVICES	578,601,077.41	1,753,981.88	9,002,408.46		567,844,687.07
334.00	METERS	203,441,435.13	305,369.35	1,653,080.42		201,482,985.36
335.00	FIRE HYDRANTS	107,503,420.52		4,275,268.25		103,228,152.27
340.10	OFFICE FURNITURE	19,179,166.67				19,179,166.67
340.20	COMPUTERS AND PERIPHERAL EQUIPMENT	18,458,835.00		354.00		18,458,481.00
340.30	COMPUTER SOFTWARE - 5 YEAR	36,694,738.71				36,694,738.71
340.31	COMPUTER SOFTWARE - 10 YEAR	62,548,894.51				62,548,894.51
341.00	NOT CLASSIFIED	16,002.14				16,002.14
341.10	LIGHT DUTY TRUCKS	18,911,227.50				18,911,227.50
341.20	EQUIPMENT	14,430,392.96				14,430,392.96
341.30	AUTOS	4,883,332.68				4,883,332.68
341.40	OTHER	5,895,986.16				5,895,986.16
342.00	STORES EQUIPMENT	400,072.70				400,072.70
343.00	TOOLS AND WORK EQUIPMENT	26,095,362.58		61.00		26,095,301.58
344.00	LABORATORY EQUIPMENT	3,323,028.15				3,323,028.15
345.00	POWER OPERATED EQUIPMENT	2,571,357.61				2,571,357.61
346.00	EQUIPMENT	2,585,584.40				2,585,584.40
346.10	NON-TELEPHONE	918,926.11				918,926.11
346.19	REMOTE CONTROL AND INSTRUMENTATION	6,460,864.86				6,460,864.86
346.20	TELEPHONE	831,870.50				831,870.50
347.00	MISCELLANEOUS EQUIPMENT	17,035,118.69		4,085.00		17,031,033.69
348.00	OTHER TANGIBLE EQUIPMENT	735,410.29				735,410.29
	TOTAL DEPRECIABLE PLANT	**5,129,715,656.65**	**83,870,344.37**	**199,970,471.62**	**1,558,014.00**	**4,844,316,826.66**
	TOTAL WATER PLANT IN SERVICE	**5,154,439,820.01**	**83,870,344.37**	**200,186,398.82**	**1,558,014.00**	**4,868,825,062.82**

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2018

	DEPRECIABLE GROUP (1)		SURVIVOR CURVE (2)		NET ORIGINAL COST AS OF DECEMBER 31, 2018 (3)	BOOK RESERVE (4)	FUTURE ACCRUALS (5)	ANNUAL ACCRUAL AMOUNT (6)	ANNUAL ACCRUAL RATE, PERCENT (7)	COMPOSITE REMAINING LIFE (8)
INTANGIBLE PLANT										
301.00	ORGANIZATION		NONDEPR.		774,398.06					
302.00	FRANCHISES AND CONSENTS		NONDEPR.		2,404,599.20					
303.00	MISCELLANEOUS INTANGIBLE PLANT		NONDEPR.		15,569.16					
	TOTAL INTANGIBLE PLANT				**3,194,566.42**					
NONDEPRECIABLE PLANT										
303.20	POWER AND PUMPING LAND		NONDEPR.		3,576,428.03					
303.30	PURIFICATION LAND		NONDEPR.		15,412.25					
303.40	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY		NONDEPR.		4,362,552.83					
303.50	DISTRIBUTION RESERVOIRS AND STANDPIPES LAND		NONDEPR.		2,389,882.77					
303.51	TRANSMISSION AND DISTRIBUTION - LAND		NONDEPR		1,762,423.06					
303.52	TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY		NONDEPR.		5,288,947.81					
303.61	OFFICE LAND		NONDEPR		3,918,022.99					
	TOTAL NONDEPRECIABLE PLANT				**21,313,689.74**					
DEPRECIABLE PLANT										
303.14	WATER RIGHTS - HIBERNIA		25-SQ	*	1,942,822.51	1,763,172	179,651	119,767	6.16	1.5
303.35	WASTE HANDLING AND TREATMENT LAND		100-R2		155,025.17	155,025	0	0	-	-
303.99	COMPREHENSIVE PLANNING STUDIES		5-SQ		9,920,726.11	6,716,899	3,203,827	1,251,002	12.61	2.6
304.15	OTHER WATER SOURCE STRUCTURES		60-R3		34,442,969.90	7,573,274	26,869,696	624,862	1.81	43.0
304.20	POWER AND PUMING STRUCTURES									
	LARGE STRUCTURES		70-R2.5	*	64,671,856.38	7,894,471	56,777,385	1,515,893	2.34	37.5
	OTHER STRUCTURES		55-R3		41,317,433.32	9,408,085	31,909,348	1,013,195	2.45	31.5
	TOTAL ACCOUNT 304.2				105,989,289.70	17,302,556	88,686,733	2,529,088	2.39	35.1
304.30	PURIFICATION BUILDINGS									
	LARGE STRUCTURES		60-R2.5	*	221,661,139.93	71,976,298	149,684,840	4,739,588	2.14	31.6
	OTHER STRUCTURES		55-R3		52,663,217.39	17,798,107	34,865,110	965,350	1.83	36.1
	TOTAL ACCOUNT 304.3				274,324,357.32	89,774,405	184,549,950	5,704,938	2.08	32.3
304.36	WASTE HANDLING AND TREATMENT STRUCTURES		60-R2.5	*	11,733,221.74	5,437,209	6,296,013	317,692	2.71	19.8
304.38	WASTE HANDLING AND TREATMENT STRUCTURES PAINTING		10-SQ		65,958.42	53,322	12,636	1,944	2.95	6.5
304.39	PURIFICATION BUILDINGS - TANK PAINTING		10-SQ		134,806.79	118,388	16,419	2,526	1.87	6.5
304.61	OFFICE BUILDINGS									
	LARGE STRUCTURES		50-R1.5	*	33,043,308.29	2,227,308	30,816,000	1,588,814	4.81	19.4
	OTHER OTHER STRUCTURES		45-R3		6,903,844.33	1,760,585	5,143,259	252,918	3.66	20.3
	TOTAL ACCOUNT 304.61				39,947,152.62	3,987,893	35,959,259	1,841,732	4.61	19.5
304.62	STORES, SHOP AND GARAGE BUILDINGS									
	LARGE STRUCTURES		75-R2	*	46,534,320.53	5,760,761	40,773,559	1,216,856	2.61	33.5
	OTHER OTHER STRUCTURES		45-R3		8,687,390.61	2,972,865	5,714,526	197,657	2.28	28.9
	TOTAL ACCOUNT 304.62				55,221,711.14	8,733,626	46,488,085	1,414,513	2.56	32.9

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2018

	DEPRECIABLE GROUP	SURVIVOR CURVE	NET ORIGINAL COST AS OF DECEMBER 31, 2018	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
304.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	50-R2.5	4,933,374.39	688,106	4,245,268	118,887	2.41	35.7
	TOTAL ACCOUNT 304		526,792,842.02	133,668,779	393,124,059	12,556,182	2.38	31.3
305.00	COLLECTING AND IMPOUNDING RESERVOIRS							
	LARGE RESERVOIRS	125-R2.5 *	127,795,628.42	12,895,938	114,899,691	1,855,378	1.45	61.9
	OTHER RESERVOIRS	75-R3	6,558,563.48	1,994,257	4,564,306	211,899	3.23	21.5
	TOTAL ACCOUNT 305		134,354,191.90	14,890,195	119,463,997	2,067,277	1.54	57.8
306.00	LAKE, RIVER AND OTHER INTAKES							
	LARGE RESERVOIRS	65-S1.5 *	14,550,654.76	4,232,561	10,318,093	281,627	1.94	36.6
	OTHER RESERVOIRS	60-S1	5,413,664.59	1,518,542	3,895,123	114,947	2.12	33.9
	TOTAL ACCOUNT 306		19,964,319.35	5,751,103	14,213,216	396,574	1.99	35.8
307.00	WELLS AND SPRINGS	55-R2	11,170,283.16	4,335,267	6,835,016	214,258	1.92	31.9
310.00	POWER GENERATION EQUIPMENT	40-R2.5	18,007,218.81	4,138,472	13,868,747	507,133	2.82	27.3
	PUMPING EQUIPMENT							
311.20	ELECTRIC PUMPING EQUIPMENT	50-R1	19,211,002.14	2,866,110	16,344,892	607,142	3.16	26.9
311.50	OTHER	50-R1	1,634,152.00	442,578	1,191,574	38,877	2.38	30.6
311.52	SOURCE OF SUPPLY	50-R1	8,509,617.14	1,490,308	7,019,309	230,180	2.70	30.5
311.53	WATER TREATMENT	50-R1	47,732,222.90	24,443,262	23,288,961	844,364	1.77	27.6
311.54	TRANSMISSION AND DISTRIBUTION	50-R1	8,693,988.14	2,116,640	6,577,348	228,997	2.63	28.7
	TOTAL ACCOUNT 311		85,780,982.32	31,358,898	54,422,084	1,949,560	2.27	27.9
	PURIFICATION SYSTEM							
320.10	PURIFICATION STRUCTURES							
	LARGE STRUCTURES	70-R2 *	184,705,299.72	68,522,614	116,182,684	3,855,315	2.09	30.1
	OTHER OTHER STRUCTURES	55-R3	17,657,644.79	6,494,933	11,162,712	326,633	1.85	34.2
	TOTAL ACCOUNT 320.1		202,362,944.51	75,017,547	127,345,396	4,181,948	2.07	30.5
320.18	LARGE STRUCTURES PAINT	10-SQ	103,245.73	103,246	0	0	-	-
320.19	LARGE STRUCTURES PAINT	10-SQ	3,770,702.48	3,730,550	40,152	6,177	0.16	6.5
320.20	CHEMICAL TREATMENT	32-R1	83,411,076.30	32,322,374	51,088,702	3,007,085	3.61	17.0
320.29	CHEMICAL TREATMENT PAINT	FULLY ACCRUED	8,167.87	8,168	0	0	-	-
	TOTAL PURIFICATION SYSTEM		289,656,136.89	111,181,885	178,474,250	7,195,210	2.48	24.8
320.30	GRANULAR ACTIVATED CARBON	6-L2.5	8,693,834.87	7,889,111	804,724	352,710	4.06	2.3
320.37	WASTE HANDLING AND TREATMENT - EQUIPMENT	25-R3	16,075,077.23	10,177,065	5,898,012	454,920	2.83	13.0
	TOTAL ACCOUNT 320		314,425,048.99	129,248,061	185,176,986	8,002,840	2.55	23.1
330.00	DISTRIBUTION RESERVOIRS AND STANDPIPES	65-R2	98,132,726.58	33,734,636	64,398,091	1,654,187	1.69	38.9
330.10	ELEVATED TANKS AND STANDPIPES	65-R2	17,636,401.77	1,995,151	15,641,251	351,909	2.00	44.4
330.20	GROUND LEVEL FACILITIES	65-R2	22,144,158.48	1,625,703	20,518,455	461,150	2.08	44.5
330.30	BELOW GRADE FACILITIES	65-R2	818,744.06	94,397	724,347	15,980	1.95	45.3
330.40	CLEARWELL	65-R2	14,179,641.14	1,641,824	12,537,817	277,639	1.96	45.2
330.58	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	10-SQ	2,375,281.44	2,271,982	103,319	15,895	0.67	6.5
330.59	DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	10-SQ	35,418,707.41	23,152,151	13,266,556	1,947,156	5.35	6.8
	TOTAL ACCOUNT 330		191,705,660.88	64,515,824	127,189,836	4,723,916	2.46	26.9

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2018

	DEPRECIABLE GROUP	SURVIVOR CURVE	NET ORIGINAL COST AS OF DECEMBER 31, 2018	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE, PERCENT	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
331.00	MAINS AND ACCESSORIES	110-R2	2,415,570,208.52	334,433,465	2,081,136,744	28,333,986	1.17	73.5
333.00	SERVICES	70-R2	567,844,687.07	138,762,554	429,082,133	9,665,934	1.70	44.4
334.00	METERS AND METER INSTALLATIONS	19-L1.5	201,482,985.36	86,722,828	114,760,157	11,361,534	5.64	10.1
335.00	FIRE HYDRANTS	72-R2	103,228,152.27	21,864,870	81,363,282	1,738,263	1.68	46.8
340.00	OFFICE FURNITURE AND EQUIPMENT							
	FURNITURE	20-SQ	19,179,166.67	10,246,557	8,932,610	1,167,381	6.09	7.7
	COMPUTERS AND PERIPHERAL EQUIPMENT	5-SQ	18,458,481.00	10,236,065	8,222,416	4,056,320	21.98	2.0
	COMPUTER SOFTWARE - 5 YEAR	5-SQ	36,694,738.71	11,923,801	24,770,938	7,550,771	20.58	3.3
	COMPUTER SOFTWARE - 10 YEAR	10-SQ	62,548,894.51	33,663,138	28,885,757	7,061,454	11.27	4.1
	TOTAL ACCOUNT 340		136,881,280.89	66,069,561	70,811,721	19,825,926	14.48	3.6
341.00	TRANSPORATION EQUIPMENT							
	NOT CLASSIFIED	6-L3	16,002.14	16,002	0	0	-	-
	LIGHT DUTY TRUCKS	6-L3	18,911,227.50	11,779,314	7,131,914	2,386,794	12.62	3.0
	EQUIPMENT	6-L3	14,430,392.96	8,523,832	5,906,561	1,912,723	13.25	3.1
	AUTOS	6-L3	4,883,332.68	3,523,998	1,359,335	437,513	8.96	3.1
	OTHER	6-L3	5,895,966.16	3,635,257	2,260,729	740,427	12.56	3.1
	TOTAL ACCOUNT 341		44,136,941.44	27,478,403	16,658,539	5,477,457	12.41	3.0
342.00	STORES EQUIPMENT	20-SQ	400,072.70	175,368	224,705	25,808	6.45	8.7
343.00	TOOLS AND WORK EQUIPMENT	20-SQ	26,095,301.58	6,924,992	19,170,310	1,386,538	5.31	13.8
344.00	LABORATORY EQUIPMENT	20-R0.5	3,323,028.15	1,953,912	1,369,116	149,806	4.51	9.1
345.00	POWER OPERATED EQUIPMENT	10-S2	2,571,357.61	2,356,661	214,697	54,619	2.12	3.9
346.00	COMUNICATION EQUIPMENT							
	EQUIPMENT	15-SQ	2,585,584.40	1,596,948	988,636	191,330	7.40	5.2
	NON-TELEPHONE	15-SQ	918,926.11	337,227	581,699	62,431	6.79	9.3
	REMOTE CONTROL AND INSTRUMENTATION	10-SQ	6,460,864.86	2,304,114	4,156,751	639,314	9.90	6.5
	TELEPHONE	10-SQ	831,870.50	576,271	255,600	90,692	10.90	2.8
	TOTAL ACCOUNT 346		10,797,245.87	4,814,560	5,982,686	983,767	9.11	6.1
347.00	MISCELLANEOUS EQUIPMENT	25-SQ	17,031,033.69	7,190,728	9,840,306	740,716	4.35	13.3
348.00	OTHER TANGIBLE EQUIPMENT	25-SQ	735,410.29	336,044	399,366	29,846	4.06	13.4
	TOTAL DEPRECIABLE PLANT		**4,844,316,826.66**	**1,095,625,841**	**3,748,691,181**	**111,562,709**	**2.30**	
	AMORTIZATION OF NET SALVAGE					10,118,367		
	TOTAL WATER PLANT IN SERVICE		**4,868,826,062.82**	**1,095,625,841**	**3,748,691,181**	**121,681,076**		

* Life Span Procedure was used. Curve shown is Interim Survivor Curve.

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2018, OF BOOK RESERVE AS OF DECEMBER 31, 2017

Account	BOOK RESERVE BALANCE AS OF 12/31/2017	+	PROJECTED DEPRECIATION ACCRUALS	-	PROJECTED RETIREMENTS	-	PROJECTED COST OF REMOVAL	+	PROJECTED SALVAGE	+	ACQUISITIONS AND ADJUSTMENTS	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2018
(1)	(2)		(3)		(4)		(5)		(6)		(7)		(8)
303.14	1,643,499		119,673										1,763,172
303.35	155,025		1								(1)		155,025
303.99	5,352,539		1,364,360										6,716,899
304.15	6,909,235		664,039										7,573,274
304.20	15,033,851		2,322,205		50,000		3,500						17,302,556
304.30	85,330,298		5,335,142		625,500		125,100		31,275				89,946,115
304.36	5,115,719		321,490										5,437,209
304.61	8,272,646		492,346		4,118,189		658,910						3,987,893
304.62	8,353,831		863,511		420,623		63,093						8,733,626
304.63	587,392		100,714										688,106
305.00	13,760,888		1,974,307		676,000		169,000						14,890,195
306.00	5,387,209		363,894										5,751,103
307.00	4,108,224		227,043										4,335,267
310.00	3,660,377		478,095										4,138,472
311.00	29,682,739		1,686,559		10,000		400						31,358,898
320.00	105,563,784		6,709,898		983,601		108,196						111,181,885
320.30	7,281,524		618,087		10,000		500						7,889,111
320.37	9,643,694		533,371										10,177,065
330.00	59,927,838		5,281,086		415,030		278,070						64,515,824
331.00	307,251,055		33,308,236		2,001,904		4,143,941		20,019				334,433,465
333.00	130,484,389		10,279,715		758,163		1,288,877		45,490				138,762,554
334.00	82,002,013		12,137,416		5,794,220		1,796,208		173,827				86,722,828
335.00	20,413,015		1,835,503		132,750		253,553		2,655				21,864,870
340.00	54,302,838		19,960,056		8,193,333								66,069,561
341.00	23,491,852		5,385,886		1,385,480		13,855						27,478,403
342.00	148,957		26,411										175,368
343.00	5,794,792		1,403,657		273,457								6,924,992
344.00	1,785,651		168,261										1,953,912
345.00	2,212,806		143,855										2,356,661
346.00	4,832,669		939,756		957,865								4,814,560
347.00	7,210,908		780,531		800,711								7,190,728
348.00	306,186		29,858										336,044
TOTAL	**1,016,007,443**		**115,854,962**		**27,606,826**		**8,903,203**		**273,266**		**(1)**		**1,095,625,641**

Appendix A-5.1

Appendix A-5.1

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2018

ACCOUNT (1)	NET ORIGINAL COST AS OF 12/31/2017 (2)	NET ORIGINAL COST AS OF 12/31/2018 (3)	ACCRUAL RATE (4)	AVERAGE ACCRUALS (5) **	AMORTIZATION OF NET SALVAGE (6) **	PROJECTED DEPRECIATION ACCRUALS (7)=(5)+(6)
303.14	1,942,822.51	1,942,822.51	6.16	119,678	(5)	119,673
303.35	155,025.17	155,025.17	0.00	0	1	1
303.99	9,576,726.11	9,920,726.11	13.49	1,364,360	0	1,364,360
304.15	34,442,969.90	34,442,969.90	1.83	630,306	33,733	664,039
304.20	93,905,163.70	105,989,289.70	2.43	2,294,131	28,074	2,322,205
304.30	243,136,140.53	274,525,122.53	2.04	5,060,596	274,546	5,335,142
304.36	11,733,221.74	11,733,221.74	2.74	321,490	0	321,490
304.61	17,094,819.62	39,947,152.62	2.57	463,808	28,538	492,346
304.62	32,773,506.14	55,221,711.14	2.43	827,212	36,299	863,511
304.63	3,533,821.39	4,933,374.39	2.36	84,774	15,940	100,714
305.00	104,994,473.90	134,354,191.90	1.59	1,841,311	132,996	1,974,307
306.00	17,500,498.35	19,964,319.35	2.01	362,121	1,773	363,894
307.00	11,170,283.16	11,170,283.16	1.96	218,938	8,105	227,043
310.00	16,166,661.81	18,007,218.81	2.80	459,831	18,264	478,095
311.00	75,163,955.32	85,780,982.32	2.09	1,580,172	106,387	1,686,559
320.00	249,747,732.89	289,656,136.89	2.42	6,175,354	534,544	6,709,898
320.30	8,392,061.87	8,693,834.87	6.87	577,398	40,689	618,087
320.37	16,075,077.23	16,075,077.23	3.07	493,505	39,866	533,371
330.00	175,036,176.88	191,705,660.88	2.38	4,247,686	1,033,400	5,281,086
331.00	2,266,777,896.52	2,415,570,208.52	1.18	27,309,171	5,999,065	33,308,236
333.00	544,561,188.07	567,844,687.07	1.71	9,499,159	780,556	10,279,715
334.00	190,951,156.36	201,482,985.36	5.65	11,052,527	1,084,889	12,137,416
335.00	97,220,732.27	103,228,152.27	1.69	1,691,756	143,747	1,835,503
340.00	128,187,365.27	136,881,280.89	14.81	19,947,271	12,785	19,960,056
341.00	38,595,020.44	44,136,941.44	13.47	5,380,407	5,479	5,385,886
342.00	400,072.70	400,072.70	6.57	26,285	126	26,411
343.00	24,418,459.37	26,095,301.58	5.47	1,390,131	13,526	1,403,657
344.00	3,323,028.15	3,323,028.15	4.99	165,819	2,442	168,261
345.00	2,571,357.61	2,571,357.61	5.56	142,967	888	143,855
346.00	9,582,111.31	10,797,245.87	9.36	935,813	3,943	939,756
347.00	16,642,716.36	17,031,033.69	4.55	773,172	7,359	780,531
348.00	735,410.29	735,410.29	4.06	29,858	0	29,858
TOTAL	**4,446,507,652.94**	**4,844,316,826.66**		**105,467,007**	**10,387,955**	**115,854,962**

** developed in monthly bringforward schedule

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

Account	EXPERIENCED AND ESTIMATED NET SALVAGE					5 - YEAR AMORT.
	2014	2015	2016	2017	2018	
(1)	(2)	(3)	(4)	(5)	(5)	(7)
	0	0	26	0	0	(5)
303.35	(4)	0	0	0	0	1
304.15	(46,636)	(46,243)	(70,089)	0	0	32,594
304.20	(53,488)	(56,757)	(26,237)	0	(3,500)	27,996
304.30	319,920	(476,945)	(191,035)	(19,080)	(93,825)	92,193
304.61	(65,824)	0	(70,936)	0	(658,910)	159,134
304.62	(80,107)	(3,615)	(48,019)	(14,400)	(63,093)	41,847
304.63	0	(59,776)	(11,676)	(8,250)	0	15,940
305.00	(317,805)	(46,348)	(84,116)	(59,314)	(169,000)	135,316
306.00	(2,002)	(324)	(6,542)	0	0	1,773
307.00	(13,938)	(16,118)	(1,054)	0	0	6,222
310.00	0	(8,915)	(45,776)	0	0	10,938
311.00	(162,341)	(159,509)	(103,119)	0	(400)	85,074
320.00	(93,583)	(182,337)	(101,953)	(91,944)	(108,196)	115,603
320.30	(27,730)	(78,144)	(16,457)	0	(500)	24,566
320.37	(6,734)	0	(192,597)	0	0	39,866
330.00	(631,746)	(1,024,942)	(1,370,181)	(475,306)	(278,070)	756,049
331.00	(3,496,437)	(7,578,550)	(11,564,326)	(4,703,868)	(4,123,922)	6,293,421
333.00	(446,624)	(606,667)	(987,614)	(1,239,963)	(1,243,387)	904,851
334.00	(764,036)	(1,258,131)	(770,084)	(1,414,519)	(1,622,381)	1,165,830
335.00	(146,091)	81,394	(276,615)	(244,260)	(250,898)	167,294
340.00	1,941	(20,871)	(41,508)	0	0	12,088
341.00	(1,555)	(13,623)	(1,158)	(11,060)	(13,855)	8,250
342.00	0	(630)	0	0	0	126
343.00	(9,640)	(19,321)	(18,941)	0	0	9,580
344.00	(983)	(3,939)	(5,015)	0	0	1,987
345.00	(201)	(3,680)	(472)	0	0	871
346.00	(1,029)	(7,472)	(777)	0	0	1,856
347.00	(9,534)	(21,448)	(4,547)	0	0	7,106
TOTAL	(6,056,209)	(11,612,910)	(16,010,818)	(8,281,964)	(8,629,937)	10,118,367

PART II. DETAILED DEPRECIATION CALCULATIONS

VOLUME 12

PENNSYLVANIA-AMERICAN WATER COMPANY

2017 GENERAL BASE RATE CASE

R-2017-2595853

EXHIBITS NO. 11-D, 11-E, 11-F

DEPRECIATION STUDY

WASTEWATER OPERATIONS

(EXCLUDING SCRANTON WASTEWATER)

AS OF DECEMBER 31, 2016, 2017, 2018

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

PENNSYLVANIA-AMERICAN WATER COMPANY

HERSHEY, PENNSYLVANIA

WASTEWATER OPERATIONS

(Excluding Scranton Wastewater)

2016 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2016

Prepared by:



Excellence Delivered As Promised

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

PENNSYLVANIA-AMERICAN WATER COMPANY

Hershey, Pennsylvania

WASTEWATER OPERATIONS

(Excluding Scranton Wastewater)

2016 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2016

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

April 21, 2017

Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033

Attention Mr. John R. Cox
Manager of Rates and Regulations

Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of December 31, 2016. Summaries of the original cost, annual accruals and the book depreciation reserve are presented in Tables 1 through 3, beginning on page I-3 of the attached report.

A description of the methods and procedures upon which the study was based, as well as support for the service life estimates, is set forth in a companion report "2017 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2017".

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
Sr. Vice President

JJS:mlw

062027.100

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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY

WASTEWATER OPERATIONS
(Excluding Scranton Wastewater)

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

SUMMARY OF RESULTS

Table 1 presents the development of net original cost used in the study. The net original cost is the original cost of wastewater plant less advances and contributions. The results of the depreciation study are summarized in Table 2, which sets forth the book reserve and the calculated annual depreciation related to net original cost as of December 31, 2016, and the annual amortization of net negative salvage. Table 3 presents the calculation of the amortization of experienced net salvage, by account, based on the five-year period, 2012-2016.

DETAILED TABULATIONS OF DEPRECIATION CALCULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage, and cost of removal are set forth by account for the years 2012 through 2016, on pages III-2 through III-6.

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER OPERATIONS (EXCLUDING SCRANTON WASTEWATER)

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2016

DEPRCIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2016 (2)	- CUSTOMER ADVANCES (3)	- CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	- EXCLUDED PROPERTY (5)	= NET ORIGINAL COST AS OF DECMEBER 31, 2016 (6)
DEPRECIABLE PLANT					
354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION	479,296.86				479,296.86
354.30 STRUCTURES AND IMPROVEMENTS - SPP	18,169,291.90		2,734,528.70		15,434,763.20
354.40 STRUCTURES AND IMPROVEMENTS - TDP	50,958,423.67		1,853,012.73		49,105,410.94
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL	2,130,769.53				2,130,769.53
355.00 POWER GENERATING EQUIPMENT	4,881,040.73		144,517.16		4,736,523.57
360.10 COLLECTION SEWERS - FORCE MAINS	30,666,434.21	157,753.14	11,251,126.61		19,257,554.46
361.10 COLLECTION SEWERS - GRAVITY MAINS	73,305,655.63	143,423.53	9,166,636.12		63,995,595.98
361.20 MANHOLES	13,045,669.35		4,387,312.76		8,658,356.59
363.00 SERVICES	15,575,965.95	70,197.45	3,737,893.58		11,767,874.92
364.00 FLOW MEASURING DEVICES	533,521.59		14,726.81		518,794.78
365.00 FLOW MEASURING INSTALLATIONS	20,918.30				20,918.30
370.00 RECEIVING WELLS	103,531.95				103,531.95
371.00 PUMPING EQUIPMENT	7,114,659.39		66,626.22		7,048,033.17
380.00 TREATMENT EQUIPMENT	52,675,840.17		2,200,080.47		50,475,759.70
381.00 PLANT SEWERS	6,450,916.81		30,192.33		6,420,724.48
382.00 OUTFALL SEWER LINES	674,274.67				674,274.67
389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT	273,149.74				273,149.74
390.00 OFFICE FURNITURE AND EQUIPMENT	199,675.37				199,675.37
391.00 TRANSPORTATION EQUIPMENT	440,469.70				440,469.70
392.00 STORES EQUIPMENT	64,249.97				64,249.97
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	536,841.71				536,841.71
394.00 LABORATORY EQUIPMENT	342,757.97				342,757.97
395.00 POWER OPERATED EQUIPMENT	532,736.59		10,000.00		522,736.59
396.00 COMMUNICATION EQUIPMENT	1,522,349.38				1,522,349.38
397.00 MISCELLANEOUS EQUIPMENT	3,256,051.56		29,000.00		3,227,051.56
TOTAL DEPRECIABLE PLANT	**283,954,492.70**	**371,374.12**	**35,625,653.49**	**0.00**	**247,957,465.09**
NONDEPRECIABLE PLANT					
352.10 FRANCHISES	221,139.78				221,139.78
353.20 LAND AND LAND RIGHTS - COLLECTION	1,093,483.20				1,093,483.20
353.30 LAND AND LAND RIGHTS - SPP	85,560.07				85,560.07
353.40 LAND AND LAND RIGHTS - TDP	1,677,525.60		125,000.00		1,552,525.60
TOTAL NONDEPRECIABLE PLANT	**3,077,708.65**	**0.00**	**125,000.00**	**0.00**	**2,952,708.65**
TOTAL WASTEWATER PLANT IN SERVICE	**287,032,201.35**	**371,374.12**	**35,750,653.49**	**0.00**	**250,910,173.74**

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER OPERATIONS (EXCLUDING SCRANTON WASTEWATER)

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK RESERVE, AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2016

	DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2016	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
	DEPRECIABLE PLANT							
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	45-R3	479,296.86	49,350	429,947	11,001	2.30	39.1
354.30	STRUCTURES AND IMPROVEMENTS - SPP	50-R2.5	15,434,763.20	4,146,488	11,288,276	249,925	1.62	45.2
354.40	STRUCTURES AND IMPROVEMENTS - TDP	65-R2	49,105,410.94	9,948,199	39,157,212	691,430	1.41	56.6
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	35-S1	2,130,769.53	1,306,466	824,304	24,748	1.16	33.3
355.00	POWER GENERATING EQUIPMENT	35-R2.5	4,736,523.57	2,652,039	2,084,484	70,197	1.48	29.7
360.10	COLLECTION SEWERS - FORCE MAINS	70-S2	19,257,554.46	175,918	19,081,636	359,040	1.86	53.1
361.10	COLLECTION SEWERS - GRAVITY MAINS	70-R2.5	63,995,595.98	11,371,594	52,624,002	925,253	1.45	56.9
361.20	MANHOLES	50-S1.5	8,658,356.59	1,103,203	7,555,154	183,051	2.11	41.3
363.00	SERVICES	38-R3	11,767,874.92	3,048,755	8,719,120	380,797	3.24	22.9
364.00	FLOW MEASURING DEVICES	20-L3	518,794.78	(3,852)	522,647	39,167	7.55	13.3
365.00	FLOW MEASURING INSTALLATIONS	30-S1.5	20,918.30	4,022	16,896	733	3.50	23.1
370.00	RECEIVING WELLS	50-R3	103,531.95	16,346	87,186	2,042	1.97	42.7
371.00	PUMPING EQUIPMENT	40-S0	7,048,033.17	1,267,841	5,780,192	162,743	2.31	35.5
380.00	TREATMENT EQUIPMENT	45-R2	50,475,759.70	10,681,481	39,794,279	1,072,308	2.12	37.1
381.00	PLANT SEWERS	50-R3	6,420,724.48	831,789	5,588,936	129,614	2.02	43.1
382.00	OUTFALL SEWER LINES	50-R3	674,274.67	157,760	516,515	13,676	2.03	37.8
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT	20-S2.5	273,149.74	72,881	200,268	14,747	5.40	13.6
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	199,675.37	53,384	146,291	11,861	5.94	12.3
391.00	TRANSPORTATION EQUIPMENT	15-L4	440,469.70	245,469	195,000	20,435	4.64	9.5
392.00	STORES EQUIPMENT	25-SQ	64,249.97	18,187	46,063	2,310	3.60	19.9
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	536,841.71	241,652	295,190	18,017	3.36	16.4
394.00	LABORATORY EQUIPMENT	15-SQ	342,757.97	193,677	149,081	13,157	3.84	11.3
395.00	POWER OPERATED EQUIPMENT	16-L2.5	522,736.59	242,424	280,312	32,263	6.17	8.7
396.00	COMMUNICATION EQUIPMENT	15-SQ	1,522,349.38	854,060	668,289	65,055	4.27	10.3
397.00	MISCELLANEOUS EQUIPMENT	15-SQ	3,227,051.56	467,686	2,759,366	288,902	8.95	9.6
	TOTAL DEPRECIABLE PLANT		**247,957,465.09**	**49,146,818**	**198,810,646**	**4,782,472**	**1.93**	
	AMORTIZATION OF NET SALVAGE					**65,222**		
	NONDEPRECIABLE PLANT							
352.10	FRANCHISES		221,139.78					
353.20	LAND AND LAND RIGHTS - COLLECTION		1,093,483.20					
353.30	LAND AND LAND RIGHTS - SPP		85,560.07					
353.40	LAND AND LAND RIGHTS - TDP		1,552,525.60					
	TOTAL NONDEPRECIABLE PLANT		**2,952,708.65**					
	TOTAL WASTEWATER PLANT IN SERVICE		**250,910,173.74**	**49,146,818**	**198,810,646**	**4,847,694**		

PENNSYLVANIA-AMERICAN WATER COMPANY
WASTEWATER OPERATIONS (EXCLUDING SCRANTON WASTEWATER)

TABLE 3. AMORTIZATION OF EXPERIENCED NET SALVAGE

Account (1)	EXPERIENCED NET SALVAGE 2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (5)	5 - YEAR AMORT. (7)
354.20	0	0	(17,282)	(1,398)	(42)	3,744
354.30	(3,707)	(1,424)	(0)	(4,141)	0	1,854
354.40	(159,227)	(27,581)	(10,305)	(1,027)	(4,581)	40,544
354.70	0	0	0	(480)	0	96
355.00	(3,170)	(963)	(510)	(1,666)	(4,934)	2,248
360.10	(461)	(8,182)	(1,577)	(3,256)	(12,703)	5,236
361.10	(14,158)	(34,624)	(16,027)	(65,334)	(6,970)	27,423
361.20	0	0	0	(7,497)	(53,000)	12,099
363.00	(2,580)	(15,735)	(26,515)	(27,377)	(11,694)	16,780
364.00	0	0	(816)	0	0	163
371.00	(2,645)	(2,291)	(4,325)	(4,902)	(11,515)	5,136
380.00	(120,523)	(6,028)	(21,655)	(1,623)	(23,917)	34,749
381.00	0	0	0	0	(2,110)	422
382.00	(1)	0	0	0	0	0
390.00	0	0	0	0	(276)	55
393.00	0	(240)	(240)	0	171,552	(34,214)
394.00	0	(6)	0	0	(566)	115
395.00	0	0	0	0	44,960	(8,992)
396.00	(1,192)	(2,027)	0	(4,190)	131,476	(24,813)
397.00	0	0	0	0	87,116	(17,423)
TOTAL	(307,663)	(99,101)	(99,252)	(122,889)	302,795	65,222

PART II. DETAILED DEPRECIATION CALCULATIONS

S:\water industry\Lower Makefield Township Sewer Authority\Lower Makefield Report & Testimony\Lower Makefield Wastewater Colllection System Valuation as of 6-30-2020 - Created 3-11-2021

AQUA PENNSYLVANIA, INC.

WASTEWATER ASSETS

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED

ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2019

DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF MARCH 31, 2019	BOOK RESERVE	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	COMPOSITE REMAINING LIFE	ANNUAL ACCRUAL RATE, PERCENT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONTRIBUTIONS IN AID OF CONSTRUCTION							
DEPRECIABLE PLANT							
354.00 STRUCTURES AND IMPROVEMENTS							
COLLECTION	55-S0.5	1,277,000.00	434,189	842,811	24,094	35.0	1.89
PUMPING	60-S1	1,084,876.22	143,926	940,950	21,563	43.6	1.99
TREATMENT AND DISPOSAL	50-R2	6,537,155.71	1,999,766	4,537,390	159,938	28.4	2.45
GENERAL	50-R3	14,636.81	8,877	5,760	343	16.8	2.34
TOTAL ACCOUNT 354		8,913,668.74	2,586,758	6,326,911	205,938		
360.00 COLLECTION MAINS-FORCE	75-R2.5	9,872,459.72	1,451,118	8,421,342	160,591	52.4	1.63
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	4,083,815.05	835,606	3,248,209	64,804	50.1	1.59
363.00 SERVICES	70-R4	1,488,413.86	535,477	952,937	17,902	53.2	1.20
371.30 PUMPING EQUIPMENT - PUMPING	25-L0.5	464,547.60	67,831	396,717	29,081	13.6	6.26
380.00 TREATMENT AND DISPOSAL EQUIPMENT	40-S0	1,553,793.25	799,221	754,572	35,520	21.2	2.29
381.40 PLANT SEWERS - TREATMENT AND DISPOSAL	40-R1.5	1,536.55	1,252	285	30	9.5	1.95
382.00 OUTFALL LINES	40-R2.5	1,536.55	1,265	272	41	6.6	2.67
389.20 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - COLLECTION	20-L3	13,030.75	5,603	7,428	707	10.5	5.43
390.10 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20-SQ	274.98	260	15	0	-	-
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	4,449.14	4,504	(55)	0		
394.00 LABORATORY EQUIPMENT	25-SQ	1,362.82	1,383	(20)	0		
TOTAL DEPRECIABLE PLANT		26,398,889.01	6,290,278	20,108,613	514,614		
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION		26,398,889.01	6,290,278	20,108,613	514,614		
AMORTIZATION OF NET SALVAGE					43,079		
TOTAL WASTEWATER PLANT		156,015,551.44	34,942,942	118,205,423	4,422,241		

Water and Wastewater Industry

Cost of Capital / Required Return
Water and Wastewater Industry
As of 10-1-2022

AUS Consultants
Suite 201
8555 West Forest Home Avenue
Greenfield, Wisconsin 53228
Office Telephone: 414-529-5755
J. Weinert's Cell: 414-698-8371
J. Weinert's E-Mail: weinertj@auswest.net

Cost of Capital / Required Return

The net cashflows described in the income approach section of this report were discounted to present value using a cost of capital reflective of the investor-owned water industry with particular emphasis on investor-owned water and wastewater in the Commonwealth of Pennsylvania capital costs for both debt and equity summarized as follows:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	32%	Market	5.32%	Market	28.89%	71.11%	1.21%
Equity	68%	Market	9.75%	Market	0.0%	100.0%	6.63%
Total Capital r	**100.0%**						**7.84%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**4.76%**

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Capitlization Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Market Capital Cost (2)*(3)
Debt	32%	Market	5.32%	Market	Not Applicable	Not Applicable	1.70%
Equity	68%	Market	9.75%	Market	Not Applicable	Not Applicable	6.63%
Total Capital r	**100.0%**						**8.33%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**5.23%**

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Rate of Return on Rate Base)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Required Return on Rate Base (2)*(3)
Debt	50%	Embedded	3.69%	Embedded	Not Applicable	Not Applicable	1.85%
Equity	50%	Embedded	9.75%	Market	Not Applicable	Not Applicable	4.88%
Total Capital r	**100.0%**						**6.73%**
Growth (g)						Not Applicable	**0.00%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.73%**

The cost of capital and required return was based on the weighted cost of capital (WACC) method; wherein the market capital cost of debt and equity at the third quarter (October 7, 2022) closest to the appraisal date are weighted based on the market capital structure typical of the industry. The inputs to the WACC required return determination are described summarized below.

Debt Cost – The market cost of debt at the study data was determined based on review of financial information published by Value Line Investment Surveys in their Selected Yield weekly publication. These sources were helpful in determining the typical debt rating for investments in water industry to be A Standard and Poor's corporate debt rating. The above sources were also useful in determining that the market cost of debt at A rating to be 5.27% on October 7, 2022. Issuance cost of 0.90% was determined based on analysis annual Public Utility Financing Tracker reports over the period 2008 through 2019 published by PUFT, Inc. The final market cost of debt of 5.32% was determined for the water industry using the following formula which incorporates the above-described issuance costs:

Value Line Investment Surveys
Water Industry
As of Third Quarter 2022 (10-1-2022)

	S&P Debt Rating	Long Term Debt	Long Term Interest	Long Term Interest Rate (embedded)
		Input Value Line	Input Value Line	(4) / (3)
American States Water		446.9	24.0	5.37%
American Water	Baa1	11,023.0	414.0	3.76%
California Water		1,054.2	40.0	3.79%
Essential Utilities, Inc.	Baa2	6,087.7	216.0	3.55%
Middlesex Water		305.4	7.5	2.46%
SJW Corporation		1,455.7	50.0	3.43%
		20,372.9	751.5	3.69%
Minimum				2.46%
wtd Mean				3.69%
Mean				3.73%
Median				3.66%
Maximum				5.37%

Debt Rating and Cost of Debt

Embedded	3.69%	wtd mean col 5
Rating (S&P)	A	Input
Market Cost of Debt @Bond Rating		
Value Line Selected Yields	5.27%	Input
Use	5.27%	AUS Input
Issuance Cost PUFT Data 2018-2019	0.90%	Input
Final Cost of Debt	5.32%	

$K_d = K_u / (100\% - f)$

where:

K_d =Cost of Debt recognizing issuance costs

K_u is the market cost of debt without consideration of issuance costs

f is the cost of issuance as a percentage of the debt's par value

K_d = 5.27% / (100% -0.90%)

K_d = 5.32%

Equity Cost – The cost of equity was evaluated using the Capital Asset Pricing Model (CAPM) and the dividend growth model (DGM) which looks to market returns to quantify the cost equity capital.

Value Line Investment Surveys
Water Industry
As of Third Quarter 2022 (10-1-2022)

Company	Exchange	Ticker	Valueline No.	Valueline Issue	Beta	Divided	Revenues			Cash Flows			Earnings			Dividends			Book Value		
							Past 10 yrs	Past 5 yrs	Past 3 Years to Future 3 Years	Past 10 yrs	Past 5 yrs	Past 3 Years to Future 3 Years	Past 10 yrs	Past 5 yrs	Past 3 Years to Future 3 Years	Past 10 yrs	Past 5 yrs	Past 3 Years to Future 3 Years	Past 10 yrs	Past 5 yrs	Past 3 Years to Future 3 Years
Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line
American States Water	NYSE	AWR	1779	10/07/2022	0.65	2.0%	2.5%	1.5%	5.5%	5.5%	4.5%	5.5%	9.0%	8.5%	5.5%	9.5%	8.0%	9.0%	5.5%	6.0%	5.5%
American Water	NYSE	AWK	1780	10/07/2022	0.9	2.0%	3.5%	3.5%	4.5%	9.0%	10.0%	3.5%	12.0%	13.5%	3.0%	9.5%	10.0%	8.5%	4.5%	5.0%	8.0%
California Water	NYSE	CWT	1781	10/07/2022	0.7	1.8%	3.0%	4.0%	3.0%	6.5%	9.0%	2.0%	6.5%	11.0%	6.5%	3.5%	5.0%	6.5%	6.0%	7.0%	5.0%
Essential Utilities, Inc.	NYSE	WTRG	1782	10/07/2022	0.95	2.7%	3.5%	5.0%	7.5%	5.0%	3.0%	10.0%	6.0%	1.0%	10.0%	7.5%	7.0%	8.0%	11.0%	14.0%	6.0%
Middlesex Water	NDQ	MSEX	1783	10/07/2022	0.7	1.4%	2.0%	0.5%	2.5%	8.0%	9.5%	3.5%	9.5%	11.0%	4.0%	3.5%	6.0%	5.0%	6.0%	9.0%	2.5%
SJW Corporation	NYSE	SJW	1784	10/07/2022	0.8	2.4%	4.0%	2.5%	3.5%	6.0%	0.5%	2.5%	6.0%	-6.5%	14.0%	6.5%	10.5%	5.5%	9.0%	11.5%	4.0%
Minimum					0.65	1.40%	2.00%	0.50%	2.50%	5.00%	0.50%	2.00%	6.00%	-6.50%	3.00%	3.50%	5.00%	5.00%	4.50%	5.00%	2.50%
wtd Mean																					
Mean					0.78	2.05%	3.08%	2.83%	4.42%	6.67%	6.08%	4.50%	8.17%	6.42%	7.17%	6.67%	7.75%	7.08%	7.00%	8.75%	5.17%
Median					0.75	2.00%	3.25%	3.00%	4.00%	6.25%	6.75%	3.50%	7.75%	9.75%	6.00%	7.00%	7.50%	7.25%	6.00%	8.00%	5.25%
Maximum					0.95	2.70%	4.00%	5.00%	7.50%	9.00%	10.00%	10.00%	12.00%	13.50%	14.00%	9.50%	10.50%	9.00%	11.00%	14.00%	8.00%

Capital Assets Pricing Model (CAPM) - The CAPM method estimates the cost of equity capital by quantifying the premium, or additional return required to entice investors to purchase equities, over an investment in which the investors would receive riskless return like that from a long-term U.S. government security.

The mathematical form of this model is:

Capital Asset Pricing Model:

$$r_e = r_f + B_c(r_p) + r_s + r_i$$

where:

B_c is an estimation of the subject Company's risk premium relative to the risk premium of the entire market. In these equity cost estimating methods the risk premium of the entire market is defined as unity or $B_m = 1.0$.

The inputs to this model are developed from an analysis of the financial markets. The risk-free government securities rate (rf) is readily available from financial sources; we have used the risk-free rate at the study date of 4.87% as determined from the average long-term income returns of government bonds over the period 1926 through 2021 as detailed on table A-7 in Ibbotson Associates' 2022 Yearbooks of Stocks, Bonds, Bills, and Inflation (SBBI).

The risk premiums (r_p) and size premiums (r_s) were established based on analysis of the data presented by Ibbotson Associates and published in Ibbotson Associates' 2010 through 2021 Yearbooks of Stocks, Bonds, Bills, and Inflation (SBBI), detailing the financial market returns of stocks, bonds, U.S. Treasury Bills, and Inflation for the period 1926 through 2021.

The total market risk premium (r_p) required to entice an investor to invest in equity securities over risk-free government securities was established at 6.87% based on the Ibbotson Associates research, while the size premiums (r_s) were established at:

1.82% for mid-capitalization companies with market equity capitalization between 3,276.6 and $16,738.4 million.

3.28% for low-capitalization companies with market equity capitalization between $627.8 and $3,276.6 million.

5.57% for micro-capitalization companies with market equity capitalization under $627.8 million.

There is no size premium (0.0%) for companies with market equity capitalization above $16,738.4 million.

Dividend Yield and Growth Model (DGM)

The dividend yield and growth model was also review in estimating the cost of equity. Two models were considered, those of:

re = Dividend Yield + Dividend Growth

re = Dividend Yield + Earnings Growth

Cost of Equity Conclusion - Based on these procedures the cost of equity using previous described cost of equity estimating techniques the cost of equity was determined as follows:

Value Line Investment Surveys
Water Industry
As of Third Quarter 2022 (10-1-2022)

Cost of Equity Dividend Growth Model

Cost of Equity Capital Asset Pricing Model (CAPM)

Dividend	2.05%	mean Col 7	

Growth	Past 10 yrs	Past 5 yrs	Est'd 16-18 to 22-24	Beta	Input	Min-Max
Revenues	3.08%	2.83%	4.42%			
Cash Flow	6.25%	6.08%	4.50%			
Earnings	8.17%	6.42%	7.17%			
Dividends	7.00%	7.75%	7.08%			
Book Value	6.00%	8.75%	5.17%			
Mean	6.10%	6.37%	5.67%		0.78	0.65-0.95

Growth	5.67%	AUS Input

Cost of Equity Dividend Growth Model

Cost of Equity Capital Asset Pricing Model (CAPM)

						Long term Government Bonds Income Return SBBI
Dividend	2.05%		Risk Free Rate		4.87% Input	(Mean)
Growth	5.67%		Risk Premium			
Cost of Equity	7.72%		Beta		0.78	
			Risk Premia	6.87% Input SBBI	6.87% Input	$r_p=r_m-r_f$ per PA PUC
			Size Premia		$ Millions	$ Millions
			Micro	5.57% Input SBBI	-	627.8
			Small	3.28% Input SBBI	627.8	3,276.6
			Mid	1.82% Input SBBI	3,276.6	16,738.4
			Large	0.00% Input SBBI	16,738.4	
			Size Premia		0.00% Input	
			Cost of Equity		10.25%	

Cost of Equity		Pennsylvania PUC	9.75%
Dividend Growth Model	7.72%	Bureau of Technical Utility Services	
Capital Asset Pricing Model (CAPM)	10.25%	Report on the Quarterly Earnings	
Mean	8.98%	of Jurisdictional Utilities	
Issuance Cost PUFT 2008-2019	3.60%	30-Jun-22	
Final Cost of Equity	9.32%		

Cost of Equity	9.75%	AUS Input Jurisdictional Exception
Growth	5.67%	Input from Growth Above
Inflation	2.94%	SBBI Last 5-years

Equity issuance cost (f) of 3.60% was determined based on analysis annual Public Utility Financing Tracker reports over the period 2008 through 2019 published by PUFT, Inc. The final market cost of equity of 9.32% was determined for the water industry using the following formula which incorporates the above-described issuance costs:

$$K_e = K_{e'} / (100\% - f)$$

where:

K_e =Cost of equity recognizing issuance costs

$K_{e'}$ is the market cost of equity without consideration of issuance costs (9.85%)

f is the cost of issuance as a percentage of the equity par value (3.60%)

K_e= 8.98% / (100% -3.60%)

K_e= 9.32%

An equity cost of 9.75% was used in the determination of the cost of capital based on the determination of Pennsylvania PUC's Bureau of Technical Utility Services (TUS) Report on Quarterly Earnings of Jurisdictional Utilities for year-ending June 30, 2022.

Tax Rate

The tax rate was determined at 28.89% (State and Federal) based on the Value Line Investment Survey as follows:

1	2	3	4	5				
Value Line Investment Surveys								
Water Industry								
As of Third Quarter 2022 (10-1-2022)								
Company	Exchange	Ticker	Valueline No.	Valueline Issue	Tax Rate			
					2019	2020	2021	Future 3 Years
Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line
American States Water	NYSE	AWR	1779	10/07/2022	24.4%	24.0%	24.0%	24.0%
American Water	NYSE	AWK	1780	10/07/2022	23.0%	21.0%	22.0%	24.0%
California Water	NYSE	CWT	1781	10/07/2022	20.1%	21.0%	21.0%	21.0%
Essential Utilities, Inc.	NYSE	WTRG	1782	10/07/2022	0.0%	4.0%	10.0%	15.0%
Middlesex Water	NDQ	MSEX	1783	10/07/2022	2.8%	21.0%	21.0%	21.0%
SJW Corporation	NYSE	SJW	1784	10/07/2022	12.2%	21.5%	21.0%	21.0%
Minimum					0.00%	4.00%	10.00%	15.00%
wtd Mean								
Mean					13.75%	18.75%	19.83%	21.00%
Median					16.15%	21.00%	21.00%	21.00%
Maximum					24.40%	24.00%	24.00%	24.00%
	Historical		Current					
Embedded Tax Rate	13.75%	Mean 2019	18.75%	Mean 2020				
Federal Tax Rate (Marginal)	35.00%	AUS Input	21.00%	AUS Input				
US 50-state average	4.91%	AUS Input	4.91%	AUS Input				
Pennsylvania	9.99%	AUS Input	9.99%	AUS Input				
Composite Federal and State Tax Rate	41.49%	Calculated =Federal Tax * (1-State Tax)+State Tax	28.89%	Calculated =Federal Tax * (1-State Tax)+State Tax				

Capital Structure

The capital structure was determined based on the water industry market indictors published by Value Line Investment Survey published October 7, 2022 as detailed as follows:

2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Value Line Investment Surveys **Water Industry** **As of Third Quarter 2022 (10-1-2022)**																				
Company	Exchange	Ticker	Valueline No.	Valueline Issue	Total Debt	Market Debt	Long Term Debt	Long Term Interest	Long Term Interest Rate (embedded)	Proportion of Debt	Book Debt	Book Equity	Preferred Stock	% Preferred	Shares Outstanding	Price per Share	Market Equity	Portion Market Equity	Capitalization	Total Market Capital
Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	Input Value Line	(6) / (21)	Input Value Line	Input Value Line	(9) / (8)	Input Value Line	Input Value Line	Input Value Line	Input Value Line	(14) / (21)	Input Value Line	Input Value Line	Input Value Line	(18) / (21)	Input Value Line	(6)+(14)+(18)
					$s Million	%	$s Million	$s Million	%	%	%	%	$s Million	%	Shares Million	$s per Share	$s Million	%		$s Million
American States Water	NYSE	AWR	1779	10/07/2022	670.8	18.10%	446.9	24.0	5.37%	39.0%	46.5%	53.5%	0	0.00%	36.9568240	82.1	3,034.5	81.90%	Mid Cap	3,705.3
American Water	NYSE	AWK	1780	10/07/2022	11,621.0	31.76%	11,023.0	414.0	3.76%	59.0%	60.0%	40.0%	3	0.01%	181.7864730	137.3	24,964.7	68.23%	Large Cap	36,588.7
California Water	NYSE	CWT	1781	10/07/2022	1,130.0	27.21%	1,054.2	40.0	3.79%	47.0%	44.0%	56.0%	0	0.00%	54.3560000	55.6	3,022.2	72.79%	Mid Cap	4,152.2
Essential Utilities, Inc.	NYSE	WTRG	1782	10/07/2022	6,213.3	35.29%	6,087.7	216.0	3.55%	53.0%	54.0%	46.0%	0	0.00%	262.1707630	43.5	11,393.9	64.71%	Large Cap	17,607.2
Middlesex Water	NDQ	MSEX	1783	10/07/2022	313.2	17.84%	305.4	7.5	2.46%	45.0%	44.0%	56.0%	2.4	0.14%	17.6100000	81.8	1,439.8	82.02%	SmallCap	1,755.4
SJW Corporation	NYSE	SJW	1784	10/07/2022	1,494.7	45.34%	1,455.7	50.0	3.43%	59.0%	57.5%	42.5%	0	0.00%	30.2480000	59.6	1,801.9	54.66%	SmallCap	3,296.6
Total					21,443.0	31.95%	20,372.9	751.5	3.69%				5.4	0.01%			45,657.1	68.04%		67,105.5
Minimum						17.84%			2.46%	39.00%	44.00%	40.00%		0.00%				54.66%		
wtd Mean						31.95%			3.69%					0.01%				68.04%		
Mean						29.26%			3.73%	50.33%	51.00%	49.00%		0.03%				70.72%		
Median						29.49%			3.66%	50.00%	50.25%	49.75%		0.00%				70.51%		
Maximum						45.34%			5.37%	59.00%	60.00%	56.00%		0.14%				82.02%		

In arriving at the capital structure, the market capital structure was used in developing the market cost of capital while an embedded capital structure was used in developing the required return on rate base as follows:

Water Industry Capital Structure

Capital Structure	Market Proportion	Market Reference	Embedded Proportion	Embedded Reference
Debt	31.95%	wtd mean col 7	50.33%	mean col 11
Preferred	0.01%	wtd mean col 15	0.03%	mean col 15
Equity	68.04%	wtd mean col 19	49.00%	mean col 13
Total	100.00%		99.36%	
Use				
Debt	32%	AUS Input	50%	AUS Input Jurisdictional Execption
Equity	68%	AUS Input	50%	AUS Input Jurisdictional Execption
Total	100%		100%	

Market Cost of Capital and Required Return on Rate Base

Using the above-described cost of debt and equity, the rate of returned required for an investment in property similar to the Company's was determined to be 7.84% as follows:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	32%	Market	5.32%	Market	28.89%	71.11%	1.21%
Equity	68%	Market	9.75%	Market	0.0%	100.0%	6.63%
Total Capital r	**100.0%**						**7.84%**
Growth (g)							**2.94%**
Rate without Growth: [(1+r)/(1+g)]-1							**4.76%**

While the require return on rate base was determined to be 6.73% follows:

Water and Wastewater Cost of Capital
Third Quarter 2022 (10-01-2022)

As an Investor-Owned Utility

Weighted Cost of Capital (Rate of Return on Rate Base)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Required Return on Rate Base (2)*(3)
Debt	50%	Embedded	3.69%	Embedded	Not Applicable	Not Applicable	1.85%
Equity	50%	Embedded	9.75%	Market	Not Applicable	Not Applicable	4.88%
Total Capital r	**100.0%**						**6.73%**
Growth (g)						Not Applicable	**0.00%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.73%**

The statistics supporting these findings can be found in the Cost of Capital section of this report.

Source: Ibbotson SBBI 2018 Stock, Bonds, Bills, and Inflation Yearbook

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14	A-15	A-16
Year	Large Company Stocks Total Returns Jan-Dec *	Large Company Stocks Income Returns Jan-Dec *	Large Company Stocks Capital Appreciation Returns Jan-Dec *	Small Company Stocks Total Returns Jan-Dec *	Long-Term Corporate Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Income Returns Jan-Dec *	Long-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Long-Term Government Bonds Yields Jan-Dec *	Intermediate-Term Government Bonds Total Returns Jan-Dec *	Intermediate-Term Government Bonds Income Returns Jan-Dec *	Intermediate-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Intermediate-Term Government Bonds Yields Jan-Dec *	U.S. Treasury Bills Total Returns Jan-Dec *	Inflation Jan-Dec *	Risk Premia (A-1)-(A-7)
1926	0.1162	0.0541	0.0572	0.0028	0.0737	0.0777	0.0373	0.0391	0.0354	0.0538	0.0378	0.0151	0.0361	0.0327	-0.0149	0.0789
1927	0.3749	0.0571	0.3091	0.2210	0.0744	0.0893	0.0341	0.0540	0.0316	0.0452	0.0349	0.0096	0.0340	0.0312	-0.0208	0.3408
1928	0.4361	0.0481	0.3788	0.3969	0.0284	0.0010	0.0322	-0.0312	0.0340	0.0092	0.0364	-0.0273	0.0401	0.0356	-0.0097	0.4039
1929	-0.0842	0.0398	-0.1191	-0.5136	0.0327	0.0342	0.0347	-0.0020	0.0340	-0.0601	0.0407	0.0177	0.0362	0.0475	0.0020	-0.1189
1930	-0.2490	0.0457	-0.2848	-0.3815	0.0798	0.0466	0.0332	0.0128	0.0330	0.0672	0.0330	0.0333	0.0291	0.0241	-0.0603	-0.2822
1931	-0.4334	0.0535	-0.4707	-0.4975	-0.0185	-0.0531	0.0333	-0.0846	0.0407	-0.0232	0.0316	-0.0540	0.0412	0.0107	-0.0952	-0.4667
1932	-0.0819	0.0616	-0.1515	-0.0539	0.1082	0.1684	0.0369	0.1294	0.0315	0.0810	0.0363	0.0502	0.0304	0.0096	-0.1030	-0.1188
1933	0.5399	0.0639	0.4659	1.4287	0.1038	-0.0007	0.0312	-0.0314	0.0336	0.0183	0.0283	-0.0099	0.0325	0.0030	0.0051	0.5087
1934	-0.0144	0.0446	-0.0594	0.2422	0.1384	0.1003	0.0318	0.0676	0.0293	0.0900	0.0293	0.0597	0.0249	0.0016	0.0203	-0.0462
1935	0.4767	0.0495	0.4137	0.4019	0.0961	0.0498	0.0281	0.0214	0.0276	0.0701	0.0202	0.0494	0.0163	0.0017	0.0299	0.4486
1936	0.3392	0.0536	0.2792	0.6480	0.0674	0.0752	0.0277	0.0464	0.0255	0.0306	0.0144	0.0160	0.0129	0.0018	0.0121	0.3115
1937	-0.3503	0.0466	-0.3859	-0.5801	0.0275	0.0023	0.0266	-0.0248	0.0273	0.0156	0.0148	0.0005	0.0114	0.0031	0.0310	-0.3769
1938	0.3112	0.0483	0.2521	0.3280	0.0613	0.0553	0.0264	0.0283	0.0252	0.0623	0.0182	0.0437	0.0152	-0.0002	-0.0278	0.2848
1939	-0.0041	0.0469	-0.0545	0.0035	0.0397	0.0594	0.0240	0.0348	0.0226	0.0452	0.0131	0.0318	0.0098	0.0002	-0.0048	-0.0281
1940	-0.0978	0.0536	-0.1529	-0.0516	0.0339	0.0609	0.0223	0.0377	0.0194	0.0296	0.0090	0.0204	0.0057	0.0000	0.0096	-0.1201
1941	-0.1159	0.0671	-0.1786	-0.0900	0.0273	0.0093	0.0194	-0.0101	0.0204	0.0050	0.0067	-0.0017	0.0082	0.0006	0.0972	-0.1353
1942	0.0234	0.0679	0.1243	0.4451	0.0260	0.0322	0.0246	0.0074	0.0246	0.0194	0.0076	0.0117	0.0072	0.0027	0.0929	-0.0012
1943	0.2590	0.0624	0.1945	0.8837	0.0283	0.0208	0.0244	-0.0037	0.0248	0.0281	0.0156	0.0123	0.0145	0.0035	0.0316	0.2346
1944	0.1975	0.0548	0.1380	0.5372	0.0473	0.0281	0.0246	0.0032	0.0246	0.0180	0.0144	0.0035	0.0140	0.0033	0.0211	0.1729
1945	0.3611	0.0497	0.3072	0.7361	0.0408	0.1073	0.0234	0.0827	0.0199	0.0222	0.0119	0.0102	0.0103	0.0033	0.0225	0.3377
1946	-0.0807	0.0409	-0.1187	-0.1163	0.0172	-0.0010	0.0204	-0.0215	0.0212	0.0100	0.0108	-0.0008	0.0112	0.0035	0.1816	-0.1011
1947	0.0571	0.0549	0.0000	0.0092	-0.0234	-0.0262	0.0213	-0.0470	0.0243	0.0091	0.0121	-0.0030	0.0134	0.0050	0.0901	0.0358
1948	0.0550	0.0608	-0.0065	-0.0211	0.0414	0.0340	0.0240	0.0096	0.0237	0.0185	0.0156	0.0027	0.0151	0.0081	0.0271	0.0310
1949	0.1879	0.0750	0.1026	0.1975	0.0331	0.0645	0.0225	0.0415	0.0209	0.0232	0.0136	0.0095	0.0123	0.0110	-0.0180	0.1654
1950	0.3171	0.0877	0.2178	0.3875	0.0212	0.0006	0.0212	-0.0206	0.0224	0.0070	0.0139	-0.0069	0.0162	0.0120	0.0579	0.2959
1951	0.2402	0.0691	0.1646	0.0780	-0.0269	-0.0393	0.0238	-0.0627	0.0269	0.0036	0.0198	-0.0163	0.0217	0.0149	0.0587	0.2164
1952	0.1837	0.0593	0.1178	0.0303	0.0352	0.0116	0.0266	-0.0148	0.0279	0.0163	0.0219	-0.0057	0.0235	0.0166	0.0088	0.1571
1953	-0.0099	0.0546	-0.0662	-0.0649	0.0341	0.0364	0.0284	0.0067	0.0274	0.0323	0.0255	0.0061	0.0218	0.0182	0.0062	-0.0383
1954	0.5262	0.0621	0.4502	0.6058	0.0539	0.0719	0.0279	0.0435	0.0272	0.0268	0.0160	0.0108	0.0172	0.0086	-0.0050	0.4983
1955	0.3156	0.0456	0.2640	0.2044	0.0048	-0.0129	0.0275	-0.0407	0.0295	-0.0065	0.0245	-0.0310	0.0280	0.0157	0.0037	0.2881
1956	0.0656	0.0383	0.0262	0.0428	-0.0681	-0.0559	0.0299	-0.0846	0.0345	-0.0042	0.0305	-0.0345	0.0363	0.0246	0.0286	0.0357
1957	-0.1078	0.0384	-0.1431	-0.1457	0.0871	0.0746	0.0344	0.0382	0.0323	0.0784	0.0359	0.0405	0.0284	0.0314	0.0302	-0.1422
1958	0.4336	0.0438	0.3806	0.6489	-0.0222	-0.0609	0.0327	-0.0923	0.0382	-0.0129	0.0293	-0.0417	0.0381	0.0154	0.0176	0.4009
1959	0.1196	0.0331	0.0848	0.1640	-0.0097	-0.0226	0.0401	-0.0620	0.0447	-0.0039	0.0418	-0.0456	0.0498	0.0295	0.0150	0.0795
1960	0.0047	0.0326	-0.0297	-0.0329	0.0907	0.1378	0.0426	0.0929	0.0380	0.1176	0.0415	0.0742	0.0331	0.0266	0.0148	-0.0379
1961	0.2689	0.0348	0.2313	0.3209	0.0482	0.0097	0.0383	-0.0286	0.0415	0.0185	0.0354	-0.0172	0.0384	0.0213	0.0067	0.2306
1962	-0.0873	0.0298	-0.1110	-0.1190	0.0795	0.0689	0.0400	0.0278	0.0395	0.0556	0.0373	0.0173	0.0350	0.0273	0.0122	-0.1273
1963	0.2280	0.0361	0.1889	0.2357	0.0219	0.0121	0.0389	-0.0270	0.0417	0.0164	0.0371	-0.0210	0.0404	0.0312	0.0165	0.1891
1964	0.1648	0.0333	0.1297	0.2352	0.0477	0.0351	0.0415	-0.0072	0.0423	0.0404	0.0400	-0.0003	0.0403	0.0354	0.0119	0.1233
1965	0.1245	0.0321	0.0906	0.4175	-0.0046	0.0071	0.0419	-0.0345	0.0450	0.0120	0.0415	-0.0310	0.0490	0.0393	0.0192	0.0826
1966	-0.1006	0.0311	-0.1309	-0.0701	0.0020	0.0365	0.0449	-0.0106	0.0455	0.0469	0.0493	-0.0041	0.0479	0.0476	0.0335	-0.1455
1967	0.2398	0.0364	0.2090	0.8357	-0.0495	-0.0918	0.0459	-0.1355	0.0556	0.0101	0.0488	-0.0385	0.0577	0.0421	0.0304	0.1939
1968	0.1106	0.0318	0.0766	0.3597	0.0257	-0.0026	0.0550	-0.0551	0.0598	0.0454	0.0549	-0.0099	0.0596	0.0521	0.0472	0.0556

Source: Ibbotson SBBI 2018 Stock, Bonds, Bills, and Inflation Yearbook

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14	A-15	A-16
Year	Large Company Stocks Total Returns Jan-Dec *	Large Company Stocks Income Returns Jan-Dec *	Large Company Stocks Capital Appreciation Returns Jan-Dec *	Small Company Stocks Total Returns Jan-Dec *	Long-Term Corporate Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Income Returns Jan-Dec *	Long-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Long-Term Government Bonds Yields Jan-Dec *	Intermediate-Term Government Bonds Total Returns Jan-Dec *	Intermediate-Term Government Bonds Income Returns Jan-Dec *	Intermediate-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Intermediate-Term Government Bonds Yields Jan-Dec *	U.S. Treasury Bills Total Returns Jan-Dec *	Inflation Jan-Dec *	Risk Premia (A-1)-(A-7)
1969	-0.0850	0.0304	-0.1142	-0.2505	-0.0809	-0.0507	0.0595	-0.1083	0.0687	-0.0074	0.0665	-0.0727	0.0829	0.0658	0.0611	-0.1445
1970	0.0401	0.0341	0.0016	-0.1743	0.1837	0.1211	0.0674	0.0484	0.0648	0.1686	0.0749	0.0871	0.0590	0.0652	0.0549	-0.0273
1971	0.1431	0.0333	0.1079	0.1650	0.1101	0.1323	0.0632	0.0661	0.0597	0.0872	0.0575	0.0272	0.0525	0.0439	0.0336	0.0799
1972	0.1898	0.0309	0.1563	0.0443	0.0726	0.0569	0.0587	-0.0035	0.0599	0.0516	0.0575	-0.0075	0.0585	0.0384	0.0341	0.1311
1973	-0.1466	0.0286	-0.1737	-0.3090	0.0114	-0.0111	0.0651	-0.0770	0.0726	0.0461	0.0658	-0.0219	0.0679	0.0693	0.0880	-0.2117
1974	-0.2647	0.0369	-0.2972	-0.1995	-0.0306	0.0435	0.0727	-0.0345	0.0760	0.0569	0.0724	-0.0199	0.0712	0.0800	0.1220	-0.3374
1975	0.3720	0.0537	0.3155	0.5282	0.1464	0.0920	0.0799	0.0073	0.0805	0.0783	0.0735	0.0012	0.0719	0.0580	0.0701	0.2921
1976	0.2384	0.0438	0.1915	0.5738	0.1865	0.1675	0.0789	0.0807	0.0721	0.1287	0.0710	0.0525	0.0600	0.0508	0.0481	0.1595
1977	-0.0718	0.0431	-0.1150	0.2538	0.0171	-0.0069	0.0714	-0.0786	0.0803	0.0141	0.0649	-0.0515	0.0751	0.0512	0.0677	-0.1432
1978	0.0656	0.0533	0.0106	0.2346	-0.0007	-0.0118	0.0790	-0.0905	0.0898	0.0349	0.0783	-0.0449	0.0883	0.0718	0.0903	-0.0134
1979	0.1844	0.0571	0.1231	0.4346	-0.0418	-0.0123	0.0886	-0.0984	0.1012	0.0409	0.0904	-0.0507	0.1033	0.1038	0.1331	0.0958
1980	0.3242	0.0573	0.2577	0.3988	-0.0276	-0.0395	0.0997	-0.1400	0.1199	0.0391	0.1055	-0.0681	0.1245	0.1124	0.1240	0.2245
1981	-0.0491	0.0489	-0.0972	0.4134	-0.0124	0.0186	0.1155	-0.1033	0.1334	0.0945	0.1297	-0.0455	0.1396	0.1471	0.0894	-0.1646
1982	0.2141	0.0550	0.1476	0.2801	0.4256	0.4036	0.1350	0.2395	0.1095	0.2910	0.1281	0.1423	0.0990	0.1054	0.0387	0.0791
1983	0.2251	0.0500	0.1727	0.3967	0.0626	0.0065	0.1038	-0.0982	0.1197	0.0741	0.1035	-0.0330	0.1141	0.0880	0.0380	0.1213
1984	0.0627	0.0456	0.0139	-0.0667	0.1686	0.1548	0.1174	0.0232	0.1170	0.1402	0.1168	0.0122	0.1104	0.0985	0.0395	-0.0547
1985	0.3216	0.0510	0.2634	0.2466	0.3009	0.3097	0.1125	0.1784	0.0956	0.2033	0.1029	0.0901	0.0855	0.0772	0.0377	0.2091
1986	0.1847	0.0374	0.1463	0.0685	0.1985	0.2453	0.0898	0.1499	0.0789	0.1514	0.0772	0.0699	0.0685	0.0616	0.0113	0.0949
1987	0.0523	0.0364	0.0203	-0.0930	-0.0027	-0.0271	0.0792	-0.1069	0.0920	0.0290	0.0747	-0.0475	0.0832	0.0547	0.0441	-0.0269
1988	0.1681	0.0417	0.1241	0.2287	0.1070	0.0967	0.0897	0.0036	0.0918	0.0610	0.0824	-0.0226	0.0917	0.0635	0.0442	0.0784
1989	0.3149	0.0385	0.2726	0.1018	0.1623	0.1811	0.0881	0.0862	0.0816	0.1329	0.0846	0.0434	0.0794	0.0837	0.0465	0.2268
1990	-0.0317	0.0336	-0.0656	-0.2156	0.0678	0.0618	0.0819	-0.0261	0.0844	0.0973	0.0815	0.0102	0.0770	0.0781	0.0611	-0.1136
1991	0.3055	0.0382	0.2631	0.4463	0.1989	0.1930	0.0822	0.1010	0.0730	0.1546	0.0743	0.0736	0.0597	0.0560	0.0306	0.2233
1992	0.0767	0.0303	0.0446	0.2335	0.0939	0.0805	0.0726	0.0034	0.0726	0.0719	0.0627	0.0064	0.0610	0.0351	0.0290	0.0041
1993	0.0999	0.0283	0.0706	0.2098	0.1319	0.1824	0.0717	0.1071	0.0654	0.1124	0.0553	0.0556	0.0522	0.0290	0.0275	0.0282
1994	0.0131	0.0282	-0.0154	0.0311	-0.0576	-0.0777	0.0659	-0.1429	0.0799	-0.0514	0.0607	-0.1114	0.0780	0.0390	0.0267	-0.0528
1995	0.3743	0.0291	0.3411	0.3446	0.2720	0.3167	0.0760	0.2304	0.0603	0.1680	0.0669	0.0966	0.0538	0.0560	0.0254	0.2983
1996	0.2307	0.0254	0.2026	0.1762	0.0140	-0.0093	0.0618	-0.0737	0.0673	0.0210	0.0582	-0.0390	0.0616	0.0521	0.0332	0.1689
1997	0.3336	0.0211	0.3101	0.2278	0.1295	0.1585	0.0664	0.0851	0.0602	0.0838	0.0614	0.0195	0.0573	0.0526	0.0170	0.2672
1998	0.2858	0.0168	0.2667	-0.0731	0.1076	0.1306	0.0583	0.0689	0.0542	0.1210	0.0529	0.0466	0.0468	0.0486	0.0161	0.2275
1999	0.2104	0.0136	0.1953	0.2979	-0.0745	-0.0896	0.0557	-0.1435	0.0682	-0.0177	0.0530	-0.0706	0.0645	0.0468	0.0268	0.1547
2000	-0.0911	0.0110	-0.1014	-0.0359	0.1287	0.2148	0.0650	0.1436	0.0558	0.1259	0.0619	0.0594	0.0507	0.0589	0.0339	-0.1561
2001	-0.1188	0.0118	-0.1304	0.2277	0.1065	0.0370	0.0553	-0.0189	0.0575	0.0762	0.0427	0.0323	0.0442	0.0383	0.0155	-0.1741
2002	-0.2210	0.0139	-0.2337	-0.1328	0.1633	0.1784	0.0559	0.1169	0.0484	0.1293	0.0398	0.0865	0.0261	0.0165	0.0238	-0.2769
2003	0.2870	0.0200	0.2638	0.6070	0.0527	0.0145	0.0480	-0.0336	0.0511	0.0240	0.0285	-0.0048	0.0297	0.0102	0.0188	0.2390
2004	0.1087	0.0175	0.0899	0.1839	0.0872	0.0851	0.0502	0.0326	0.0484	0.0225	0.0328	-0.0107	0.0347	0.0120	0.0326	0.0585
2005	0.0491	0.0184	0.0300	0.0569	0.0587	0.0781	0.0469	0.0302	0.0461	0.0136	0.0392	-0.0258	0.0434	0.0298	0.0342	0.0022
2006	0.1580	0.0201	0.1362	0.1617	0.0324	0.0119	0.0468	-0.0364	0.0491	0.0314	0.0454	-0.0151	0.0465	0.0480	0.0254	0.1112
2007	0.0549	0.0196	0.0353	-0.0522	0.0260	0.0988	0.0486	0.0469	0.0450	0.1005	0.0444	0.0533	0.0328	0.0466	0.0408	0.0063
2008	-0.3700	0.0192	-0.3849	-0.3672	0.0878	0.2587	0.0445	0.2050	0.0303	0.1311	0.0296	0.0992	0.0126	0.0160	0.0009	-0.4145
2009	0.2646	0.0248	0.2345	0.2809	0.0302	-0.1490	0.0347	-0.1825	0.0458	-0.0240	0.0201	-0.0442	0.0242	0.0010	0.0272	0.2299
2010	0.1506	0.0202	0.1278	0.3126	0.1244	0.1014	0.0425	0.0589	0.0414	0.0712	0.0192	0.0516	0.0170	0.0012	0.0150	0.1081
2011	0.0211	0.0213	0.0000	-0.0326	0.1795	0.2823	0.0381	0.2374	0.0248	0.0946	0.0158	0.0779	0.0059	0.0004	0.0296	-0.0170

Source: Ibbotson SBBI 2018 Stock, Bonds, Bills, and Inflation Yearbook

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14	A-15	A-16
Year	Large Company Stocks Total Returns Jan-Dec *	Large Company Stocks Income Returns Jan-Dec *	Large Company Stocks Capital Appreciation Returns Jan-Dec *	Small Company Stocks Total Returns Jan-Dec *	Long-Term Corporate Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Total Returns Jan-Dec *	Long-Term Government Bonds Income Returns Jan-Dec *	Long-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Long-Term Government Bonds Yields Jan-Dec *	Intermediate-Term Government Bonds Total Returns Jan-Dec *	Intermediate-Term Government Bonds Income Returns Jan-Dec *	Intermediate-Term Government Bonds Capital Appreciation Returns Jan-Dec *	Intermediate-Term Government Bonds Yields Jan-Dec *	U.S. Treasury Bills Total Returns Jan-Dec *	Inflation Jan-Dec *	Risk Premia (A-1)-(A-7)
2012	0.1600	0.0250	0.1341	0.1824	0.1068	0.0331	0.0240	0.0088	0.0241	0.0207	0.0058	0.0148	0.0046	0.0006	0.0174	0.1360
2013	0.3239	0.0248	0.2960	0.4507	-0.0707	-0.1278	0.0288	-0.1570	0.0378	-0.0368	0.0102	-0.0468	0.0149	0.0002	0.0151	0.2951
2014	0.1369	0.0216	0.1139	0.0292	0.1728	0.2471	0.0341	0.2093	0.0246	0.0300	0.0163	0.0135	0.0155	0.0002	0.0076	0.1028
2015	0.0138	0.0210	-0.0073	-0.0360	-0.0102	-0.0065	0.0247	-0.0311	0.0268	0.0179	0.0151	0.0029	0.0169	0.0002	0.0073	-0.0109
2016	0.1196	0.0226	0.0954	0.2565	0.0670	0.0175	0.0230	-0.0040	0.0272	0.0192	0.0136	0.0058	0.0185	0.0020	0.0207	0.0966
2017	0.2183	0.0221	0.1942	0.1119	0.1225	0.0624	0.0267	0.0351	0.0254	0.0164	0.0193	-0.0029	0.0211	0.0080	0.0211	0.1916
2018	-0.0438	0.0201	-0.0624	-0.1160	-0.0473	-0.0057	0.0282	-0.0350	0.0284	0.0116	0.0265	-0.0155	0.0250	0.0181	0.0191	-0.0720
2019	0.3149	0.0234	0.2888	0.2063	0.1995	0.1216	0.0255	0.0953	0.0225	0.0826	0.0208	0.0454	0.0170	0.0214	0.0229	0.2894
2020	0.1840	0.0180	0.1626	0.0659	0.1540	0.1665	0.0153	0.1512	0.0137	0.0725	0.0066	0.0658	0.0044	0.0045	0.0136	0.1687
2021	0.2871	0.0161	0.2689	0.3348	-0.0266	-0.0541	0.0173	-0.0717	0.0188	-0.0336	0.0086	-0.0421	0.0135	0.0004	0.0704	0.2698
Average	**0.1214**	**0.0389**	**0.0821**	**0.1663**	**0.0640**	**0.0597**	**0.0487**	**0.0088**	**0.0492**	**0.0506**	**0.0429**	**0.0070**	**0.0425**	**0.0330**	**0.0298**	**0.0726**
Median	**0.1400**	**0.0372**	**0.1109**	**0.1832**	**0.0480**	**0.0368**	**0.0401**	**0.0033**	**0.0415**	**0.0336**	**0.0368**	**0.0032**	**0.0362**	**0.0282**	**0.0268**	**0.0813**
High	**0.5399**	**0.0877**	**0.4659**	**1.4287**	**0.4256**	**0.4036**	**0.1350**	**0.2395**	**0.1334**	**0.2910**	**0.1297**	**0.1423**	**0.1396**	**0.1471**	**0.1816**	**0.5087**
Low	**-0.4334**	**0.0110**	**-0.4707**	**-0.5801**	**-0.0809**	**-0.1490**	**0.0153**	**-0.1825**	**0.0137**	**-0.0601**	**0.0058**	**-0.1114**	**0.0044**	**-0.0002**	**-0.1030**	**-0.4667**
Last 5 year (60 months)																
Average	**0.1921**	**0.0199**	**0.1704**	**0.1206**	**0.0804**	**0.0581**	**0.0226**	**0.0350**	**0.0218**	**0.0299**	**0.0164**	**0.0101**	**0.0162**	**0.0105**	**0.0294**	**0.1695**
Median	**0.2183**	**0.0201**	**0.1942**	**0.1119**	**0.1225**	**0.0624**	**0.0255**	**0.0351**	**0.0225**	**0.0164**	**0.0193**	**-0.0029**	**0.0170**	**0.0080**	**0.0211**	**0.1916**
High	**0.3149**	**0.0234**	**0.2888**	**0.3348**	**0.1995**	**0.1665**	**0.0282**	**0.1512**	**0.0284**	**0.0826**	**0.0265**	**0.0658**	**0.0250**	**0.0214**	**0.0704**	**0.2894**
Low	**-0.0438**	**0.0161**	**-0.0624**	**-0.1160**	**-0.0473**	**-0.0541**	**0.0153**	**-0.0717**	**0.0137**	**-0.0336**	**0.0066**	**-0.0421**	**0.0044**	**0.0004**	**0.0136**	**-0.0720**

* Compound Annual Return

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Public Meeting held October 27, 2022

Docket Number: M-2022-3035196

BUREAU OF TECHNICAL UTILITY SERVICES

REPORT ON THE QUARTERLY EARNINGS

OF JURISDICTIONAL UTILITIES

FOR THE YEAR ENDED

June 30, 2022

Gladys Brown Dutrieuille, Chairman
Stephen M. DeFrank, Vice Chairman, Statement
Ralph V. Yanora, Joint Statement, Dissenting
Kathryn L. Zerfuss, Associates with Vice Chairman DeFrank Statement
John F. Coleman, Jr., Joint Statement, Dissenting

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* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

Attachment A – Summary of Equity Returns..... 5

Attachment B – Summary of Returns..... 12

This chart depicts the overall and equity returns (actual and adjusted) for the filing utilities for the current quarter. The last authorized equity returns and the year authorized is also shown.

Attachment C – Allowed Rates of Return on Common Equity..... 14

This is a historical chart that shows the most recent rate cases for select companies in electric, gas, and water. A docket number followed by their final return on equity and year is also given.

Attachment D – Distribution System Improvement Charge Return on Equity 15

Compares utility adjusted return on equity to Commission authorized return on equity for utilities with a Distribution System Improvement Charge.

Attachment E – Explanation of Return on Equity Methods 16

Criteria for determining the industry barometer groups used in ROE calculations. Also, provides details of the Discounted Cash Flow equation and Capital Asset Pricing Model equation.

Attachment F – Market Based Returns on Equity – Electric..... 18

The market indicated common equity cost rate range consists of data used from the electric barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.

Attachment F – Historic DCF and CAPM – Electric 19

Historic barometer group DCF and CAPM average ROEs.

Attachment F – Electric Barometer Group Calculation of a Current and 52 Week Average Dividend Yield..... 20-21

Electric barometer companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Attachment F – Development of a Representative Dividend Growth Rate..... 22

Multiple sources of the gas barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Attachment G – Market Based Returns on Equity – Gas..... 23

The market indicated common equity cost rate range consists of data used from the gas barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.

Attachment G – Historic DCF and CAPM – Gas 24
Historic barometer group DCF and CAPM average ROEs, including a linear trend line graph.

Attachment G – Gas Barometer Group Calculation of a Current and 52 Week Average Dividend Yield 25
Gas barometer companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Attachment G – Development of a Representative Dividend Growth Rate..... 26
Multiple sources of the gas barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Attachment H – Market Based Returns on Equity – Water 27
The market indicated common equity cost rate range consists of data used from the water barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.

Attachment H – Historic DCF and CAPM – Water 28
Historic barometer group DCF and CAPM average ROEs, including a linear trend line graph.

Attachment H – Water Barometer Group Calculation of a Current and 52 Week Average Dividend Yield 29
Water barometer companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Attachment H – Development of a Representative Dividend Growth Rate..... 30
Multiple sources of the water barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Introduction:

On September 20, 1991, the Commission initiated a rulemaking at L-00910061 pertaining to earnings disclosures by the public utilities subject to its jurisdiction. At that docket, the Commission stated that the submission of accurate, reliable and complete earnings disclosure reports, at regular intervals, is essential to the fulfillment of the broad regulatory oversight responsibilities entrusted to the Commission by the Legislature in the Public Utility Code. The earnings disclosure regulations promulgated by the Commission were adopted October 1, 1992, and published January 23, 1993, at 23 Pa.B. 463. Based upon those regulations, codified at 52 Pa. Code, Chapter 71, a reporting format was developed and distributed to the jurisdictional fixed utilities of Pennsylvania.

All fixed utilities having jurisdictional revenues of $1,000,000 or more, for a calendar year, are required to file the report by March 31 of each year. Such reports are to be based upon the results of operations for the 12-month period ending December 31 of the prior year. Utilities having more than $10,000,000 in jurisdictional revenues are also required to file reports for the 12 months ending on March 31, June 30, and September 30 of each year. On November 30, 2004, however, the Pennsylvania General Assembly signed into law Act 183 concerning alternative telecommunications regulation and broadband deployment. As a result of Act 183, the reporting requirements for the PUC jurisdictional telecommunications companies of Pennsylvania have been streamlined at section 3015(e) of the Public Utility Code. A quarterly earnings report is not listed among those reports now required of PUC jurisdictional telecommunications utilities in Pennsylvania and, therefore, this report does not address telephone company earnings.

The reports have been filed for the period ended June 30, 2022.[1] The Finance Staff of the Bureau of Technical Utility Services has reviewed the reports and has prepared this summary report for public release. This report sets forth the achieved return on equity for each company, the last allowed return for that utility, a market return as determined through the analysis of the barometer group data and the most recent returns allowed, per industry, by the Pennsylvania Public Utility Commission and by other regulatory bodies. Where a utility has not filed a report, the reasons for not filing are indicated.

Questions pertaining to the preparation and contents of this Report should be directed to Ms. Erin Laudenslager, Manager - Finance, Bureau of Technical Utility Services, at (717) 705-4364.

[1] Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

The equity return summaries that follow in Attachment A are, for each quarter;

ACTUAL

1. Based on actual results of operations

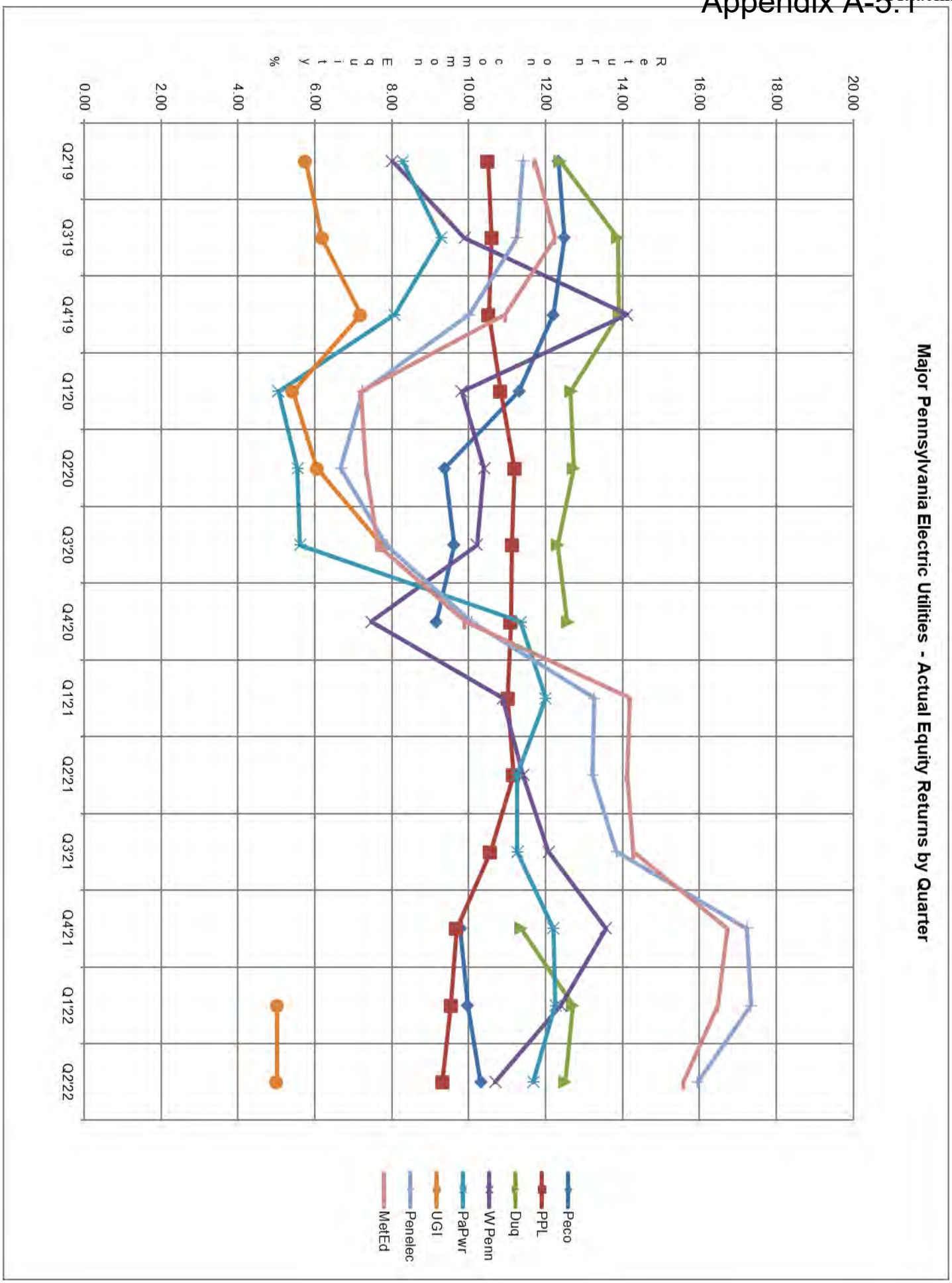
and

ADJUSTED

2. Based on company proposed pro forma and ratemaking adjustments

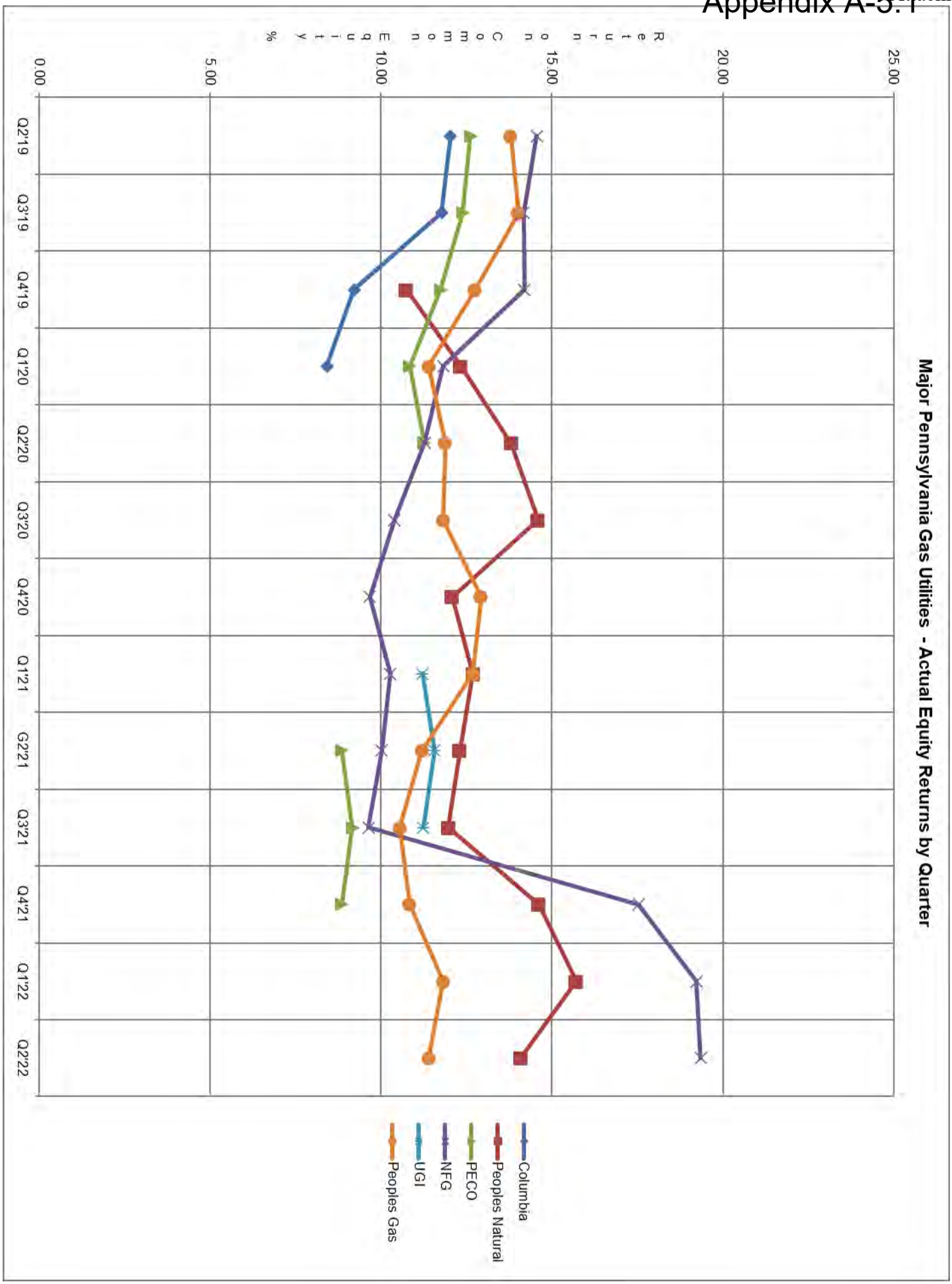
ELECTRIC UTILITIES
EQUITY RETURNS BY QUARTER

QTR		Peco		PPL		Duq		W Penn		PaPwr		UGI		Penelec		MetEd	
END		ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ
2016	3	13.42	11.44	10.15	9.59	10.12	9.46					19.18	6.99				
	4	12.52	10.65	10.45	10.29	9.71	9.01					26.07	7.30				
2017	1	13.01	11.40	9.76	8.49	9.53	8.99					22.86	6.81				
	2	12.98	11.40	10.71	9.70	9.86	9.24	8.23	7.38	7.32	7.97	21.96	6.74	9.23	9.20	9.74	9.35
	3	12.84	10.52	10.15	9.30	9.53	9.23	7.63	7.24	8.32	9.08	16.13	5.22	9.61	9.50	11.37	10.97
	4	12.07	9.11	11.07	10.63			9.47	9.12	8.46	8.19			11.70	10.93	12.58	11.67
2018	1			12.53	11.36			10.35	9.08	9.03	8.08			11.84	9.93	12.77	11.38
	2			11.05	9.49			9.92	8.52	8.79	7.57			11.56	9.39	11.90	10.26
	3			11.19	9.83			11.41	6.74	10.30	5.80			13.97	8.44	14.46	9.62
	4	10.88	7.61	11.10	10.15	12.06	9.39	9.92	6.78	10.64	7.43			13.27	9.31	13.05	7.40
2019	1	12.65	7.93	10.10	8.96	12.58	9.73	9.08	6.62	9.14	7.61	7.05	5.22	12.03	8.07	12.54	7.66
	2	12.34	7.94	10.51	8.95	12.38	9.34	8.02	5.99	8.29	7.10	5.77	3.22	11.42	8.16	11.72	7.21
	3	12.49	7.96	10.61	8.99	13.88	9.33	9.90	7.87	9.28	7.76	6.20	2.04	11.26	8.78	12.25	7.77
	4	12.21	8.50	10.53	10.40	13.92	9.08	14.13	7.07	8.08	6.90	7.20	2.38	10.02	8.54	10.96	9.27
2020	1	11.31	8.35	10.84	11.20	12.66	8.31	9.82	5.54	5.06	6.71	5.43	2.26	7.24	8.74	7.20	8.31
	2	9.38	8.17	11.20	10.81	12.73	8.56	10.41	5.53	5.56	6.55	6.06	2.01	6.68	7.94	7.34	8.04
	3	9.62	8.56	11.14	11.20	12.32	8.08	10.22	5.42	5.62	6.74	7.76	0.41	7.87	8.75	7.64	8.37
	4	9.16	7.64	11.10	11.48	12.57	8.15	7.48	5.65	11.36	7.34			10.08	8.62	9.91	8.64
2021	1			11.03	11.76			10.89	6.64	12.01	7.01			13.27	8.96	14.19	9.44
	2			11.17	11.73			11.42	7.07	11.27	5.94			13.23	8.15	14.13	9.06
	3			10.57	10.65			12.08	7.91	11.27	5.91			13.85	8.67	14.29	9.38
	4	9.79	7.59	9.69	10.57	11.37	11.23	13.57	7.85	12.21	5.42			17.25	8.04	16.74	9.40
2022	1	9.98	6.99	9.55	9.49	12.71	10.91	12.40	6.99	12.26	5.30	5.03	4.93	17.35	7.83	16.48	9.40
	2	10.32	7.19	9.33	9.54	12.51	10.22	10.70	5.78	11.69	5.04	5.01	3.89	15.95	6.93	15.59	8.72


Major Pennsylvania Electric Utilities - Actual Equity Returns by Quarter
Return on common equity %
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
Q2'19
Q3'19
Q4'19
Q1'20
Q2'20
Q3'20
Q4'20
Q1'21
Q2'21
Q3'21
Q4'21
Q1'22
Q2'22
Peco
PPL
Duq
W Penn
PaPwr
UGI
Penelec
MetEd

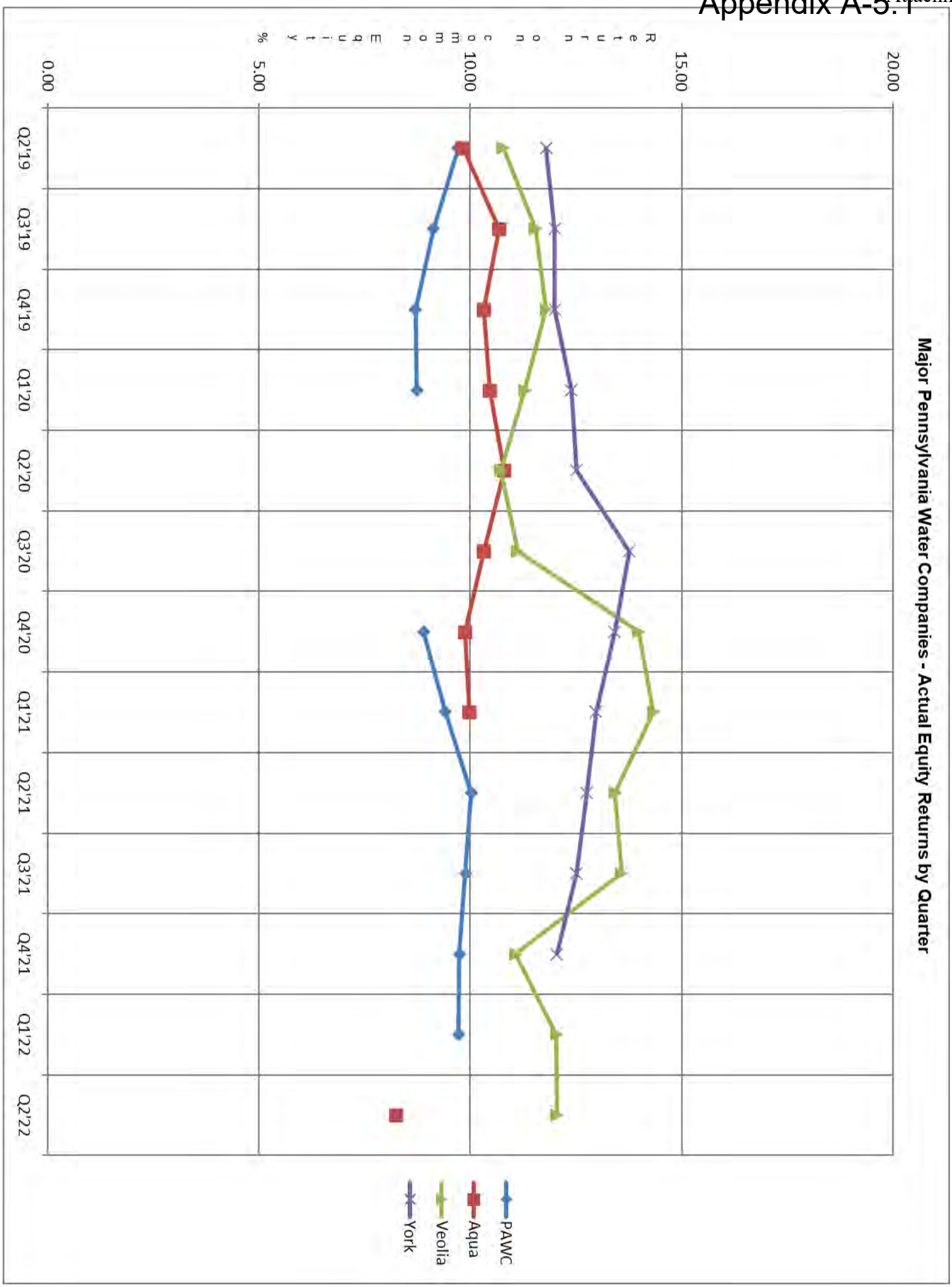
GAS UTILITIES
EQUITY RETURNS BY QUARTER

QTR		Columbia		Peoples Natural		PECO		NFG		UGI		Peoples Gas	
END		ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ
2016	3			6.93	9.34	12.09	14.40	13.00	10.34			9.07	12.02
	4	8.90	9.26	10.11	11.03	11.39	12.37	14.18	9.58			12.47	11.87
2017	1	10.52	10.17	9.96	9.27	11.45	12.55	12.84	9.26	21.08	10.09	11.82	12.34
	2	9.15	9.81	9.41	9.71	10.87	12.17	13.33	10.53	19.16	9.44	11.89	13.47
	3	8.15	8.77	6.69	6.40	11.26	10.92	10.92	10.00	13.34	9.03	12.04	13.36
	4	7.76	8.48	9.66	7.27	11.48	9.83	11.58	10.56	11.06	8.62	12.65	11.79
2018	1			11.42	7.00	12.65	9.77	14.40	10.20	12.82	7.90	14.02	10.17
	2			11.03	6.80	12.66	9.05	12.06	9.89	16.75	6.80	12.78	10.15
	3			10.21	7.43	12.54	8.36	12.52	10.12	18.69	8.04	13.03	10.20
	4	11.39	9.81			12.86	8.68	12.24	10.21			13.92	11.13
2019	1	12.76	10.22			13.68	9.06	11.83	10.93			14.10	10.71
	2	12.04	9.92			12.62	8.41	14.56	9.99			13.80	11.66
	3	11.77	9.85			12.40	8.31	14.17	9.75			14.02	11.63
	4	9.21	9.09	10.74	12.26	11.75	6.99	14.20	9.77			12.76	11.20
2020	1	8.42	9.11	12.34	12.34	10.84	7.68	11.82	9.92			11.40	11.07
	2			13.81	12.38	11.26	7.25	11.28	9.05			11.89	11.10
	3			14.60	12.77			10.39	8.25			11.82	11.50
	4			12.09	10.37			9.68	8.12			12.93	12.11
2021	1			12.69	10.43			10.27	8.47	11.22	7.70	12.69	11.76
	2			12.31	10.23	8.85	5.13	10.02	8.47	11.57	8.04	11.20	11.61
	3			11.97	10.27	9.16	5.27	9.64	8.45	11.24	6.97	10.56	11.38
	4			14.62	10.52	8.86	5.79	17.54	8.02			10.84	10.28
2022	1			15.71	10.93			19.24	7.88			11.83	12.09
	2			14.09	11.67			19.36	6.87			11.40	12.19


Major Pennsylvania Gas Utilities - Actual Equity Returns by Quarter
Return on Common Equity %
25.00
20.00
15.00
10.00
5.00
0.00
Q2'19
Q3'19
Q4'19
Q1'20
Q2'20
Q3'20
Q4'20
Q1'21
Q2'21
Q3'21
Q4'21
Q1'22
Q2'22
Columbia
Peoples Natural
PECO
NFG
UGI
Peoples Gas

WATER UTILITIES
EQUITY RETURNS BY QUARTER

QTR		PAWC		Aqua		Veolia		York	
END		ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ
2016	3	9.82	8.47	11.55	10.32	8.23	9.99	12.20	11.00
	4	9.37	8.51	11.70	10.57	9.13	9.90	11.50	10.40
2017	1			11.34	10.04	9.22	9.60	11.61	9.50
	2			10.99	9.22	9.03	9.07	11.60	9.10
	3			10.99	9.23	8.57	8.57	11.60	8.70
	4			11.05	8.63	8.75	8.73	11.30	8.40
2018	1	9.55	8.97	10.94	8.41				
	2	10.27	9.65						
	3	11.03	9.48						
	4	10.08	9.03					10.70	10.30
2019	1	9.82	8.87					11.60	11.60
	2	9.72	8.90	9.84	9.04	10.78	10.36	11.80	11.80
	3	9.13	8.41	10.69	8.84	11.55	11.75	12.00	12.00
	4	8.71	8.09	10.33	8.24	11.80	12.15	12.00	9.80
2020	1	8.74	7.56	10.47	8.31	11.30	11.30	12.39	12.39
	2			10.81	8.57	10.72	10.69	12.51	12.51
	3			10.33	8.55	11.13	10.69	13.76	13.76
	4	8.90	8.15	9.89	8.30	13.98	10.17	13.42	9.94
2021	1	9.41	8.90	9.99	8.38	14.34	10.48	12.98	9.74
	2	10.03	9.28			13.43	9.83	12.76	9.66
	3	9.89	8.65			13.58	9.07	12.51	9.32
	4	9.75	8.05			11.08	9.75	12.05	8.86
2022	1	9.73	7.82			12.04	9.68		
	2			8.26	8.91	12.05	9.79		


Major Pennsylvania Water Companies - Actual Equity Returns by Quarter
Return on common equity %
0.00
5.00
10.00
15.00
20.00
Q2'19
Q3'19
Q4'19
Q1'20
Q2'20
Q3'20
Q4'20
Q1'21
Q2'21
Q3'21
Q4'21
Q1'22
Q2'22
PAWC
Aqua
Veolia
York

Attachment B includes:

A. Overall Returns on rate base
1. Actual
2. Company proposed pro forma and ratemaking adjustments

and

B. Equity Returns
1. Actual
2. Company proposed pro forma and ratemaking adjustments

Summary of Returns
For the Year Ended June 30, 2022

COMPANY NAME	OVERALL RETURN ACTUAL	OVERALL RETURN ADJ	EQUITY RETURN ACTUAL	EQUITY RETURN ADJ	ROE AUTH	YEAR AUTH
ELECTRIC						
$10,000,000 Revenues						
PECO Energy - Electric Operations	7.44	5.62	10.32	7.19	Settled	2021
PPL Electric Utilities Corp.	6.86	6.98	9.33	9.54	Settled	2015
Duquesne Light Company	8.86	7.57	12.51	10.22	Settled	2021
West Penn Power Company	7.91	5.10	10.70	5.78	Settled	2017
Pennsylvania Power Company	8.72	5.17	11.69	5.04	Settled	2017
UGI Utilities, Inc. - Electric Division	4.55	4.08	5.01	3.89	Settled	2021
Pennsylvania Electric Company	10.13	5.57	15.95	6.93	Settled	2017
Metropolitan Edison Company	10.09	6.50	15.59	8.72	Settled	2017
GAS						
$10,000,000 Revenues						
Columbia Gas of PA, Inc.*					Settled	2021
Peoples Natural Gas Company LLC	9.01	7.81	14.09	11.67	Settled	2019
PECO Energy - Gas Operations*					10.24	2021
National Fuel Gas Distribution Co.	11.97	5.62	19.36	6.87	Settled	2006
UGI Utilities, Inc. – Gas Division*					Settled	2022
Peoples Gas Company, LLC	7.48	8.00	11.40	12.19	Settled	2013
WATER						
$10,000,000 Revenues						
PA American Water Company*					Settled	2021
Aqua Pennsylvania[2]	6.46	6.79	8.26	8.91	10.00	2022
York Water Company*					Settled	2019
Veolia Water Pennsylvania, Inc.	8.47	7.21	12.05	9.79	Settled	2018
$1,000,000 to $10,000,000 Revenues						
Newtown Artesian Water Co.	8.01	5.05	10.71	5.16	Settled	2019
Columbia Water Company	3.49	3.49	3.61	3.61	Settled	2015

* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

2 The authorized equity return of Aqua Pennsylvania, Inc. includes an additional adjustment of 0.25% for management effectiveness.

ALLOWED RATES OF RETURN ON COMMON EQUITY

This is a historical chart that shows the most recent rate cases for select companies in electric, gas, and water. A docket number followed by their final return on equity and year is also given.

ELECTRIC	**Docket Number**	**ROE (%)**	**Year**
Recent PA PUC Allowed			
Duquesne Light Company	R-2021-3024750	Settled	2021
PECO Energy Company	R-2021-3024601	Settled	2021
UGI – Electric	R-2021-3023618	Settled	2021
Pennsylvania Electric Company	R-2016-2537352	Settled	2017
Metropolitan Edison Company	R-2016-2537349	Settled	2017
Pennsylvania Power Company	R-2016-2537355	Settled	2017
West Penn Power Company	R-2016-2537359	Settled	2017
Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services.			**7.11-10.14**

GAS			
Recent PA PUC Allowed			
UGI Utilities, Inc. – Gas Division	R-2021-3030218	Settled	2022
Columbia Gas of Pa.	R-2020-3024296	Settled	2021
PECO Energy	R-2020-3018929	10.24	2021
Peoples Natural Gas Company	R-2018-3006818	Settled	2019
Peoples Gas Company	R-2013-2355886	Settled	2013
Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services.			**8.29-10.43**

WATER			
Recent PA PUC Allowed			
Aqua Pennsylvania	R-2021-3027385	10.00	2022
PA American Water	R-2020-3019369	Settled	2021
York Water	R-2018-3000019	Settled	2019
SUEZ Water	R-2018-3000834	Settled	2018
Columbia Water	R-2017-2598203	Settled	2017
Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services.			**6.22-11.37**

Distribution System Improvement Charge (DSIC) Eligible Utilities
Return on Equity (ROE) Summary

	Utility Adjusted ROE[3] (%)	Commission Approved ROE[4] (%)
ELECTRIC		
PECO Energy – Electric Operations	7.19	9.45
PPL Electric Utilities Corp.	9.54	9.45
Duquesne Light Company	10.22	9.45
West Penn Power Company	5.78	9.45
Pennsylvania Power Company	5.04	9.45
Pennsylvania Electric Company	6.93	9.45
Metropolitan Edison Company	8.72	9.45
UGI Utilities, Inc.- Electric Division	3.89	9.45
GAS		
Columbia Gas of PA, Inc.*		10.15
Peoples Natural Gas Company LLC	11.67	10.15
PECO Energy – Gas Operations*		10.24
Peoples Gas Company, LLC	12.19	10.15
UGI Utilities, Inc. – Gas Division*		10.15
WATER		
PA American Water Company*		9.75
PA American – Wastewater*		9.75
AQUA Pennsylvania[5]	8.91	10.00
AQUA Pennsylvania – Wastewater[6]	8.91	10.00
York Water Company*		9.75
Veolia Water Pennsylvania, Inc.	9.79	9.75
Columbia Water Company	3.61	9.75
Newtown Artesian Water	5.16	9.75

* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

3 Each utility lists adjustments on Schedule B of their quarterly financial report.

4 The ROE is approved in a utility's most recent fully litigated base rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years have elapsed between the entry of a final order and the DSIC effective date, the ROE is from this report. If the base rate proceeding is settled, without a stipulated ROE, the ROE is from this report.

5 The Commission approved ROE of Aqua Pennsylvania, Inc. includes an additional adjustment of 0.25% for management effectiveness.

6 The Commission approved ROE of Aqua Pennsylvania Wastewater, Inc. includes an additional adjustment of 0.25% for management effectiveness.

Explanation of Discounted Cash Flow (DCF) and Capital Asset Pricing Model (CAPM)

Barometer Group Criteria

The criteria used for determining the industry barometer groups used to calculate ROEs in this report are as follows:

- 50% or more of the company's assets must be related to the jurisdictional utility industry;
- The company's stock must be publicly traded and must have at least three years of earnings history;
- Companies targeted by merger and acquisition (M&A) activity will be excluded; companies involved in M&A activity may be excluded;
- Investment information for the company must be available to the Commission from more than one source;
- The barometer group companies must have an investment grade credit rating (S&P BBB- or better, Moody's Baa3 or better; and
- Geographic Regions:
  EDCs: *Value Line* Investment Survey's East, Central, and West Group Electric Utility companies;
  NGDCs: *Value Line* Investment Survey's Natural Gas Utility industry group companies;
  Water/Wastewater: *Value Line* Investment Survey's Water Utility industry group companies.

The barometer group companies are reviewed by staff on a quarterly basis and make any changes to these companies based upon the criteria above.

ROE Calculations

The Commission consistently uses the DCF model to determine the appropriate cost of equity for utilities. In this report, the DSIC ROE is calculated using two DCF models.

TUS uses the following formula to calculate the current dividend DCF: $K = D_1/P_0 + G$

TUS uses the following formula to calculate the 52-week average dividend DCF: $K = D_0/P_a + G$

Definitions:

K	=	Cost of equity
D_1	=	Dividend expected during the year
	=	$D_0 + ½g$
D_0	=	Latest indicated dividend, obtained from Yahoo! Finance
g	=	Expected 5-year dividend growth rate of barometer group obtained from Value Line Investment Survey.
P_0	=	Current price of the stock, obtained from Yahoo! Finance
P_a	=	Average of high and low stock price over the latest 52-week period, obtained from Yahoo! Finance
G	=	Average of 5-year expected earnings growth rate forecasts obtained from Value Line, Zacks Investment Survey, and Yahoo! Finance.

The CAPM uses the yield of a risk-free interest-bearing obligation plus a rate of return premium that is proportional to the systematic risk of an investment.

TUS uses the following formula to calculate CAPM: $K = \beta(R_m - R_f)$

Three components are necessary to calculate the CAPM cost of equity:

β	=	Beta, a measure of systematic risk for each stock
R_f	=	The risk-free rate of return, 10-year U.S. Treasury yields are used for R_f. Yields are taken from the previous two quarters and forecasted next four quarters.
R_m	=	Total return of the equity market as determined by the SBBI Yearbook

The Commission determines the ROE used for DSIC purposes based on the range of reasonableness from the DCF barometer group data, CAPM data, recent ROEs adjudicated by the Commission, and informed judgment.

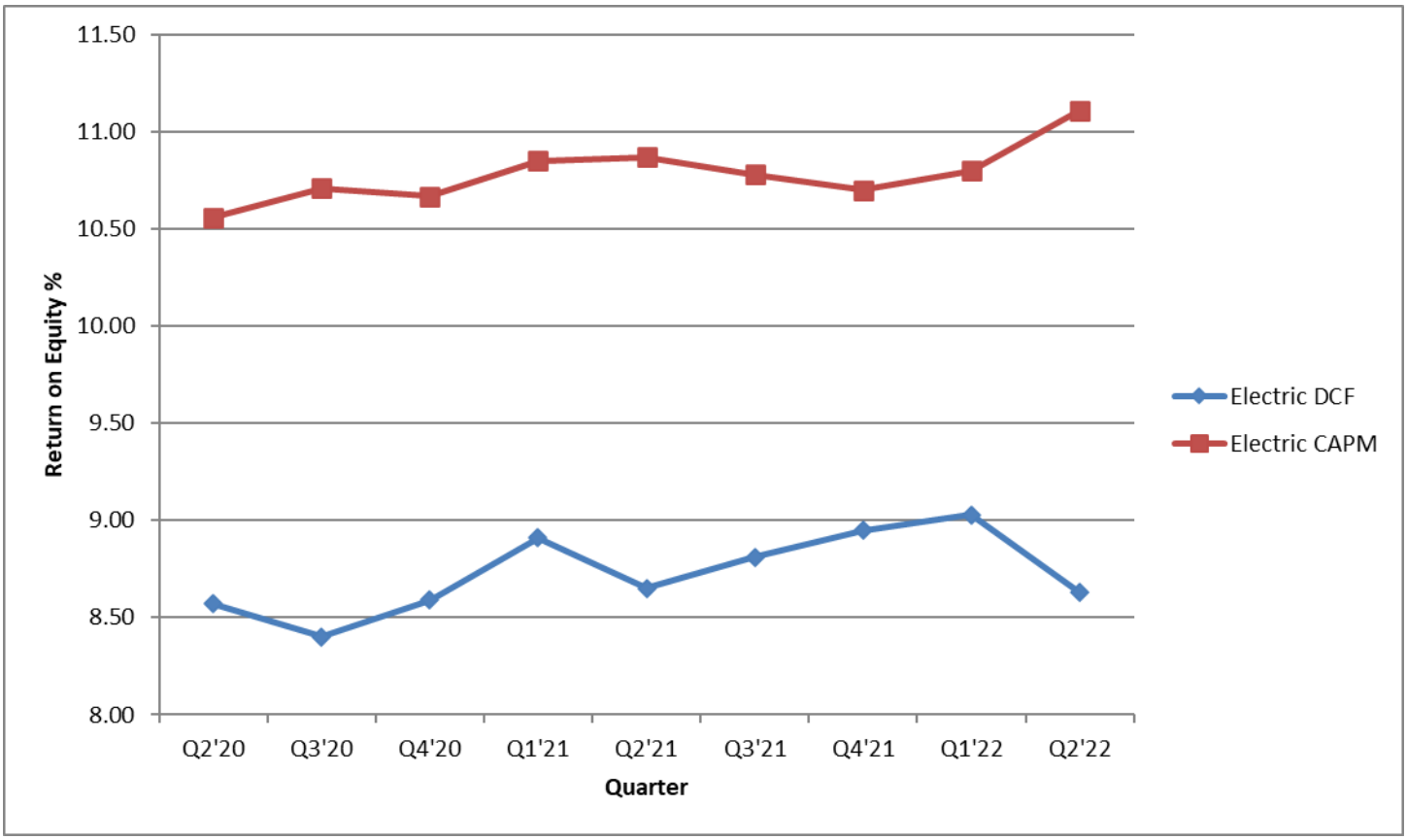
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity[1]	
September 16, 2022	
Electric Company Barometer Group	
	Cost Rates
	%
(1) Current DCF:	8.64
(2) 52-Week Average DCF:	8.62
(3) Overall DCF ((1) + (2)) / 2 :	8.63
(4) Market Indicated Common Equity Cost Rate Range:	7.11-10.14
@ 1 standard deviation around the mean.[2]	
(5) CAPM Check of DCF Reasonableness:	11.11
(6) Recent Commission Approved ROEs[3]:	*
*None within last two years	
(7) Distribution System Improvement Charge (DSIC) Return[4]:	**9.45%**
[1] As calculated by the Bureau of Technical Utility Services	
[2] Standard Deviation of 58 DCF observations	
[3] Base rate case ROEs within last two years, fully litigated or stipulated for DSIC purposes	
[4] Commission authorized Return on Equity (ROE) for DSIC purposes	
Any questions concerning DSIC should be directed to Marc Hoffer	
of the Bureau of Technical Utility Services at (717) 787-1869.	

Historic Electric Industry Barometer Group DCF and CAPM Average ROEs

Electric		
	DCF	CAPM
Q2'20	8.57	10.56
Q3'20	8.40	10.71
Q4'20	8.59	10.67
Q1'21	8.91	10.85
Q2'21	8.65	10.87
Q3'21	8.81	10.78
Q4'21	8.95	10.70
Q1'22	9.03	10.80
Q2'22	8.63	11.11

Chart of Historic Electric Industry DCF and CAPM Average ROEs



Barometer electric companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Electric Company Barometer Group
Calculation of a Current Dividend Yield

	Closing Market Price (Po) 9/16/2022 ($)	Latest Indicated Dividend (Do) ($)	Ind. Div. Plus 1/2 Div. Growth Rate (D1) ($)	Current Dividend Yield(D1/Po) (%)	DCF (%)
Allete, Inc.	58.13	2.60	2.65	4.55	12.15
Alliant Energy Corp	60.86	1.71	1.76	2.89	8.76
Ameren Corp	91.73	2.36	2.44	2.66	9.38
American Electric Power	100.36	3.12	3.21	3.20	9.52
AVANGRID, Inc.	49.32	1.76	1.77	3.60	8.50
Avista Corp	40.80	1.76	1.80	4.40	9.17
CMS Energy Corp	66.84	1.84	1.90	2.84	10.60
Consolidated Edison	97.41	3.16	3.20	3.28	7.01
Dominion Energy	80.82	2.67	2.68	3.32	9.26
DTE Energy Company	129.90	3.54	3.59	2.77	7.59
Duke Energy Company	106.11	4.02	4.06	3.83	9.47
Edison International	67.52	2.80	2.88	4.26	8.26
Entergy Corp.	115.42	4.04	4.14	3.59	9.17
Evergy Inc	67.07	2.29	2.37	3.53	9.42
Eversource Energy	88.80	2.55	2.63	2.96	9.45
FirstEnergy Corp	41.20	1.56	1.58	3.83	8.53
Fortis Inc.	42.85	1.63	1.68	3.92	8.37
IDACORP, Inc..	108.76	3.00	3.10	2.85	6.05
NextEra Energy, Inc.	84.79	1.66	1.74	2.06	11.65
NorthWestern Corp	53.66	2.52	2.55	4.74	8.01
OGE Energy Corp	40.91	1.64	1.66	4.07	8.04
Otter Tail Corp	69.80	1.65	1.71	2.45	9.20
PPL Corporation	28.92	0.90	0.88	3.03	6.03
Pinnacle West Capital Corp	73.63	3.40	3.44	4.68	4.98
Portland General Electric Co.	50.15	1.81	1.86	3.72	7.53
Public Service Enterprise Group	66.36	2.16	2.22	3.34	6.74
Southern Company	77.25	2.72	2.77	3.58	9.12
WEC Energy Group, Inc.	101.29	2.91	3.01	2.97	9.01
Xcel Energy Inc.	73.90	1.95	2.01	2.72	9.37
Group Average	73.61	2.40	2.46	3.44	8.63
Group Average G				5.20	
DCF				**8.64**	

Electric Company Barometer Group 52-week Average Dividend Yield Calculation						
	High	Low	Average (Pa)	Latest Indicated Dividend (Do)	Average Dividend Yield (Do/Pa)	DCF
	($)	($)	($)	($)	(%)	(%)
Allete, Inc.	68.61	56.55	62.58	2.60	4.15	11.75
Alliant Energy Corp	65.37	54.20	59.79	1.71	2.86	8.73
Ameren Corp	99.20	80.27	89.74	2.36	2.63	9.35
American Electric Power	105.60	80.22	92.91	3.12	3.36	9.67
AVANGRID, Inc.	53.95	42.20	48.08	1.76	3.66	8.56
Avista Corp	46.90	37.73	42.32	1.76	4.16	8.93
CMS Energy Corp	73.76	58.51	66.14	1.84	2.78	10.54
Consolidated Edison	102.21	71.52	86.87	3.16	3.64	7.36
Dominion Energy	88.78	70.37	79.58	2.67	3.36	9.30
DTE Energy Company	140.23	108.22	124.23	3.54	2.85	7.67
Duke Energy Company	116.33	95.48	105.91	4.02	3.80	9.44
Edison International	73.32	54.98	64.15	2.80	4.36	8.36
Entergy Corp.	126.82	98.50	112.66	4.04	3.59	9.17
Evergy Inc	73.13	59.34	66.24	2.29	3.46	9.34
Eversource Energy	94.63	77.07	85.85	2.55	2.97	9.46
FirstEnergy Corp	48.85	35.32	42.09	1.56	3.71	8.41
Fortis Inc.	51.66	42.42	47.04	1.63	3.47	7.92
IDACORP, Inc..	118.92	95.26	107.09	3.00	2.80	6.00
NextEra Energy, Inc.	93.73	67.22	80.48	1.66	2.06	11.65
NorthWestern Corp	63.06	52.71	57.89	2.52	4.35	7.62
OGE Energy Corp	42.91	32.49	37.70	1.64	4.35	8.32
Otter Tail Corp	82.46	54.14	68.30	1.65	2.42	9.17
PPL Corporation	30.99	24.98	27.99	0.90	3.22	6.22
Pinnacle West Capital Corp	80.51	62.78	71.65	3.40	4.75	5.05
Portland General Electric Co.	57.03	45.02	51.03	1.81	3.55	7.36
Public Service Enterprise Group	75.61	58.19	66.90	2.16	3.23	6.63
Southern Company	80.57	60.99	70.78	2.72	3.84	9.38
WEC Energy Group, Inc.	108.39	86.84	97.62	2.91	2.98	9.02
Xcel Energy Inc.	77.66	61.16	69.41	1.95	2.81	9.46
Group Average	80.73	62.92	71.83	2.40	3.42	8.61
Group Average G					5.20	
DCF					**8.62**	
		Average of Current and 52-Week			**8.63**	

Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate
for the Barometer Group of Electric Companies

		5 Year Forecast				
	Value Line DPS (%)	Value Line EPS (%)	Zack's EPS (%)	Yahoo EPS (%)	Avgerage Earnings Growth (%)	Growth Estimate (%)
Allete, Inc.	3.50	6.00	8.10	8.70	7.60	7.60
Alliant Energy Corp	6.00	6.00	6.20	5.40	5.87	5.87
Ameren Corp	7.00	6.50	7.20	6.46	6.72	6.72
American Electric Power	6.00	6.50	6.10	6.35	6.32	6.32
AVANGRID, Inc.	1.50	3.00	5.90	5.80	4.90	4.90
Avista Corp	4.00	3.00	5.40	5.90	4.77	4.77
CMS Energy Corp	6.00	6.50	8.30	8.48	7.76	7.76
Consolidated Edison	2.50	4.00	2.00	5.17	3.72	3.72
Dominion Energy	1.00	5.00	6.30	6.53	5.94	5.94
DTE Energy Company	3.00	4.50	6.00	3.96	4.82	4.82
Duke Energy Company	2.00	5.00	6.10	5.82	5.64	5.64
Edison International	5.50	16.00	3.00	5.00	8.00	4.00
Entergy Corp.	5.00	4.00	6.70	6.04	5.58	5.58
Evergy Inc	7.00	7.50	5.20	4.95	5.88	5.88
Eversource Energy	6.50	6.50	6.30	6.67	6.49	6.49
FirstEnergy Corp	2.50	3.00	6.40	-2.42	2.33	4.70
Fortis Inc.	6.00	5.00	5.40	2.96	4.45	4.45
IDACORP, Inc..	6.50	4.00	2.80	2.80	3.20	3.20
NextEra Energy, Inc.	10.00	10.00	9.70	9.07	9.59	9.59
NorthWestern Corp	2.00	3.00	2.30	4.50	3.27	3.27
OGE Energy Corp	3.00	6.50	3.50	1.90	3.97	3.97
Otter Tail Corp	7.00	4.50	NA	9.00	6.75	6.75
PPL Corporation	-5.50	3.00	NA	17.56	10.28	3.00
Pinnacle West Capital Corp	2.50	0.50	NA	0.10	0.30	0.30
Portland General Electric Co.	6.00	4.50	3.70	3.23	3.81	3.81
Public Service Enterprise Group	5.50	4.00	3.10	3.10	3.40	3.40
Southern Company	3.50	6.50	4.00	6.12	5.54	5.54
WEC Energy Group, Inc.	7.00	6.00	6.10	6.01	6.04	6.04
Xcel Energy Inc.	6.50	6.00	6.90	7.04	6.65	6.65
Group Average	4.45	5.40	5.49	5.59	5.50	5.20
USE						**5.20**

Sources: Value Line Investment Survey September 19, 2022
Zacks, September 20, 2022 (www.zacks.com)
Yahoo!, September 19, 2022 (http://finance.yahoo.com/)
* NA signifies that a forecast was not available

The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity[1]	
September 16, 2022	
Gas Distribution Company Barometer Group	
	Cost Rates %
(1) Current DCF:	9.36
(2) 52-Week Average DCF:	9.35
(3) Overall DCF ((1) + (2)) / 2 :	9.36
(4) Market Indicated Common Equity Cost Rate Range: @ 1 standard deviation around the mean.[2]	8.29-10.43
(5) CAPM Check of DCF Reasonableness:	10.76
(6) Recent Commission Approved ROEs[3]:	
*Columbia Gas of Pennsylvania, Inc. R-2020-3018835	9.86*
**PECO Energy Company R-2020-3018929	10.24**
(7) Distribution System Improvement Charge (DSIC) Return[4]:	**10.15%**

[1] As calculated by the Bureau of Technical Utility Services

[2] Standard Deviation of 16 DCF observations

[3] Base rate case ROEs within last two years, fully litigated or stipulated for DSIC purposes

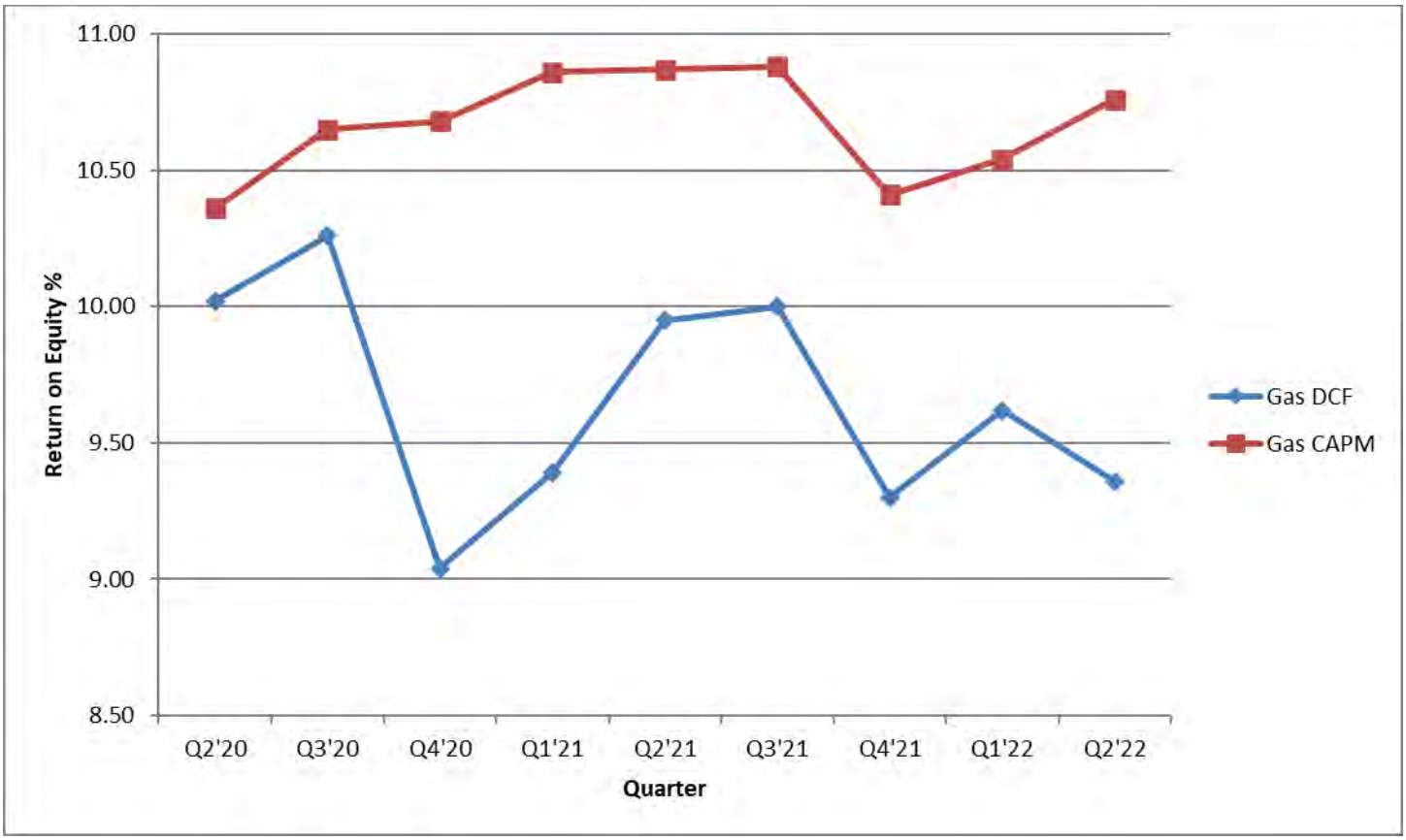
[4] Commission authorized Return on Equity (ROE) for DSIC purposes

Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.

Historic Gas Industry DCF and CAPM Average ROEs

Gas		
	DCF	CAPM
Q2'20	10.02	10.36
Q3'20	10.26	10.65
Q4'20	9.04	10.68
Q1'21	9.39	10.86
Q2'21	9.95	10.87
Q3'21	10.00	10.88
Q4'21	9.30	10.41
Q1'22	9.62	10.54
Q2'22	9.36	10.76

Graph of Historic Gas Industry DCF and CAPM Average ROEs



Barometer gas companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Gas Company Barometer Group
Calculation of a Current Dividend Yield

	Closing Market Price (Po) 9/16/2022 ($)	Latest Indicated Dividend (Do) ($)	Ind. Div. Plus 1/2 Div. Growth Rate (D1) ($)	Current Dividend Yield(D1/Po) (%)	DCF (%)
Atmos Energy	114.01	2.72	2.82	2.47	10.04
Chesapeake Utilities Corporation	128.23	2.14	2.23	1.74	8.99
New Jersey Resources	44.74	1.45	1.49	3.32	8.99
NiSource Inc.	28.83	0.94	0.96	3.33	11.28
Northwest Natural Gas	47.92	1.93	1.93	4.04	9.07
ONE Gas, Inc.	79.44	2.48	2.56	3.22	8.72
Southwest Gas	81.23	2.48	2.55	3.14	7.64
Spire Inc.	69.26	2.74	2.81	4.06	10.16
Group Average	74.21	2.11	2.17	3.16	9.36
Group Average G				6.20	
DCF				**9.36**	

Gas Company Barometer Group
52-week Average Dividend Yield Calculation

	High ($)	Low ($)	Average (Pa) ($)	Latest Indicated Dividend (Do) ($)	Average Dividend Yield (Do/Pa) (%)	DCF (%)
Atmos Energy	122.96	85.80	104.38	2.72	2.61	10.17
Chesapeake Utilities Corporation	146.30	117.43	131.87	2.14	1.62	8.87
New Jersey Resources	47.50	34.41	40.96	1.45	3.54	9.21
NiSource Inc.	32.59	23.65	28.12	0.94	3.34	11.29
Northwest Natural Gas	57.63	43.07	50.35	1.93	3.83	8.87
ONE Gas, Inc.	92.26	62.52	77.39	2.48	3.20	8.70
Southwest Gas	95.62	62.58	79.10	2.48	3.14	7.64
Spire Inc.	79.24	59.60	69.42	2.74	3.95	10.05
Group Average	84.26	61.13	72.70	2.11	3.15	9.35
Group Average G					6.20	
DCF					**9.35**	
		Average of Current and 52-Week			**9.36**	

Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate
for the Barometer Group of Gas Companies

	5 Yr Forecast					
	Value Line DPS (%)	Value Line EPS (%)	Zack's EPS (%)	Yahoo EPS (%)	Avgerage Earnings Growth (%)	Growth Estimate (%)
Atmos Energy	7.00	7.50	7.50	7.70	7.57	7.57
Chesapeake Utilities Corporation	8.50	7.50	NA	7.00	7.25	7.25
New Jersey Resources	5.00	5.00	6.00	6.00	5.67	5.67
NiSource Inc.	4.50	9.50	7.20	7.15	7.95	7.95
Northwest Natural Gas	0.50	6.50	4.30	4.30	5.03	5.03
ONE Gas, Inc.	6.50	6.50	5.00	5.00	5.50	5.50
Southwest Gas	5.50	10.00	5.00	4.00	6.33	4.50
Spire Inc.	5.00	9.00	5.00	4.30	6.10	6.10
Group Average	5.31	7.69	5.71	5.68	6.43	6.20
USE						**6.20**

Sources: Value Line Investment Survey September 19, 2022
Zacks, September 20, 2022 (www.zacks.com)
Yahoo!, September 19, 2022 (http://finance.yahoo.com/)
* NA signifies that a forecast was not available

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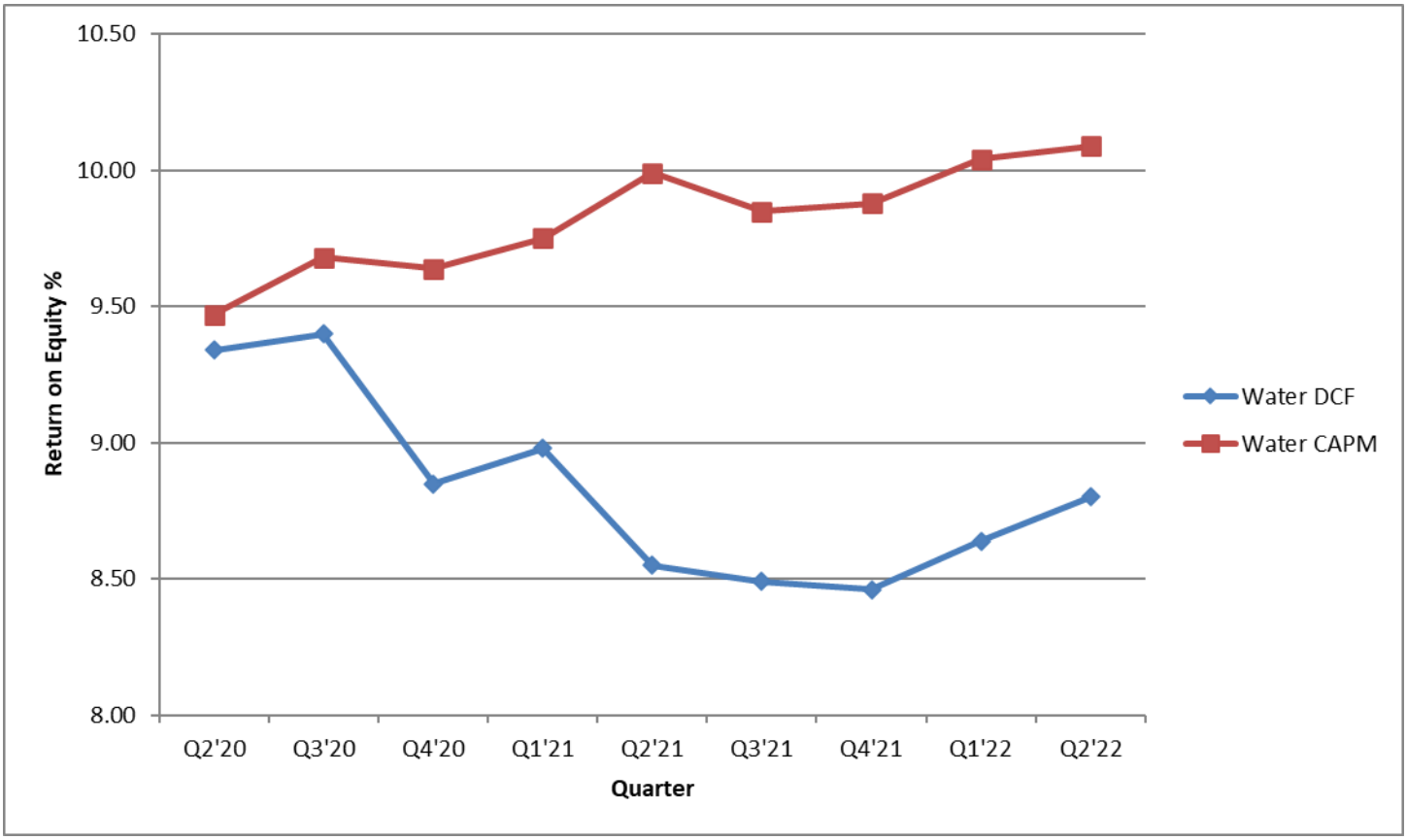
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity [1]	
September 16, 2022	
Water Company Barometer Group	
	Cost Rates %
(1) Current DCF	8.87
(2) 52-Week Average DCF	8.72
(3) Average DCF	8.80
(4) Market Indicated Common Equity Cost Rate Range @ 1 standard deviation around the mean.[2]	6.22-11.37
(5) CAPM Check of DCF Reasonableness	10.09
(6) Recent Commission Approved ROEs[3]:	10.00*
*Aqua Pennsylvania, Inc., R-2021-3027385, includes a 0.25% management effectiveness adjustment	
(7) Distribution System Improvement Charge (DSIC) Return[4]:	**9.75%**
[1] As calculated by the Bureau of Technical Utility Services	
[2] Standard Deviation of 12 DCF observations	
[3] ROEs from base rate cases within last two years, fully litigated or stipulated for DSIC purposes	
[4] Commission authorized Return on Equity (ROE) for DSIC purposes	
Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.	

Historic Water Industry DCF and CAPM Average ROEs

Water		
	DCF	CAPM
Q2'20	9.34	9.47
Q3'20	9.40	9.68
Q4'20	8.85	9.64
Q1'21	8.98	9.75
Q2'21	8.55	9.99
Q3'21	8.49	9.85
Q4'21	8.46	9.88
Q1'22	8.64	10.04
Q2'22	8.80	10.09

Chart of Historic Water Industry DCF and CAPM Average ROEs



Barometer water companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Water Company Barometer Group
Calculation of a Current Dividend Yield

	Closing Market Price (Po) 9/16/2022 ($)	Latest Indicated Dividend (Do) ($)	Ind. Div. Plus 1/2 Div. Growth Rate (D1) ($)	Current Dividend Yield(D1/Po) (%)	Growth (%)	DCF (%)
American States Water Company	85.79	1.59	1.66	1.94	4.95	6.89
American Water Works Co., Inc.	148.40	2.62	2.73	1.84	6.47	8.31
California Water Service Group	58.27	1.00	1.03	1.77	9.10	10.87
Essential Utilities, Inc.	45.57	1.15	1.20	2.62	7.63	10.26
Middlesex Water Company	89.07	1.16	1.19	1.33	3.60	4.93
SJW Group	64.12	1.44	1.48	2.31	9.80	12.11
Group Average	81.87	1.49	1.55	1.97	6.93	8.89
Group Average G				6.90		
DCF				**8.87**		

52-week High-Low Dividend Yield Calculation

	High ($)	Low ($)	Average (Pa) ($)	Latest Indicated Dividend (Do) ($)	Average Dividend Yield (Do/Pa) (%)	Growth (%)	DCF (%)
American States Water Company	103.77	71.22	87.50	1.59	1.82	4.95	6.77
American Water Works Co., Inc.	189.65	129.45	159.55	2.62	1.64	6.47	8.11
California Water Service Group	72.08	48.46	60.27	1.00	1.66	9.10	10.76
Essential Utilities, Inc.	53.93	40.97	47.45	1.15	2.42	7.63	10.06
Middlesex Water Company	121.43	75.77	98.60	1.16	1.18	3.60	4.78
SJW Group	73.69	55.74	64.72	1.44	2.23	9.80	12.03
Group Average	102.43	70.27	86.35	1.49	1.82	6.93	8.75
Group Average G					6.90		
DCF					**8.72**		

Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate
for the Barometer Group of Water Companies

	5 Yr Forecast					
	Value Line	Value Line	Zacks	Yahoo	Avgerage Earnings	Growth
	DPS	EPS	EPS	EPS	Growth	Estimate
	(%)	(%)	(%)	(%)	(%)	(%)
American States Water Company	9.00	5.50	NA	4.40	4.95	4.95
American Water Works Co., Inc.	8.50	3.00	8.10	8.30	6.47	6.47
California Water Service Group	6.50	6.50	NA	11.70	9.10	9.10
Essential Utilities, Inc.	8.00	10.00	6.10	6.80	7.63	7.63
Middlesex Water Company	5.00	4.50	NA	2.70	3.60	3.60
SJW Group	5.50	14.00	NA	9.80	11.90	9.80
Group Average	7.08	7.25	7.10	7.28	7.28	6.93
USE						**6.90**

Sources: Value Line Investment Survey September 19, 2022
Zacks, September 20, 2022 (www.zacks.com)
Yahoo!, September 19, 2022 (http://finance.yahoo.com/)
* NA signifies that a forecast was not available

PENNSYLVANIA PUBLIC UTILITY COMMISSION
Harrisburg, Pennsylvania 17120

Re: Bureau of Technical Utility Services Report to the Commission Regarding Quarterly Earnings of Pennsylvania Utilities for the Quarter ended 6/30/22.

Public Meeting: October 27, 2022
3035196-TUS
Docket No. M-2022-3035196

JOINT STATEMENT OF COMMISSIONER JOHN F. COLEMAN, JR. AND COMMISSIONER RALPH V. YANORA

Before the Pennsylvania Public Utility Commission (Commission) today for consideration is the Bureau of Technical Utility Services (TUS) Report on the Quarterly Earnings of Jurisdictional Utilities (Quarterly Earnings Report) for the quarter ended June 30, 2022.

The Return on Equity (ROE) that the Commission sets in this report is essential to ongoing infrastructure improvement work because it establishes what return a company is authorized to include in its Distribution System Improvement Charge (DSIC) and establishes an earnings cap for DSIC eligibility. Utilizing the DSIC to invest in critical utility infrastructure is imperative to ensuring that utilities have access to capital to provide reasonable, safe, reliable, and adequate public utility service.

The Discounted Cash Flow (DCF) method and Capital Asset Pricing Model (CAPM), which are the foundation of the Commission's DSIC equity return methodology currently indicate increased capital costs for the water industry. Additionally, increasing interest rates now puts upward pressure on water utility debt costs which will further exacerbate the downward ROE adjustment the Commission makes today. Given the need for significant water safety infrastructure investment in the Commonwealth, Pennsylvania should encourage rather than discourage capital investment for the water sector in this state.

It is now more important than ever to incentivize water utilities to invest in infrastructure, especially given that remediation will be required for emerging contaminants such as PFOA/PFAS, lead, and copper. Recently, EPA Administrator Andrew Wheeler has acknowledged the urgency of investing in water infrastructure investment across the county. The time for water utilities to invest and improve their infrastructure is now, and this is not the time to lower the DSIC ROE for the water industry.

JOHN F. COLEMAN, JR.
COMMISSIONER

RALPH V. YANORA
COMMISSIONER

Date: October 27, 2022

PENNSYLVANIA PUBLIC UTILITY COMMISSION
Harrisburg, Pennsylvania 17105-3265

Quarterly Earnings Report of Jurisdictional Utilities

Public Meeting of Oct 27, 2022
3035196-TUS
Docket No. M-2022-3035196

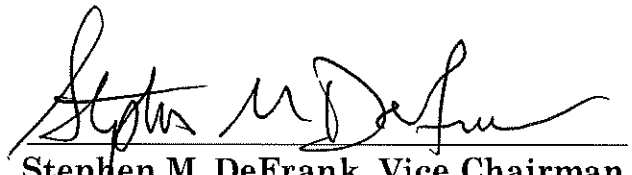
STATEMENT OF VICE CHAIRMAN STEPHEN M. DEFRANK

Today the Commission releases its Report on the Quarterly Earnings of Jurisdictional Utilities. With this report the Commission exercises its informed judgement to establish the return-on-equity (ROE) utilized in the calculation of the Distribution System Improvement Charge (DSIC) for various electric, natural gas, and water utility tariffs.

The DSIC ROE determination serves an important dual purpose. First, it works to attract and retain capital investment, providing utilities the opportunity to earn a fair rate of return. Second, it works as a consumer protection by insulating customers from utility over-earnings. Any utility which is earning a return-on-equity in excess of this metric will have its DSIC rate set back to zero percent.

The determination of the DSIC ROE is as much an art as it is a science. A key piece of data to review when making the DSIC ROE determination is the spread between the market-based discounted cash flow and the presently established DSIC ROE. When reviewing these spreads, I believe the instant report establishes prudent DSIC ROE figures. The report holds the electric sector figure steady at 9.45%. It also holds the natural gas sector figure steady at 10.15%. Finally, the report makes a gradual adjustment to the water sector figure, dropping it five basis points from 9.80% to 9.75%. This marks the first reduction in the water DSIC ROE in over a year.

The Commission must maintain diligence in protecting utility customers, particularly in this time of higher commodity costs. We must also take into account financial market conditions and their ramifications on utilities. I believe the results of this report appropriately take into account these factors. I stand ready to adjust the DSIC ROEs in future reports should circumstances warrant.



October 27, 2022
Date

Stephen M. DeFrank, Vice Chairman

THE VALUE LINE® Investment Survey®

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ESPECIALLY NOTEWORTHY:

This week, two companies are making their debut in The Value Line Investment Survey. ***Alamo Group****, which designs, manufacturers, and services high-quality vegetation management and infrastructure maintenance equipment for governmental, industrial, and agricultural uses, is joining the Machinery Industry on page 1703. What's more,* ***SPS Commerce, Inc.,*** *which develops and operates a cloud-based technology platform that offers supply-chain solutions to retailers, suppliers, and logistics firms, is debuting in the E-Commerce Industry on page 1818.*

The acquisition of ***Black Knight*** *by* ***Intercontinental Exchange*** *still has a long way to go until it crosses the finish line. Turn to pages 1805 and 1789 for more details.*

Aerojet Rocketdyne *was recently engulfed by a boardroom battle, which has been resolved, with CEO Eileen Drake retaining control of the company. As a result, we would not be surprised to see Lockheed Martin reappear with another offer to acquire the company. Learn more on page 1743.*

Parker-Hannifin *is gearing up for a transformational year in fiscal 2023 (ends June 30th). The company recently closed on its $9.9 billion acquisition of British aerospace manufacturer Meggitt. Details are on page 1766.*

Growth-via-acquisition titan ***Danaher*** *recently announced a planned separation. Page 1753.*

★★ Rank 1 (Highest) for Timeliness.
★ Rank 2 (Above Average).

In three parts: Part 1 is the Summary & Index. Part 2 is Selection & Opinion. This is Part 3, Ratings & Reports. Volume LXXVIII, No. 9

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See back cover for important disclosures.

INDUSTRY TIMELINESS: 73 (of 93)

The Water Utility Industry consists of six investor-owned companies that provide water services to residential, commercial, and industrial customers. The group is extremely small because most of the water utilities in the United States are run by states and local municipalities.

America's water infrastructure is not in good shape. Following years of neglect, water utilities have been involved in major construction programs to upgrade and modernize their pipelines and wasterwater facilities. Though the estimates vary widely, the average age of pipes in the United States is easily over 50 years.

In order to replace these antiquated assets, water companies have been spending heavily over the past two decades. Hefty amounts of capital expenditures are expected to be spent in the foreseeable future. This will likely keep the members of this Industry loaded with debt.

The regulatory climate in each state cannot be underestimated. Unlike other utilities, such as electric and gas, water companies have had a relatively constructive relationship with the authorities that determine what kind of return they can earn on their investments. It is important to note that the positive collaboration has occurred during a span in which inflation has been low. There is no guarantee that regulators will not become harsher should inflation remain near its current level.

Most stocks in this Industry have done well over the past one-, three-, and five-year periods. The group is not favorably ranked for year-ahead or long-term relative performance, however.

Large Construction Programs

Just about every company in the Industry has been busy replacing old pipelines. For decades, most water utilities did not invest the funds required to modernize their systems. Water utilities and regulators were both satisfied in keeping customers' monthly bills low. When compared to other utilities' bills, such as electric, gas, and cable, water was relatively cheap. There was a long-term cost to this lack of capital expenditures. In the earlier part of the 21st century, as water started to become more of a scarcer commodity, water districts became alarmed when they realized how much water was being lost because of old leaky pipes. Since then, the industry has been investing heavily to fix the problem. The replacement process will likely take decades to complete.

Mediocre Finances

Most companies in the group have issued debt to finance the building projects targeted at improving the water infrastructure. A company such as *American Water Works* will have a construction budget of nearly $2.5 billion in 2022. The typical water utility does not have a weak balance sheet, but it doesn't have a strong one either. The industry was lucky in that interest rates have been low for more than a decade and it has been cheap to borrow money. Over the past year, short-term interest rates have risen considerably. With 10- and 30-year Treasury bonds carrying coupons of about 4%, we wouldn't be surprised if there were more bond sales in the works so that today's rates can be locked in.

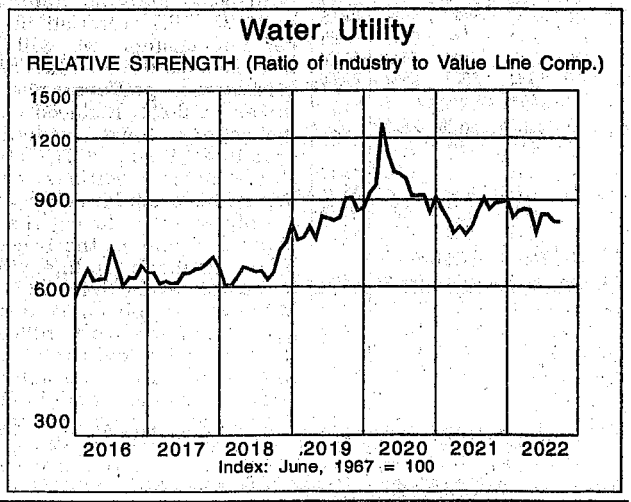
Regulation Will Be Key

Over the past decade, state regulators, who determine what water customers are charged, have been helpful in granting rate hikes to finance the much-needed construction. With inflation being around 2%, the authorities did not get much push back from the public if rates were hiked by 5% or so. However, with prices currently increasing about 8% annually, it may be difficult for utilities to pass along their higher costs to rate payers. Each state has an established entity that decides what utilities can earn. The members of these boards are political appointees. Thus, when utility bills spike higher, the resistance from the public intensifies. So far, we haven't seen evidence of a drastic change in behavior by regulators, but we would not be surprised if problems start to crop up, should large rate hikes be requested.

Conclusion

Water utility stocks have much to offer investors looking for well-defined earnings and dividend growth. They all score very high in important metrics such as Earnings Predictability, Price Stability, and Price Growth Persistence. The Industry also provides an opportunity for utility investors to diversify their holdings, as the electric and gas companies make up the vast majority of the market capital in this space. Because of all of these positives attributes, these equities trade at a very rich premium. The price-earning ratios are well above that of the average stock in the *Value Line* universe. Currently, many of these equities are trading in their projected Target Price Range for the 2025-2027 period. Moreover, good relations with regulators seem to already be factored into the prices of these stocks even though regulators may come under pressure to keep water bills down. As noted above, state regulatory bodies are composed of appointees by state politicians. And as far back as we can recall, no politician has won office with a slogan of "Let's raise prices sky high to be fair to utilities."

James A. Flood



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AMER. STATES WATER NYSE-AWR

RECENT PRICE 82.11 | P/E RATIO 31.9 (Trailing: 36.8) (Median: 27.0) | RELATIVE P/E RATIO 2.22 | DIV'D YLD 2.0% | VALUE LINE 1779

TIMELINESS 4 Lowered 6/10/22
SAFETY 2 Raised 7/20/12
TECHNICAL 3 Raised 8/19/22
BETA .65 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$71-$134 $103 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+15%)	6%
Low	70	(-15%)	-1%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	157	153	128
to Sell	117	121	150
Hld's(000)	27394	27827	26629

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
High:	18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	96.0	96.6	103.8	103.4								
Low:	15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	63.3	65.1	70.1	71.2								
	7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	*13.70*	*14.00*	Revenues per sh	*18.15*
	1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.26	3.34	3.64	*3.60*	*3.90*	"Cash Flow" per sh	*4.75*
	.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	*2.45*	*2.60*	Earnings per sh A	*3.25*
	.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	1.28	1.40	*1.53*	*1.62*	Div'd Decl'd per sh B■	*2.15*
	1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	4.12	3.54	3.91	*4.10*	*4.00*	Cap'l Spending per sh	*4.25*
	8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	*20.15*	*21.35*	Book Value per sh D	*23.75*
	34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.85	36.89	36.94	*37.25*	*37.50*	Common Shs Outst'g C	*37.50*
	27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*25.0*
	1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82			Relative P/E Ratio	*1.40*
	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%	1.5%	1.6%	1.7%			Avg Ann'l Div'd Yield	*2.6%*
							466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	*510*	*525*	Revenues ($mill)	*680*
							54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	*91.0*	*98.0*	Net Profit ($mill)	*120*
							39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	*24.0%*	*24.0%*	Income Tax Rate	*24.0%*
							2.5%	--	--	--	--	--	--	--	2.5%	--	*1.0%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
							42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	*46.5%*	*45.5%*	Long-Term Debt Ratio	*52.0%*
							57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	*53.5%*	*54.5%*	Common Equity Ratio	*48.0%*
							787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	*1400*	*1450*	Total Capital ($mill)	*1710*
							917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	1415.7	1512.0	1626.0	*1720*	*1800*	Net Plant ($mill)	*2025*
							8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	*7.5%*	*8.0%*	Return on Total Cap'l	*8.0%*
							11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*12.5%*	*12.5%*	Return on Shr. Equity	*13.5%*
							11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*12.5%*	*12.5%*	Return on Com Equity	*13.5%*
							6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
							45%	47%	53%	54%	56%	52%	61%	51%	55%	55%	*62%*	*62%*	All Div'ds to Net Prof	*66%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $670.8 mill. Due in 5 Yrs $33.5 mill.
LT Debt $446.9 mill. LT Interest $24.0 mill. (39% of Cap'l)

Leases, Uncapitalized: Annual rentals $2.6 mill.
Pension Assets-12/21 $233.5 mill. **Oblig.** $259.8 mill.

Pfd Stock None

Common Stock 36,956,824 shs. as of 7/29/22

MARKET CAP: $3.0 billion (Mid Cap)

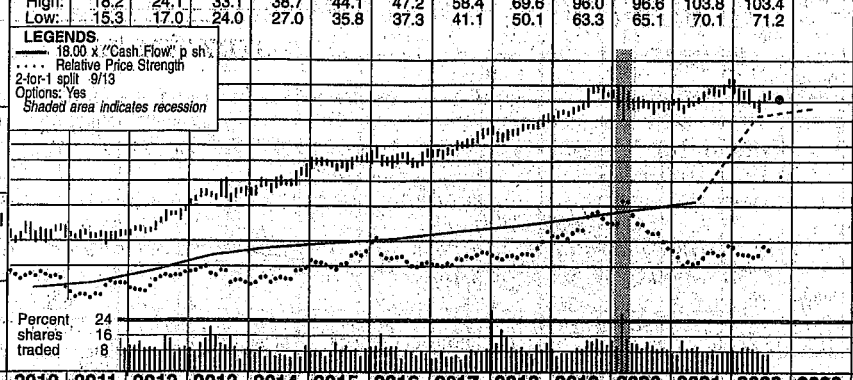
CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	36.7	5.0	10.8
Accts Receivable	29.2	34.4	27.1
Other	91.2	98.7	101.1
Current Assets	157.1	138.1	139.0
Accts Payable	63.8	65.9	71.9
Debt Due	.4	31.4	223.9
Other	54.4	58.3	52.9
Current Liab.	118.6	155.6	348.7

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.5%	1.5%	*5.5%*
"Cash Flow"	5.5%	4.5%	*5.5%*
Earnings	9.0%	8.5%	*5.5%*
Dividends	9.5%	8.0%	*9.0%*
Book Value	5.5%	6.0%	*5.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	101.7	124.7	134.5	113.0	473.9
2020	109.1	121.3	133.6	124.2	488.2
2021	117.1	128.4	136.8	116.6	498.9
2022	108.6	122.6	*143.8*	*135*	*510*
2023	*112*	*130*	*145*	*138*	*525*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.35	.72	.76	.45	2.28
2020	.38	.69	.72	.54	2.33
2021	.52	.72	.76	.55	2.55
2022	.38	.54	*.65*	*.88*	*2.45*
2023	*.50*	*.75*	*.75*	*.60*	*2.60*

Calendar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.255	.255	.275	.275	1.06
2019	.275	.275	.305	.305	1.16
2020	.305	.305	.335	.335	1.28
2021	.335	.335	.365	.365	1.40
2022	.365	.365	.3975		



% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-8.4	-12.0
3 yr.	-6.1	43.2
5 yr.	82.4	54.9

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.

American States Water had another difficult quarter. In the June interim, the company's share net came in at $0.54, versus last year's $0.72 showing. About $0.10 a share of the shortfall was the result of old rates still being in effect. Recall that the company's Golden States Water utility has already reached a settlement regarding higher rates with the state's Office of Public Advocate. The California Public Utility Commission (CPUC) has yet to approve the deal. Typically, the CPUC goes along with the Public Advocate's recommendation. (Indeed, as a body, it can be tougher on utilities than the CPUC.) Also, with the rate increase not in effect yet, third-quarter income will be hurt as well. It is important to note, however, that once the agreement is finalized, the utility will be able to collect these funds retroactive to the beginning of 2022.

We have lowered our earnings estimates for both 2022 and 2023. Assuming the CPUC makes a final ruling by the end of the year, we have still reduced our share-net estimate by a dime for this year and next. The main reason being that American States has to adjust the valuation of its portfolio of assets set aside for the pension program each quarter. Losses were incurred that impacted the June period by $0.10 a share. Moreover, we think the third quarter will cause another asset writedown, as both the bond and equity markets slumped.

Nonutility operations could be a growth catalyst out to 2025 to 2027. Through its ASUS subsidiary, American States provides water and waste treatment services to U.S. military bases. As the armed forces continue to privatize their water systems, we believe that ASUS will keep winning a fair amount of the 50-year contracts that are being put out for competitive bidding. This business is not regulated, so earnings here can exceed those in its other operations.

These shares do not hold much appeal at the recent quotation. In the near term, the equity is ranked to underperform the broader market averages in the coming year. Furthermore, over the three- to five-year pull, AWR's total return potential is well below that of the *Value Line* median.

James A. Flood *October 7, 2022*

(A) Primary earnings. Excludes nonrecurring gains/(losses):; '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due early Nov.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.
(D) Includes intangibles. As of 12/31/21: $1.1 million/$0.03 a share.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	95

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AMERICAN WATER NYSE-AWK

RECENT PRICE 137.33 | P/E RATIO 31.0 (Trailing: 19.2 Median: 25.0) | RELATIVE P/E RATIO 2.15 | DIV'D YLD 2.0% | VALUE LINE 1780

TIMELINESS 2 Raised 9/16/22
SAFETY 3 New 7/25/08
TECHNICAL 3 Raised 10/7/22
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$132-$255	$194 (40%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	185	(+35%)	10%
Low	125	(-10%)	Nil

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	526	450	469
to Sell	369	473	415
Hld's(000)	156569	156704	151931

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		25-27
High:	32.8	39.4	45.1	56.2	61.2	85.2	92.4	98.2	129.9	172.6	189.6	189.3							Target Price Range	
Low:	25.2	31.3	37.0	41.1	48.4	58.9	70.0	76.0	88.0	92.0	131.0	129.5							2025 2026 2027	
	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.26	16.78	17.72	18.54	18.81	19.04	19.97	20.83	21.58	*20.90*	*22.25*	Revenues per sh	*27.10*
	.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	6.65	7.24	10.46	*8.15*	*8.90*	"Cash Flow" per sh	*10.10*
	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	2.38	3.15	3.43	3.91	6.95	*4.45*	*4.85*	Earnings per sh [A]	*5.75*
	---	---	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.36	*2.57*	*2.80*	Div'd Decl'd per sh [B]	*3.55*
	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	9.15	10.05	9.71	*13.75*	*11.75*	Cap'l Spending per sh	*11.50*
	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	33.83	35.58	40.18	*41.00*	*43.85*	Book Value per sh [D]	*57.80*
	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	180.81	181.30	181.61	*182.00*	*182.50*	Common Shs Outst'g [C]	*190.00*
	---	---	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3	32.9	35.3	23.6	Bold figures are		Avg Ann'l P/E Ratio	*27.0*
	---	---	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47	1.75	1.81	1.28	Value Line		Relative P/E Ratio	*1.50*
	---	---	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%	1.7%	1.6%	1.4%	estimates		Avg Ann'l Div'd Yield	*2.3%*
							2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	3610.0	3777.0	3920.0	*3800*	*4060*	Revenues ($mill)	*5150*
							374.3	369.3	429.8	476.0	468.0	426.0	567.0	621.0	709.0	1263.0	*810*	*885*	Net Profit ($mill)	*1095*
							40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	25.5%	23.3%	23.0%	*21.0%*	*22.0%*	Income Tax Rate	*24.0%*
							6.2%	5.1%	--	--	--	--	--	--	5.1%	2.9%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
							53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	58.5%	59.1%	58.6%	*60.0%*	*61.0%*	Long-Term Debt Ratio	*60.0%*
							46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	41.4%	40.9%	41.4%	*40.0%*	*39.0%*	Common Equity Ratio	*40.0%*
							9635.5	9940.7	10364	10911	10967	11875	13433	14760	15787	17639	*19260*	*20500*	Total Capital ($mill)	*22000*
							11739	12391	12900	13933	14992	16246	17409	18232	19710	21084	*22900*	*24400*	Net Plant ($mill)	*26000*
							5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	5.4%	5.7%	8.2%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Shr. Equity	*10.5%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Com Equity	*10.5%*
							3.6%	4.7%	4.3%	4.7%	4.0%	2.5%	4.2%	4.4%	5.0%	11.4%	*4.5%*	*4.5%*	Retained to Com Eq	*4.0%*
							57%	40%	50%	50%	56%	68%	58%	57%	55%	34%	*58%*	*58%*	All Div'ds to Net Prof	*62%*

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-17.2	-12.0
3 yr.	21.7	43.2
5 yr.	99.2	54.9

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CAPITAL STRUCTURE as of 6/30/22
Total Debt $11621 mill. Due in 5 Yrs $1849 mill.
LT Debt $11023 mill. LT Interest $414 mill.
(59% of Cap'l)

Leases, Uncapitalized: Annual rentals $12.0 mill.
Pension Assets 12/21 $2294.0 mill. Oblig. $1991.0 mill.
Pfd Stock $3.0 mill. Pfd Div'd $.2 mill.

Common Stock 181,786,473 shares as of 7/21/22

MARKET CAP: $25.0 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	576	136	97
Accts Receivable	321	271	383
Other	1009	1147	538
Current Assets	1906	1554	1018
Accts Payable	189	235	196
Debt Due	1611	641	698
Other	1081	1265	934
Current Liab.	2881	2141	1728

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	3.5%	*4.5%*
"Cash Flow"	6.0%	10.0%	*3.5%*
Earnings	12.0%	13.5%	*3.0%*
Dividends	9.5%	10.0%	*5.5%*
Book Value	4.5%	5.0%	*3.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	813	882	1013	902	3610
2020	844	931	1079	923	3777
2021	888	999	1082	951	3920
2022	842	937	*1081*	*940*	*3800*
2023	*895*	*1000*	*1165*	*1000*	*4060*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.62	.94	1.33	.54	3.43
2020	.68	.97	1.46	.80	3.91
2021	.73	1.14	1.53	3.55	6.95
2022	.87	1.20	*1.55*	*.83*	*4.45*
2023	*.85*	*1.25*	*1.80*	*.95*	*4.85*

Calendar	QUARTERLY DIVIDENDS PAID [B] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.415	.455	.455	.455	1.78
2019	.455	.50	.50	.50	1.96
2020	.50	.55	.55	.55	2.15
2021	.55	.6025	.6025	.6025	2.36
2022	.6025	.655	.655		

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to approximately 14 million people in 24 states. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86% of 2021 revenues. Pennsylvania is its largest market accounting for 21.5% of regulated revenues, New Jersey, 20.3%, Missouri, 13.9%. Has 6,400 employees. Vanguard owns 11.8% of outstanding shares; BlackRock, 8.9%; State St., 5.4%; officers & directors, less than 1.0% (4/22 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

Profits from American Water Works' operations ought to be flattish for the second half of this year. After deducting a $2.70-a-share one-time gain in 2021's final period, the company's share net was $2.38 over the third and fourth quarters. That is the same amount we expect the utility to make in the remainder of 2022.

The bottom line ought to get back on track in 2023. Assuming reasonable treatment from regulators, American Water's share net could well rise 9% to $4.85. A healthy percentage of the profit increase will come from the utility's acquisition strategy (more below).

The regulatory climate could change. American Water has enjoyed a good relationship with the authorities that determine the rates it's allowed to charge customers. State regulators have been cognizant that large capital expenditures are required to upgrade the existing infrastructure. The potential problem ahead is inflation. When prices were rising just 2% annually, it was easier to pass along higher rates to residents. When inflation is high, though, it makes it more difficult politically to approve hikes of 6%-8%, even if the costs are justified.

The construction program is massive. Management has been pursuing an aggressive building policy aimed mostly at replacing antiquated pipelines and wastewater systems. In 2022, the company is on pace to spend $2.5 billion. Since most of its pipelines and other assets are not in great shape, the spending should be ongoing.

Acquisitions ought to be a driver of income growth. There are thousands of small municipally run water district in the U.S. A good portion do not have the finances to fund the necessary repairs and upgrades needed to be in compliance with EPA guidelines. American Water has been absorbing many smaller entities over the decade. This has enabled it to expand its rate base, on which it earns a return. Also, there are redundancies in the industry that can be eliminated from the districts it purchases, which should increase operating margins.

These timely shares are not suitable for long-term accounts. The price of the equity is already trading within our projected 2025-2027 Target Price Range.

James A. Flood *October 7, 2022*

(A) Diluted earnings. Excludes nonrecur. losses: '08, $4.62; '09, $2.63; '11, $0.07; Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13,($0.01). GAAP used as of 2014. Includes $2.70 sh. gain from sale of HOS sub.in Q4,'21. Next earnings report due late Oct.
(B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available.
(C) In millions. (D) Includes intangibles. On 12/31/21: $1.231 billion, $6.67/share.
(E) Pro forma numbers for '06 & '07.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	100
Earnings Predictability	80

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CALIFORNIA WATER NYSE-CWT

RECENT PRICE 55.60 | P/E RATIO 31.2 (Trailing: 33.7 / Median: 27.0) | RELATIVE P/E RATIO 2.17 | DIV'D YLD 1.8% | VALUE LINE 1781

TIMELINESS 4 Lowered 8/12/22
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Raised 9/16/22
BETA .70 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$47-$89	$68 (20%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+35%)	9%
Low	50	(-10%)	Nil

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	155	152	121
to Sell	109	127	141
Hld's(000)	42143	43279	43653

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	19.4	19.3	23.4	26.4	26.0	36.8	46.2	49.1	57.5	57.4	72.1	72.0						
Low:	16.7	16.8	18.4	20.3	19.5	22.5	32.4	35.3	44.6	39.7	51.0	48.5						

LEGENDS
— 50.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 6/11
Options: Yes
Shaded area indicates recession

Target Price Range 2025 | 2026 | 2027: 120, 100, 80, 64, 48, 32, 24, 20, 16, 12, 8

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.3	-12.0
3 yr.	8.6	43.2
5 yr.	69.3	54.9

Percent shares traded: 18, 12, 6

8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.72	15.78	14.72	*15.45*	*16.55*	Revenues per sh	*17.90*
1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.14	3.88	3.91	*3.20*	*3.70*	"Cash Flow" per sh	*4.15*
.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.31	1.97	1.96	*1.70*	*2.15*	Earnings per sh [A]	*2.55*
.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.85	.92	*1.00*	*1.08*	Div'd Decl'd per sh [B] ■	*1.25*
2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	5.64	5.93	5.46	*5.85*	*6.00*	Cap'l Spending per sh	*6.45*
9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	16.07	18.30	21.92	*22.35*	*23.55*	Book Value per sh [C]	*25.50*
41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.53	50.33	53.72	*53.75*	*52.00*	Common Shs Outst'g [D]	*50.00*
29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	*24.0*
1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	2.09	1.28	1.67			Relative P/E Ratio	*1.30*
2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	1.5%	1.7%	1.5%			Avg Ann'l Div'd Yield	*2.0%*
560.0	584.1	597.5	588.4	609.4	666.9	698.2	714.6	794.3	790.9	*830*	*860*	Revenues ($mill) [E]	*895*
42.6	47.3	56.7	45.0	48.7	67.2	65.6	63.1	96.8	101.1	*92.0*	*112*	Net Profit ($mill)	*128*
37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	24.5%	19.1%	11.1%	20.1%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	3.1%	5.8%	3.3%	1.7%	*4.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	50.2%	45.9%	47.3%	*44.0%*	*42.5%*	Long-Term Debt Ratio	*39.5%*
52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	49.8%	54.1%	52.7%	*56.0%*	*57.5%*	Common Equity Ratio	*60.5%*
908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1566.7	1702.4	2233.4	*2150*	*2125*	Total Capital ($mill)	*2100*
1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2406.4	2650.6	2846.9	*2950*	*2975*	Net Plant ($mill)	*3050*
6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.9%	5.5%	7.0%	5.5%	*5.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*7.5%*	*9.0%*	Return on Shr. Equity	*10.0%*
9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*7.5%*	*9.0%*	Return on Com Equity	*10.0%*
3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	4.0%	3.2%	6.0%	4.6%	*3.0%*	*4.5%*	Retained to Com Eq	*5.0%*
62%	56%	55%	71%	68%	51%	55%	60%	43%	47%	*59%*	*50%*	All Div'ds to Net Prof	*49%*

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CAPITAL STRUCTURE as of 6/30/22
Total Debt $1130.0 mill. **Due in 5 Yrs** $357.0 mill.
LT Debt $1054.2 mill. **LT Interest** $40.0 mill.
(Total interest coverage: 4.9x) (47% of Cap'l)

Pension Assets-12/21 $810.5 mill.
Oblig. $887.5 mill.

Pfd Stock None

Common Stock 54,356,000 shs.

MARKET CAP: $3.0 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	44.6	78.4	61.7
Other	221.4	222.1	215.0
Current Assets	266.0	300.5	276.7
Accts Payable	131.7	144.4	139.7
Debt Due	375.1	40.2	75.8
Other	81.9	72.0	70.6
Current Liab.	588.7	256.6	286.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.0%	4.0%	*3.0%*
"Cash Flow"	6.5%	9.0%	*2.0%*
Earnings	6.5%	11.0%	*6.5%*
Dividends	3.5%	5.0%	*6.5%*
Book Value	6.0%	7.0%	*5.0%*

Calendar	QUARTERLY REVENUES ($ mill.) [E] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	126.1	179.0	232.6	176.9	714.6
2020	125.6	175.5	304.1	189.1	794.3
2021	147.7	213.1	256.7	173.4	790.9
2022	173.0	206.2	*255*	*195.8*	*830*
2023	*175*	*220*	*265*	*200*	*860*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	d.16	.35	.88	.24	1.31
2020	d.42	.11	1.94	.31	1.97
2021	d.06	.75	1.20	.07	1.96
2022	.02	.36	*1.07*	*.25*	*1.70*
2023	*.10*	*.55*	*1.15*	*.35*	*2.15*

Calendar	QUARTERLY DIVIDENDS PAID [B] ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.1875	.1875	.1875	.1875	.75
2019	.1975	.1975	.1975	.1975	.79
2020	.2125	.2125	.2125	.2125	.85
2021	.230	.230	.230	.230	.92
2022	.250	.250	.250		

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 494,500 customers in 100 communities in the state of California. Accounts for about 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '21: residential, 69%; business, 19%; industrial, 3%; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/22 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group has made some moves since our early-July review. First, the company's California- and Washington-based subsidiaries both inked deal's to acquire water system assets of two adjacent utilities. The acquisitions, which are still pending customary closing conditions and regulatory approval, ought to bolster California Water's residential operating footprint in these areas. Meanwhile, in Texas, the company recently entered into a long-term water supply agreement with the Guadalupe Blanco River Authority. The deal is imperative to meeting residential water demand in the growing region, and is likely to require substantial pipeline infrastructure development. Lastly, management continues to make progress on its 2021 cost of capital review and general rate case filing.

Earnings are apt to take a step back this year. California Water posted net income of $0.36 per share in the June period, roughly half that of the prior-year tally. The softer-than-expected showing can be attributed to costs associated with a change in deferred revenue, weaker customer water consumption, and an uptick in general and administrative expenses. That said, bottom-line comparisons are poised to improve over the back half of 2022, largely owing to prospects for customer rate increases. Even so, we are shaving $0.30 from our current-year earnings estimate, to $1.70 per share.

Significant infrastructure investment is on the docket over the pull to late decade. In addition to upgrading aging water delivery systems and treatment plants, California Water is allocating funds to shore up its preparation for unexpected wildfires and climate-related challenges. Meanwhile, the company's recently announced $350-million stock buyback program is imminent.

California Water shares lack investment appeal at this juncture. The stock has slipped one notch on our Timeliness ranking scale, to 4 (Below Average). Moreover, much of the growth we envision three to five years hence appears to already be factored into the recent quotation. All told, subscribers would do well to remain on the sidelines, for now.

Nicholas Patrikis *October 7, 2022*

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due early Nov.
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. intangible assets. In '21 : $36.8 mill., $0.69/sh.
(D) In millions, adjusted for split.
(E) Excludes non-regulated revenues.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	85
Earnings Predictability	55

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ESSENTIAL UTIL. NYSE-WTRG

RECENT PRICE 43.46 | P/E RATIO 23.9 (Trailing: 25.6 / Median: 25.0) | RELATIVE P/E RATIO 1.66 | DIV'D YLD 2.7% | VALUE LINE 1782

TIMELINESS 3 Raised 9/16/22
SAFETY 3 Lowered 1/8/21
TECHNICAL 1 Raised 9/16/22
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$38-$72	$55 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+60%)	15%
Low	45	(+5%)	4%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	313	292	277
to Sell	208	248	249
Hld's(000)	178560	181504	183099

High: 19.0 21.5 28.1 28.2 31.1 35.8 39.6 39.4 47.3 54.5 53.9 53.7
Low: 15.4 16.8 20.6 22.4 24.4 28.0 29.4 32.1 32.7 30.4 41.1 41.0

LEGENDS
17.50 x "Cash Flow" p sh
Relative Price Strength
5-for-4 split 9/13
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

Percent shares traded 15 10 5

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH. INDEX
1 yr.	1.4	-12.0
3 yr.	18.1	48.2
5 yr.	64.1	54.9

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	4.03	5.96	7.43	8.25	8.25	Revenues per sh	8.95
1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	1.73	2.21	2.89	3.00	3.20	"Cash Flow" per sh	4.00
.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.04	1.12	1.67	1.80	1.95	Earnings per sh	2.25
.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	1.04	1.11	1.20	Div'd Decl'd per sh	1.55
1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	2.49	3.41	4.04	3.95	3.85	Cap'l Spending per sh	3.80
5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	17.58	19.09	20.50	21.45	22.30	Book Value per sh	26.90
165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	220.76	245.39	252.87	255.00	260.00	Common Shs Outst'g	280.00
34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	39.1	39.6	28.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	26.0
1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	2.08	2.03	1.55			Relative P/E Ratio	1.45
1.6%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.2%	2.2%	2.2%			Avg Ann'l Div'd Yield	2.7%
						757.8	768.6	779.9	814.2	819.9	809.5	838.1	889.7	1462.7	1878.1	2110	2150	Revenues ($mill)	2500
						153.1	205.0	213.9	201.8	234.2	239.7	192.0	224.5	284.8	431.6	460	505	Net Profit ($mill)	630
						39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	--	--	--	--	4.0%	10.0%	Income Tax Rate	15.0%
						--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	7.2%	4.5%	4.8%	5.0%	5.0%	AFUDC % to Net Profit	6.0%
						52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	43.1%	54.0%	52.7%	54.0%	54.5%	Long-Term Debt Ratio	53.0%
						47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	56.9%	46.0%	47.3%	46.0%	45.5%	Common Equity Ratio	47.0%
						2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	6824.2	10192	10964	11975	12800	Total Capital ($mill)	16000
						3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6345.8	9512.9	10252	10900	11600	Net Plant ($mill)	13500
						6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	4.2%	3.7%	4.8%	5.5%	5.5%	Return on Total Cap'l	5.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Shr. Equity	8.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Com Equity	8.5%
						4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	.9%	1.1%	3.3%	3.0%	3.0%	Retained to Com Eq	2.5%
						61%	50%	52%	60%	56%	59%	79%	84%	82%	60%	62%	62%	All Div'ds to Net Prof	69%

CAPITAL STRUCTURE as of 6/30/22
Total Debt $6213.3 mill. Due in 5 Yrs $882.1 mill.
LT Debt $6087.7 mill. LT Interest $216.0 mill. (53% of Cap'l)

Pension Assets-12/21 $433.1 mill. Oblig. $452.9 mill.

Pfd Stock None
Common Stock 262,170,763 shares as of 7/22/22

MARKET CAP: $11.4 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	4.8	10.6	13.0
Receivables	154.8	141.0	143.4
Inventory (AvgCst)	58.4	109.6	128.6
Other	162.2	176.6	128.3
Current Assets	380.2	437.8	413.3
Accts Payable	177.5	192.9	194.1
Debt Due	162.6	197.1	125.6
Other	263.8	285.1	224.4
Current Liab.	603.9	675.1	544.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	5.0%	7.5%
"Cash Flow"	5.0%	3.0%	10.0%
Earnings	6.0%	1.0%	10.0%
Dividends	7.5%	7.0%	8.0%
Book Value	11.0%	14.0%	6.0%

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	201.1	218.9	243.6	226.1	889.7
2020	255.6	384.5	348.6	474.0	1462.7
2021	583.5	397.0	361.9	535.7	1878.1
2022	699.3	448.8	391.9	570	2110
2023	660	475	420	595	2150

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.09	.25	.38	.28	1.04
2020	.21	.29	.22	.40	1.12
2021	.72	.32	.19	.44	1.67
2022	.76	.31	.22	.51	1.80
2023	.78	.37	.33	.47	1.95

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.2047	.2047	.219	.219	.85
2019	.219	.219	.2343	.2343	.91
2020	.2343	.2343	.2507	.2507	.97
2021	.2507	.2507	.2682	.2682	1.04
2022	.2682	.2682	.287		

BUSINESS: Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2021, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employs 3,211. Acquired AquaSource, 7/13; N. Maine Util., 7/15; and others. Water respn. for 52% of revenues in 2021, residential, 30%; commercial, 8.0%; industrial, wastewater & other, 14%. Gas 46%; other, 2.0%. Off. & dir. own less than 1% of the common stock; BlackRock, 10.6%; Vanguard, 9.7%; Can. Pen. Plan 8.6% (3/22 proxy). Pres. & CEO: Christopher Franklin. Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.

Essential Utilities' second-quarter earnings were in line with our expectations. The water and gas utility posted share net of $0.31, versus our $0.32 estimate. Management reaffirmed the same guidance as before, so we are sticking with our previous bottom-line estimates of $1.80 and 1.95 for 2022 and 2023, respectively. These figures represent a solid 8% increase for both this year and next.

A potential acquisition of a large wastewater project has been shelved, for now. Last summer, Essential's Aqua America water subsidiary signed an exclusivity agreement with the Bucks County Water and Sewer Authority to discuss purchasing the asset for about $1.1 billion. In early September, the negotiations were suddenly halted. Aqua continues to express interest in completing the transaction, however. In any case, it has already closed two acquisitions this year and agreed to buy parts, or all of the assets of seven different water systems. The price tag will total approximately $365 million.

The policy of aggressively buying other water entities ought to help fuel long-term growth. America's water industry is incredibly fragmented with most water districts being run by small, undercapitalized municipal entities. Not only do they not have the funds required to replace old pipelines and treatment centers, but they are inefficient. When a bigger company, such as Aqua, takes over a smaller water authority, it can create significant efficiencies by eliminating many redundancies.

The dividend was hiked by a healthy percentage. The board increased the quarterly payout by 7%, to $0.287 a share in the latest quarter.

Shares of Essential do not look particularly attractive at this time. In the year ahead, the equity is just ranked to perform in line with the broader market averages. Also, the stock's total return potential is well below that of the average equity under *Value Line* review. Similar to others in this industry, Essential has many appealing features, including well-defined earnings and dividend growth, but they all appear to be more than reflected in the recent quotation.

James A. Flood *October 7, 2022*

(A) Diluted egs. Excl. nonrec. gains: '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report early November.
(B) Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock split.
(D) Includes intangibles: 12/31/21, $1.231 bill./$4.87 a share.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	90
Earnings Predictability	60

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MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 81.76 | P/E RATIO 35.5 (Trailing: 36.5 / Median: 24.0) | RELATIVE P/E RATIO 2.47 | DIV'D YLD 1.4% | VALUE LINE 1783

TIMELINESS 3 Raised 9/9/22
SAFETY 2 New 10/21/11
TECHNICAL 3 Raised 10/7/22
BETA .70 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$77-$160 $119 (45%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+10%)	4%
Low	65	(-20%)	-4%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	93	82	90
to Sell	84	90	93
Hld's(000)	12685	13008	11842

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
High:	19.4	19.6	22.5	23.7	28.0	44.5	46.7	60.3	67.7	76.1	121.4	121.1								
Low:	16.5	17.5	18.6	19.1	21.2	25.0	32.2	34.0	51.0	48.8	67.1	75.8								
	6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.72	8.10	8.17	*8.75*	*8.95*	Revenues per sh	*9.15*
	1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.90	3.25	3.28	*3.40*	*3.50*	"Cash Flow" per sh	*3.85*
	.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.01	2.18	2.07	*2.45*	*2.50*	Earnings per sh A	*2.75*
	.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	1.11	*1.18*	*1.25*	Div'd Decl'd per sh B■	*1.40*
	2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	5.11	6.04	4.53	*5.00*	*5.25*	Cap'l Spending per sh	*6.00*
	9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	18.57	19.81	20.99	*21.70*	*22.40*	Book Value per sh	*22.80*
	13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	*17.75*	*17.85*	Common Shs Outst'g C	*18.00*
	22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	*Bold figures are*		Avg Ann'l P/E Ratio	*28.0*
	1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	1.58	1.55	2.43	*Value Line*		Relative P/E Ratio	*1.30*
	3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	1.6%	1.6%	1.2%	*estimates*		Avg Ann'l Div'd Yield	*1.8%*
							110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	*155*	*160*	Revenues ($mill)	*165*
							14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	*44.0*	*45.0*	Net Profit ($mill)	*50.0*
							33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	--	2.8%	2.8%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
							3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	*2.5%*	*2.5%*	AFUDC % to Net Profit	*2.5%*
							41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	*44.0%*	*43.5%*	Long-Term Debt Ratio	*42.0%*
							57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	*55.5%*	*56.0%*	Common Equity Ratio	*57.5%*
							316.5	321.4	335.8	345.4	355.4	370.7	404.1	556.7	621.5	676.3	*690*	*710*	Total Capital ($mill)	*715*
							435.2	446.5	465.4	481.9	517.6	557.2	618.5	705.7	796.6	865.4	*875*	*885*	Net Plant ($mill)	*915*
							5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	*6.5%*	*6.5%*	Return on Total Cap'l	*7.5%*
							7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	*11.0%*	*11.0%*	Return on Shr. Equity	*12.0%*
							7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	10.4%	11.1%	9.9%	*11.5%*	*11.0%*	Return on Com Equity	*12.0%*
							1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	5.4%	5.8%	4.6%	*6.0%*	*5.5%*	Retained to Com Eq	*6.0%*
							83%	73%	67%	63%	58%	62%	46%	48%	48%	53%	*48%*	*50%*	All Div'ds to Net Prof	*51%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $313.2 mill. Due in 5 Yrs $43.7 mill.
LT Debt $305.4 mill. LT Interest $7.5 mill.
(Total interest coverage: 5.0x)
(45% of Cap'l)

Pension Assets-12/21 $100.8 mill.
Oblig. $113.7 mill.
Pfd Stock $2.4 mill. Pfd Div'd: $.1 mill.

Common Stock 17,610,000 shs.
as of 7/29/22

MARKET CAP: $1.4 billion (Small Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	4.5	3.5	4.3
Other	29.6	30.9	34.7
Current Assets	34.1	34.4	39.0
Accts Payable	30.4	21.1	24.2
Debt Due	9.3	6.7	7.8
Other	17.1	28.8	46.8
Current Liab.	56.8	56.6	78.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.0%	.5%	*2.5%*
"Cash Flow"	5.0%	9.5%	*3.5%*
Earnings	9.5%	11.0%	*4.5%*
Dividends	3.5%	6.0%	*5.0%*
Book Value	6.0%	9.0%	*2.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	30.7	33.4	37.8	32.7	134.6
2020	31.8	35.3	39.9	34.6	141.6
2021	32.5	36.7	39.9	34.0	143.1
2022	36.2	39.7	*41.0*	*38.1*	*155*
2023	*38.0*	*41.0*	*42.0*	*39.0*	*160*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.39	.49	.66	.46	2.01
2020	.44	.55	.72	.47	2.18
2021	.39	.62	.65	.41	2.07
2022	.68	.50	*.75*	*.52*	*2.45*
2023	*.53*	*.60*	*.77*	*.60*	*2.50*

Calendar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.22375	.22375	.22375	.24	.91
2019	.24	.24	.24	.2562	.98
2020	.2562	.2562	.2562	.2725	1.04
2021	.2725	.2725	.2725	.29	1.11
2022	.29	.29	.29		

LEGENDS
55.00 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-17.9	-12.0
3 yr.	51.0	43.2
5 yr.	152.2	54.9

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.

Middlesex Water recently inked a deal to manage the Borough of Avalon, New Jersey's water and sewer utility operations. The new 10-year contract, which went into effect on September 1, 2022, replaces the previous decade-long agreement, and includes provisions for maintenance and customer services.

Periodic rate hikes have more than offset the company's regulated Delaware wastewater divestment from earlier this year. The latter resulted in approximately $0.7 million in reduced revenues for the June period. However, the top line is benefiting notably from the latest round of customer rate increases. To wit, the New Jersey Board of Public Utilities recently approved another rate hike, largely due to aggressive infrastructure and distribution system investments. In sum, we now look for revenues of $155 million this year (up from our previous call of $153 million) and $160 million in the next (up from $158 million).

Strong bottom-line expansion is likely on tap for 2022, despite a modest reduction to our current-year profit forecast. Earnings contracted about 20% year over year in the second quarter, to $0.50 per share. Expiring income tax benefits and higher operating expenses weighed on the figure. Consequently, we are shaving a dime from our full-year 2022 bottom-line estimate, to $2.45 per share.

Over the pull to late decade, leadership is poised to invest heavily on infrastructure-related upgrades. Indeed, aging water delivery systems and pipelines are long overdue for replacement. Management is apt to focus on facility treatment enhancements as well. Overall, aggressive spending on public infrastructure projects suggests that additional rate hikes are probably in the cards further down the road.

Middlesex stock is ranked to mirror the broader market averages over the coming six to 12 months. What's more, at the recent quotation, the equity lacks appeal over the 18-month and 3- to 5-year windows. Although the company is noncyclical and pays a stable quarterly dividend that is well-covered by earnings, we think waiting for a better entry point is the prudent move here at this juncture.

Nicholas Patrikis *October 7, 2022*

(A) Diluted earnings. Next earnings report due early November.
(B) Dividends historically paid in mid-Feb., May, Aug., and November. ■ Div'd reinvestment plan available.
(C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	90
Earnings Predictability	90

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SJW GROUP NYSE-SJW

RECENT PRICE 59.57 | P/E RATIO 28.9 (Trailing: 34.2, Median: 23.0) | RELATIVE P/E RATIO 2.01 | DIV'D YLD 2.4% | VALUE LINE 1784

TIMELINESS 4 Lowered 8/12/22
SAFETY 3 New 4/22/11
TECHNICAL 3 Raised 10/7/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

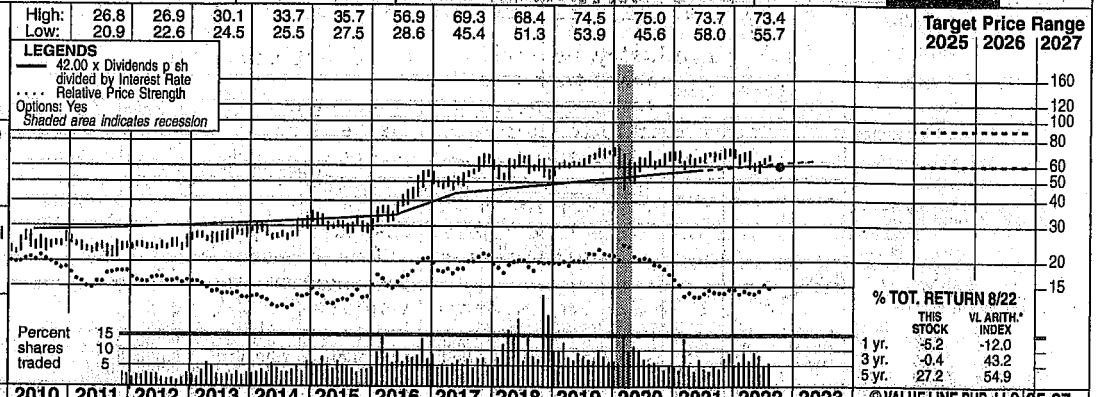
Low-High	Midpoint (% to Mid)
$57-$96	$77 (30%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+50%)	13%
Low	60	(Nil)	3%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	98	93	78
to Sell	68	80	104
Hld's(000)	21890	21360	21790



% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-5.2	-12.0
3 yr.	-0.4	43.2
5 yr.	27.2	54.9

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	18.97	14.00	14.78	19.77	19.01	*20.00*	*20.85*	Revenues per sh	*22.15*
2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.13	5.28	5.13	*3.60*	*4.15*	"Cash Flow" per sh	*4.90*
1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	.82	2.14	2.03	*1.95*	*2.50*	Earnings per sh A	*3.25*
.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	1.36	*1.44*	*1.52*	Div'd Decl'd per sh B■	*1.76*
3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	6.25	7.44	8.32	*7.50*	*8.00*	Cap'l Spending per sh	*7.75*
12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	61.27	32.12	34.28	*36.65*	*39.15*	Book Value per sh	*40.85*
18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	28.46	28.56	30.18	*30.00*	*30.00*	Common Shs Outst'g C	*30.00*
23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*23.0*
1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.77	NMF	1.54	1.80			Relative P/E Ratio	*1.30*
2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	1.9%	2.0%	2.0%			Avg Ann'l Div'd Yield	*2.3%*
261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	*600*	*625*	Revenues ($mill)	*665*
22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	*59.0*	*75.0*	Net Profit ($mill)	*98.0*
41.1%	38.7%	32.5%	38.1%	38.8%	36.7%	20.6%	26.4%	12.0%	12.2%	*21.5%*	*21.0%*	Income Tax Rate	*21.0%*
--	--	--	--	--	--	--	--	2.0%	1.5%	*1.5%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	59.1%	58.4%	59.1%	*57.5%*	*54.0%*	Long-Term Debt Ratio	*45.0%*
45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	40.9%	41.6%	40.9%	*42.5%*	*46.0%*	Common Equity Ratio	*55.0%*
610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	*2575*	*2550*	Total Capital ($mill)	*2225*
831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	2206.5	2334.9	2497.5	*2565*	*2650*	Net Plant ($mill)	*2825*
5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	*3.0%*	*3.5%*	Return on Total Cap'l	*5.0%*
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	*5.5%*	*6.5%*	Return on Shr. Equity	*8.0%*
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	*5.5%*	*6.5%*	Return on Com Equity	*8.0%*
3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	*1.5%*	*2.5%*	Retained to Com Eq	*3.5%*
59%	62%	29%	42%	31%	36%	60%	NMF	59%	66%	*74%*	*61%*	All Div'ds to Net Prof	*54%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $1494.7 mill. **Due in 5 Yrs** $39.0 mill.
LT Debt $1455.7 mill. **LT Interest** $50.0 mill.
(LT Interest Coverage: 3.6x)
(59% of Cap'l)

Pension Assets-12/21 $310.2 mill.
Oblig. $383.8 mill.
Pfd Stock None.
Common Stock 30,248,000 shs.

MARKET CAP: $1.8 billion (Small Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	9.3	10.9	12.0
Accts Receivable	58.1	53.7	58.8
Other	59.9	69.5	68.0
Current Assets	127.3	134.1	138.8
Accts Payable	34.2	30.4	26.6
Debt Due	76.2	39.1	39.0
Other	240.4	133.8	212.2
Current Liab.	350.8	203.3	277.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	4.0%	2.5%	*3.5%*
"Cash Flow"	6.0%	.5%	*2.5%*
Earnings	6.0%	-6.5%	*14.0%*
Dividends	6.5%	10.5%	*5.5%*
Book Value	9.0%	11.5%	*4.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	77.7	103.0	114.0	125.8	420.5
2020	115.8	147.2	165.9	135.6	564.5
2021	114.8	152.2	166.9	139.8	573.7
2022	124.3	149.0	*175*	*151.7*	*600*
2023	*130*	*160*	*180*	*155*	*625*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.21	.47	.33	d.19	.82
2020	.08	.69	.91	.46	2.14
2021	.09	.69	.64	.60	2.03
2022	.12	.38	*.75*	*.70*	*1.95*
2023	*.23*	*.57*	*.95*	*.75*	*2.50*

Calendar	QUARTERLY DIVIDENDS PAID BD■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.28	.28	.28	.28	1.12
2019	.30	.30	.30	.30	1.20
2020	.32	.32	.32	.32	1.28
2021	.34	.34	.34	.34	1.36
2022	.36	.36	.36		

BUSINESS: SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

SJW Group reported weaker-than-anticipated second-quarter bottom-line results. The East and West coast water utility operator earned $0.38 per share in the June period. Indeed, the figure, which was well short of consensus estimates, contracted about 45% year over year. On top of a softer revenue performance during the period (on an annual basis), higher administrative expenses, depreciation, and interest on long-term obligations weighed on the result. All told, despite management reaffirming an upbeat outlook for the remainder of the year, we are lowering our 2022 earnings estimate by $0.55, to $1.95 per share, which would mark the company's second-consecutive year of share profit declines.

We think 2023 holds more promise. To start, modest revenue growth ought to be underpinned by further customer rate hikes and a wider base. Regarding the former, SJW Group expects the currently pending 2021 California General Rate Case decision to be reached by the end of this year, which would allow the company to not only boost rates, but recoup revenues retroactively. Rate increases in Connecticut, Maine, and Texas were also recently approved by regulators. Moreover, prospects for a healthier economic backdrop should support increased water consumption. Elsewhere, we envision a notable earnings recovery in 2023. Leadership is likely to focus on curtailing operating expenses and lowering debt obligations.

Aggressive infrastructure investment remains on tap over the 3- to 5-year stretch. For this year, top brass has utilized roughly half of its $223 million capital investment budget. Funds are allocated across all operating regions, and support aging pipeline replacement, facility and treatment plant upgrades, as well as the company's advanced metering initiative. By late decade, SJW Group intends to spend approximately $1.3 billion on infrastructure upgrades.

Investors should turn the page, for now. SJW stock is unfavorably ranked (4) for relative year-ahead price performance. What's more, at the recent quotation, total return potential over the pull to 2025-2027 leaves much to be desired.

Nicholas Patrikis *October 7, 2022*

(A) Diluted earnings. Excludes nonrecurring losses: '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early November. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions.
(D) Paid special dividend of $0.17 per share on 11/17.

Company's Financial Strength	B+
Stock's Price Stability	85
Price Growth Persistence	85
Earnings Predictability	45

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Decile	Recent Number of Companies	Min Size $s	Max Size $s	Arithmetic Mean (%)	Beta	Size Premium S&P 500	Risk Premium Beta Adjusted	Size Premium
1	223	36,160,584,000	2,324,390,219,000	11.22%	0.92	-0.76%	6.87%	-0.76%
2	209	16,759,390,000	36,099,221,000	12.93%	1.04	0.95%	6.87%	0.95%
3	221	8,216,356,000	16,738,364,000	13.69%	1.10	1.71%	6.87%	1.71%
4	250	5,019,883,000	8,212,638,000	13.65%	1.13	1.67%	6.87%	1.67%
5	272	3,281,009,000	5,003,747,000	14.48%	1.17	2.50%	6.87%	2.50%
6	288	2,170,315,000	3,276,553,000	14.83%	1.18	2.85%	6.87%	2.85%
7	323	1,306,402,000	2,164,524,000	15.62%	1.25	3.64%	6.87%	3.64%
8	453	629,118,000	1,306,038,000	15.88%	1.31	3.90%	6.87%	3.90%
9	441	290,002,000	627,803,000	16.73%	1.34	4.75%	6.87%	4.75%
10 - Smallest	622	10,588,000	289,007,000	19.67%	1.39	7.68%	6.87%	7.68%
Total	3,302							
Large-Cap 1-2	432	16,759,390,000	2,324,390,219,000	11.48%	0.94	-0.50%	6.87%	-0.75%
Mid-Cap 3-5	743	3,281,009,000	16,738,364,000	13.81%	1.12	1.82%	6.87%	1.82%
Low Cap 6-8	1,064	629,118,000	3,276,553,000	15.26%	1.23	3.28%	6.87%	3.28%
Micro-Cap 9-10	1,063	10,588,000	627,803,000	17.55%	1.35	5.57%	6.87%	5.57%
	3,302		2,345,032,939,000					
1-5	1,175	3,281,009,000	2,324,390,219,000	11.77%	0.96	-0.21%	6.87%	-0.21%
6-10	2,127	10,588,000	3,276,553,000	15.49%	1.24	3.51%	6.87%	3.51%

2021 Business Valuation Resources, LLC

Historical Return 1928-2021	11.98%
10-Year T Bond Average Annual Return	5.11%
Risk Premium	6.87%
Historical Return 1928-2021	11.98%
20-Year T Bond Average Annual Return	5.78%
Risk Premium	6.20%

THE VALUE LINE® Investment Survey®

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★★ Rank 1 (Highest) for Timeliness.
★ Rank 2 (Above Average).

ESPECIALLY NOTEWORTHY:

This week, two companies are making their debut in The Value Line Investment Survey. ***Alamo Group****, which designs, manufacturers, and services high-quality vegetation management and infrastructure maintenance equipment for governmental, industrial, and agricultural uses, is joining the Machinery Industry on page 1703. What's more,* ***SPS Commerce, Inc.,*** *which develops and operates a cloud-based technology platform that offers supply-chain solutions to retailers, suppliers, and logistics firms, is debuting in the E-Commerce Industry on page 1818.*

The acquisition of ***Black Knight*** *by* ***Intercontinental Exchange*** *still has a long way to go until it crosses the finish line. Turn to pages 1805 and 1789 for more details.*

Aerojet Rocketdyne *was recently engulfed by a boardroom battle, which has been resolved, with CEO Eileen Drake retaining control of the company. As a result, we would not be surprised to see Lockheed Martin reappear with another offer to acquire the company. Learn more on page 1743.*

Parker-Hannifin *is gearing up for a transformational year in fiscal 2023 (ends June 30th). The company recently closed on its $9.9 billion acquisition of British aerospace manufacturer Meggitt. Details are on page 1766.*

Growth-via-acquisition titan ***Danaher*** *recently announced a planned separation. Page 1753.*

In three parts: Part 1 is the Summary & Index. Part 2 is Selection & Opinion. This is Part 3, Ratings & Reports. Volume LXXVIII, No. 9

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See back cover for important disclosures.

INDUSTRY TIMELINESS: 73 (of 93)

The Water Utility Industry consists of six investor-owned companies that provide water services to residential, commercial, and industrial customers. The group is extremely small because most of the water utilities in the United States are run by states and local municipalities.

America's water infrastructure is not in good shape. Following years of neglect, water utilities have been involved in major construction programs to upgrade and modernize their pipelines and wasterwater facilities. Though the estimates vary widely, the average age of pipes in the United States is easily over 50 years.

In order to replace these antiquated assets, water companies have been spending heavily over the past two decades. Hefty amounts of capital expenditures are expected to be spent in the foreseeable future. This will likely keep the members of this Industry loaded with debt.

The regulatory climate in each state cannot be underestimated. Unlike other utilities, such as electric and gas, water companies have had a relatively constructive relationship with the authorities that determine what kind of return they can earn on their investments. It is important to note that the positive collaboration has occurred during a span in which inflation has been low. There is no guarantee that regulators will not become harsher should inflation remain near its current level.

Most stocks in this Industry have done well over the past one-, three-, and five-year periods. The group is not favorably ranked for year-ahead or long-term relative performance, however.

Large Construction Programs

Just about every company in the Industry has been busy replacing old pipelines. For decades, most water utilities did not invest the funds required to modernize their systems. Water utilities and regulators were both satisfied in keeping customers' monthly bills low. When compared to other utilities' bills, such as electric, gas, and cable, water was relatively cheap. There was a long-term cost to this lack of capital expenditures. In the earlier part of the 21st century, as water started to become more of a scarcer commodity, water districts became alarmed when they realized how much water was being lost because of old leaky pipes. Since then, the industry has been investing heavily to fix the problem. The replacement process will likely take decades to complete.

Mediocre Finances

Most companies in the group have issued debt to finance the building projects targeted at improving the water infrastructure. A company such as *American Water Works* will have a construction budget of nearly $2.5 billion in 2022. The typical water utility does not have a weak balance sheet, but it doesn't have a strong one either. The industry was lucky in that interest rates have been low for more than a decade and it has been cheap to borrow money. Over the past year, short-term interest rates have risen considerably. With 10- and 30-year Treasury bonds carrying coupons of about 4%, we wouldn't be surprised if there were more bond sales in the works so that today's rates can be locked in.

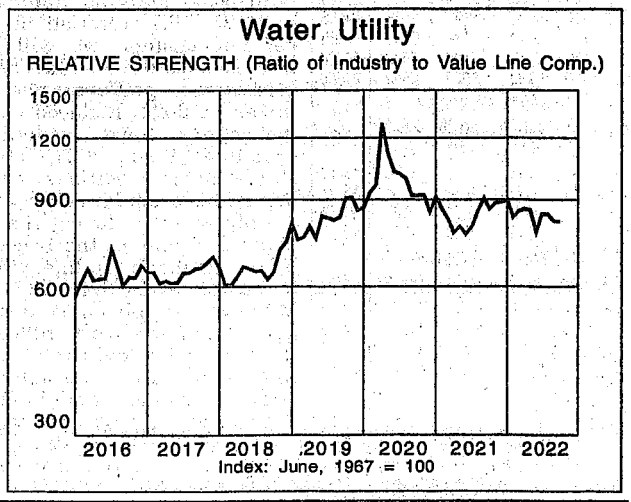
Regulation Will Be Key

Over the past decade, state regulators, who determine what water customers are charged, have been helpful in granting rate hikes to finance the much-needed construction. With inflation being around 2%, the authorities did not get much push back from the public if rates were hiked by 5% or so. However, with prices currently increasing about 8% annually, it may be difficult for utilities to pass along their higher costs to rate payers. Each state has an established entity that decides what utilities can earn. The members of these boards are political appointees. Thus, when utility bills spike higher, the resistance from the public intensifies. So far, we haven't seen evidence of a drastic change in behavior by regulators, but we would not be surprised if problems start to crop up, should large rate hikes be requested.

Conclusion

Water utility stocks have much to offer investors looking for well-defined earnings and dividend growth. They all score very high in important metrics such as Earnings Predictability, Price Stability, and Price Growth Persistence. The Industry also provides an opportunity for utility investors to diversify their holdings, as the electric and gas companies make up the vast majority of the market capital in this space. Because of all of these positives attributes, these equities trade at a very rich premium. The price-earning ratios are well above that of the average stock in the *Value Line* universe. Currently, many of these equities are trading in their projected Target Price Range for the 2025-2027 period. Moreover, good relations with regulators seem to already be factored into the prices of these stocks even though regulators may come under pressure to keep water bills down. As noted above, state regulatory bodies are composed of appointees by state politicians. And as far back as we can recall, no politician has won office with a slogan of "Let's raise prices sky high to be fair to utilities."

James A. Flood



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AMER. STATES WATER NYSE-AWR

RECENT PRICE 82.11 | P/E RATIO 31.9 (Trailing: 36.8) (Median: 27.0) | RELATIVE P/E RATIO 2.22 | DIV'D YLD 2.0% | VALUE LINE 1779

TIMELINESS 4 Lowered 6/10/22
SAFETY 2 Raised 7/20/12
TECHNICAL 3 Raised 8/19/22
BETA .65 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$71-$134 $103 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+15%)	6%
Low	70	(-15%)	-1%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	157	153	128
to Sell	117	121	150
Hld's(000)	27394	27827	26629

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	96.0	96.6	103.8	103.4						
Low:	15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	63.3	65.1	70.1	71.2						

LEGENDS
18.00 x "Cash Flow" p sh
Relative Price Strength
2-for-1 split 9/13
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-8.4	-12.0
3 yr.	-6.1	43.2
5 yr.	82.4	54.9

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
	7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	*13.70*	*14.00*	Revenues per sh	*18.15*
	1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.26	3.34	3.64	*3.60*	*3.90*	"Cash Flow" per sh	*4.75*
	.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	*2.45*	*2.60*	Earnings per sh A	*3.25*
	.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	1.28	1.40	*1.53*	*1.62*	Div'd Decl'd per sh B■	*2.15*
	1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	4.12	3.54	3.91	*4.10*	*4.00*	Cap'l Spending per sh	*4.25*
	8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	*20.15*	*21.35*	Book Value per sh D	*23.75*
	34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.85	36.89	36.94	*37.25*	*37.50*	Common Shs Outst'g C	*37.50*
	27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*25.0*
	1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82			Relative P/E Ratio	*1.40*
	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%	1.5%	1.6%	1.7%			Avg Ann'l Div'd Yield	*2.6%*
	466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	*510*	*525*	Revenues ($mill)	*680*
	54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	*91.0*	*98.0*	Net Profit ($mill)	*120*
	39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	*24.0%*	*24.0%*	Income Tax Rate	*24.0%*
	2.5%	--	--	--	--	--	--	--	2.5%	--	*1.0%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
	42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	*46.5%*	*45.5%*	Long-Term Debt Ratio	*52.0%*
	57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	*53.5%*	*54.5%*	Common Equity Ratio	*48.0%*
	787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	*1400*	*1450*	Total Capital ($mill)	*1710*
	917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	1415.7	1512.0	1626.0	*1720*	*1800*	Net Plant ($mill)	*2025*
	8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	*7.5%*	*8.0%*	Return on Total Cap'l	*8.0%*
	11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*12.5%*	*12.5%*	Return on Shr. Equity	*13.5%*
	11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*12.5%*	*12.5%*	Return on Com Equity	*13.5%*
	6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
	45%	47%	53%	54%	56%	52%	61%	51%	55%	55%	*62%*	*62%*	All Div'ds to Net Prof	*66%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $670.8 mill. Due in 5 Yrs $33.5 mill.
LT Debt $446.9 mill. LT Interest $24.0 mill. (39% of Cap'l)

Leases, Uncapitalized: Annual rentals $2.6 mill.
Pension Assets-12/21 $233.5 mill. **Oblig.** $259.8 mill.

Pfd Stock None

Common Stock 36,956,824 shs. as of 7/29/22

MARKET CAP: $3.0 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	36.7	5.0	10.8
Accts Receivable	29.2	34.4	27.1
Other	91.2	98.7	101.1
Current Assets	157.1	138.1	139.0
Accts Payable	63.8	65.9	71.9
Debt Due	.4	31.4	223.9
Other	54.4	58.3	52.9
Current Liab.	118.6	155.6	348.7

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.5%	1.5%	*5.5%*
"Cash Flow"	5.5%	4.5%	*5.5%*
Earnings	9.0%	8.5%	*5.5%*
Dividends	9.5%	8.0%	*9.0%*
Book Value	5.5%	6.0%	*5.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	101.7	124.7	134.5	113.0	473.9
2020	109.1	121.3	133.6	124.2	488.2
2021	117.1	128.4	136.8	116.6	498.9
2022	108.6	122.6	*143.8*	*135*	*510*
2023	*112*	*130*	*145*	*138*	*525*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.35	.72	.76	.45	2.28
2020	.38	.69	.72	.54	2.33
2021	.52	.72	.76	.55	2.55
2022	.38	.54	*.65*	*.88*	*2.45*
2023	*.50*	*.75*	*.75*	*.60*	*2.60*

Calendar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.255	.255	.275	.275	1.06
2019	.275	.275	.305	.305	1.16
2020	.305	.305	.335	.335	1.28
2021	.335	.335	.365	.365	1.40
2022	.365	.365	.3975		

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.

American States Water had another difficult quarter. In the June interim, the company's share net came in at $0.54, versus last year's $0.72 showing. About $0.10 a share of the shortfall was the result of old rates still being in effect. Recall that the company's Golden States Water utility has already reached a settlement regarding higher rates with the state's Office of Public Advocate. The California Public Utility Commission (CPUC) has yet to approve the deal. Typically, the CPUC goes along with the Public Advocate's recommendation. (Indeed, as a body, it can be tougher on utilities than the CPUC.) Also, with the rate increase not in effect yet, third-quarter income will be hurt as well. It is important to note, however, that once the agreement is finalized, the utility will be able to collect these funds retroactive to the beginning of 2022.

We have lowered our earnings estimates for both 2022 and 2023. Assuming the CPUC makes a final ruling by the end of the year, we have still reduced our share-net estimate by a dime for this year and next. The main reason being that American States has to adjust the valuation of its portfolio of assets set aside for the pension program each quarter. Losses were incurred that impacted the June period by $0.10 a share. Moreover, we think the third quarter will cause another asset writedown, as both the bond and equity markets slumped.

Nonutility operations could be a growth catalyst out to 2025 to 2027. Through its ASUS subsidiary, American States provides water and waste treatment services to U.S. military bases. As the armed forces continue to privatize their water systems, we believe that ASUS will keep winning a fair amount of the 50-year contracts that are being put out for competitive bidding. This business is not regulated, so earnings here can exceed those in its other operations.

These shares do not hold much appeal at the recent quotation. In the near term, the equity is ranked to underperform the broader market averages in the coming year. Furthermore, over the three- to five-year pull, AWR's total return potential is well below that of the *Value Line* median.

James A. Flood *October 7, 2022*

(A) Primary earnings. Excludes nonrecurring gains/(losses):; '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due early Nov.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.
(D) Includes intangibles. As of 12/31/21: $1.1 million/$0.03 a share.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	95

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AMERICAN WATER NYSE-AWK

RECENT PRICE 137.33 | P/E RATIO 31.0 (Trailing: 19.2 Median: 25.0) | RELATIVE P/E RATIO 2.15 | DIV'D YLD 2.0% | VALUE LINE 1780

TIMELINESS 2 Raised 9/16/22
SAFETY 3 New 7/25/08
TECHNICAL 3 Raised 10/7/22
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$132-$255	$194 (40%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	185	(+35%)	10%
Low	125	(-10%)	Nil

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	526	450	469
to Sell	369	473	415
Hld's(000)	156569	156704	151931

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
High:	32.8	39.4	45.1	56.2	61.2	85.2	92.4	98.2	129.9	172.6	189.6	189.3								
Low:	25.2	31.3	37.0	41.1	48.4	58.9	70.0	76.0	88.0	92.0	131.0	129.5								
	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.26	16.78	17.72	18.54	18.81	19.04	19.97	20.83	21.58	*20.90*	*22.25*	Revenues per sh	*27.10*
	.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	6.65	7.24	10.46	*8.15*	*8.90*	"Cash Flow" per sh	*10.10*
	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	2.38	3.15	3.43	3.91	6.95	*4.45*	*4.85*	Earnings per sh [A]	*5.75*
	--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.36	*2.57*	*2.80*	Div'd Decl'd per sh [Bm]	*3.55*
	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	9.15	10.05	9.71	*13.75*	*11.75*	Cap'l Spending per sh	*11.50*
	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	33.83	35.58	40.18	*41.00*	*43.85*	Book Value per sh [D]	*57.80*
	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	180.81	181.30	181.61	*182.00*	*182.50*	Common Shs Outst'g [C]	*190.00*
	--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3	32.9	35.3	23.6	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	*27.0*
	--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47	1.75	1.81	1.28			Relative P/E Ratio	*1.50*
	--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%	1.7%	1.6%	1.4%			Avg Ann'l Div'd Yield	*2.3%*
							2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	3610.0	3777.0	3920.0	*3800*	*4060*	Revenues ($mill)	*5150*
							374.3	369.3	429.8	476.0	468.0	426.0	567.0	621.0	709.0	1263.0	*810*	*885*	Net Profit ($mill)	*1095*
							40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	25.5%	23.3%	23.0%	*21.0%*	*22.0%*	Income Tax Rate	*24.0%*
							6.2%	5.1%	--	--	--	--	--	--	5.1%	2.9%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
							53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	58.5%	59.1%	58.6%	*60.0%*	*61.0%*	Long-Term Debt Ratio	*60.0%*
							46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	41.4%	40.9%	41.4%	*40.0%*	*39.0%*	Common Equity Ratio	*40.0%*
							9635.5	9940.7	10364	10911	10967	11875	13433	14760	15787	17639	*19260*	*20500*	Total Capital ($mill)	*22000*
							11739	12391	12900	13933	14992	16246	17409	18232	19710	21084	*22900*	*24400*	Net Plant ($mill)	*26000*
							5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	5.4%	5.7%	8.2%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Shr. Equity	*10.5%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Com Equity	*10.5%*
							3.6%	4.7%	4.3%	4.7%	4.0%	2.5%	4.2%	4.4%	5.0%	11.4%	*4.5%*	*4.5%*	Retained to Com Eq	*4.0%*
							57%	40%	50%	50%	56%	68%	58%	57%	55%	34%	*58%*	*58%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $11621 mill. Due in 5 Yrs $1849 mill.
LT Debt $11023 mill. LT Interest $414 mill.
(59% of Cap'l)

Leases, Uncapitalized: Annual rentals $12.0 mill.
Pension Assets 12/21 $2294.0 mill. Oblig. $1991.0 mill.
Pfd Stock $3.0 mill. Pfd Div'd $.2 mill.

Common Stock 181,786,473 shares as of 7/21/22

MARKET CAP: $25.0 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	576	136	97
Accts Receivable	321	271	383
Other	1009	1147	538
Current Assets	1906	1554	1018
Accts Payable	189	235	196
Debt Due	1611	641	598
Other	1081	1265	934
Current Liab.	2881	2141	1728

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	3.5%	*4.5%*
"Cash Flow"	9.0%	10.0%	*8.5%*
Earnings	12.0%	13.5%	*9.0%*
Dividends	9.5%	10.0%	*8.5%*
Book Value	4.5%	5.0%	*8.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	813	882	1013	902	3610
2020	844	931	1079	923	3777
2021	888	999	1082	951	3920
2022	842	937	*1081*	*940*	*3800*
2023	*895*	*1000*	*1165*	*1000*	*4060*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.62	.94	1.33	.54	3.43
2020	.68	.97	1.46	.80	3.91
2021	.73	1.14	1.53	3.55	6.95
2022	.87	1.20	*1.55*	*.83*	*4.45*
2023	*.85*	*1.25*	*1.80*	*.95*	*4.85*

Calendar	QUARTERLY DIVIDENDS PAID [Bm] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.415	.455	.455	.455	1.78
2019	.455	.50	.50	.50	1.96
2020	.50	.55	.55	.55	2.15
2021	.55	.6025	.6025	.6025	2.36
2022	.6025	.655	.655		

Target Price Range 2025 2026 2027

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-17.2	-12.0
3 yr.	21.7	43.2
5 yr.	99.2	54.9

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to approximately 14 million people in 24 states. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86% of 2021 revenues. Pennsylvania is its largest market accounting for 21.5% of regulated revenues, New Jersey, 20.3%, Missouri, 13.9%. Has 6,400 employees. Vanguard owns 11.8% of outstanding shares; BlackRock, 8.9%; State St., 5.4%; officers & directors, less than 1.0% (4/22 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

Profits from American Water Works' operations ought to be flattish for the second half of this year. After deducting a $2.70-a-share one-time gain in 2021's final period, the company's share net was $2.38 over the third and fourth quarters. That is the same amount we expect the utility to make in the remainder of 2022.

The bottom line ought to get back on track in 2023. Assuming reasonable treatment from regulators, American Water's share net could well rise 9% to $4.85. A healthy percentage of the profit increase will come from the utility's acquisition strategy (more below).

The regulatory climate could change. American Water has enjoyed a good relationship with the authorities that determine the rates it's allowed to charge customers. State regulators have been cognizant that large capital expenditures are required to upgrade the existing infrastructure. The potential problem ahead is inflation. When prices were rising just 2% annually, it was easier to pass along higher rates to residents. When inflation is high, though, it makes it more difficult politically to approve hikes of 6%-8%, even if the costs are justified.

The construction program is massive. Management has been pursuing an aggressive building policy aimed mostly at replacing antiquated pipelines and wastewater systems. In 2022, the company is on pace to spend $2.5 billion. Since most of its pipelines and other assets are not in great shape, the spending should be ongoing.

Acquisitions ought to be a driver of income growth. There are thousands of small municipally run water district in the U.S. A good portion do not have the finances to fund the necessary repairs and upgrades needed to be in compliance with EPA guidelines. American Water has been absorbing many smaller entities over the decade. This has enabled it to expand its rate base, on which it earns a return. Also, there are redundancies in the industry that can be eliminated from the districts it purchases, which should increase operating margins.

These timely shares are not suitable for long-term accounts. The price of the equity is already trading within our projected 2025-2027 Target Price Range.

James A. Flood *October 7, 2022*

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	100
Earnings Predictability	80

(A) Diluted earnings. Excludes nonrecur. losses: '08, $4.62; '09, $2.63; '11, $0.07; Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13,($0.01). GAAP used as of 2014; includes $2.70 sh. gain from sale of HOS sub.in Q4,'21. Next earnings report due late Oct. (B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available. (C) In millions. (D) Includes intangibles. On 12/31/21: $1.231 billion, $6.67/share. (E) Pro forma numbers for '06 & '07.

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CALIFORNIA WATER NYSE-CWT

RECENT PRICE 55.60 | P/E RATIO 31.2 (Trailing: 33.7 / Median: 27.0) | RELATIVE P/E RATIO 2.17 | DIV'D YLD 1.8% | VALUE LINE 1781

TIMELINESS 4 Lowered 8/12/22
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Raised 9/16/22
BETA .70 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$47-$89	$68 (20%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+35%)	9%
Low	50	(-10%)	Nil

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	155	152	121
to Sell	109	127	141
Hld's(000)	42143	43279	43653

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
High:	19.4	19.3	23.4	26.4	26.0	36.8	46.2	49.1	57.5	57.4	72.1	72.0							
Low:	16.7	16.8	18.4	20.3	19.5	22.5	32.4	35.3	44.6	39.7	51.0	48.5							

LEGENDS
— 50.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 6/11
Options: Yes
Shaded area indicates recession

Target Price Range 2025 | 2026 | 2027: 120, 100, 80, 64, 48, 32, 24, 20, 16, 12, 8

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.3	-12.0
3 yr.	8.6	43.2
5 yr.	69.3	54.9

Percent shares traded: 18, 12, 6

8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.72	15.78	14.72	*15.45*	*16.55*	Revenues per sh	*17.90*
1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.14	3.88	3.91	*3.20*	*3.70*	"Cash Flow" per sh	*4.15*
.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.31	1.97	1.96	*1.70*	*2.15*	Earnings per sh A	*2.55*
.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.85	.92	*1.00*	*1.08*	Div'd Decl'd per sh B ■	*1.25*
2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	5.64	5.93	5.46	*5.85*	*6.00*	Cap'l Spending per sh	*6.45*
9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	16.07	18.30	21.92	*22.35*	*23.55*	Book Value per sh C	*25.50*
41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.53	50.33	53.72	*53.75*	*52.00*	Common Shs Outst'g D	*50.00*
29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*24.0*
1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	2.09	1.28	1.67			Relative P/E Ratio	*1.30*
2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	1.5%	1.7%	1.5%			Avg Ann'l Div'd Yield	*2.0%*
560.0	584.1	597.5	588.4	609.4	666.9	698.2	714.6	794.3	790.9	*830*	*860*	Revenues ($mill) E	*895*
42.6	47.3	56.7	45.0	48.7	67.2	65.6	63.1	96.8	101.1	*92.0*	*112*	Net Profit ($mill)	*128*
37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	24.5%	19.1%	11.1%	20.1%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	3.1%	5.8%	3.3%	1.7%	*4.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	50.2%	45.9%	47.3%	*44.0%*	*42.5%*	Long-Term Debt Ratio	*39.5%*
52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	49.8%	54.1%	52.7%	*56.0%*	*57.5%*	Common Equity Ratio	*60.5%*
908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1566.7	1702.4	2233.4	*2150*	*2125*	Total Capital ($mill)	*2100*
1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2406.4	2650.6	2846.9	*2950*	*2975*	Net Plant ($mill)	*3050*
6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.9%	5.5%	7.0%	5.5%	*5.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*7.5%*	*9.0%*	Return on Shr. Equity	*10.0%*
9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*7.5%*	*9.0%*	Return on Com Equity	*10.0%*
3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	4.0%	3.2%	6.0%	4.6%	*3.0%*	*4.5%*	Retained to Com Eq	*5.0%*
62%	56%	55%	71%	68%	51%	55%	60%	43%	47%	*59%*	*50%*	All Div'ds to Net Prof	*49%*

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CAPITAL STRUCTURE as of 6/30/22
Total Debt $1130.0 mill. **Due in 5 Yrs** $357.0 mill.
LT Debt $1054.2 mill. **LT Interest** $40.0 mill.
(Total interest coverage: 4.9x) (47% of Cap'l)

Pension Assets-12/21 $810.5 mill.
Oblig. $887.5 mill.

Pfd Stock None

Common Stock 54,356,000 shs.

MARKET CAP: $3.0 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	44.6	78.4	61.7
Other	221.4	222.1	215.0
Current Assets	266.0	300.5	276.7
Accts Payable	131.7	144.4	139.7
Debt Due	375.1	40.2	75.8
Other	81.9	72.0	70.6
Current Liab.	588.7	256.6	286.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.0%	4.0%	*3.0%*
"Cash Flow"	6.5%	9.0%	*2.0%*
Earnings	6.5%	11.0%	*6.5%*
Dividends	3.5%	5.0%	*6.5%*
Book Value	6.0%	7.0%	*5.0%*

Calendar	QUARTERLY REVENUES ($ mill.) E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	126.1	179.0	232.6	176.9	714.6
2020	125.6	175.5	304.1	189.1	794.3
2021	147.7	213.1	256.7	173.4	790.9
2022	173.0	206.2	*255*	*195.8*	*830*
2023	*175*	*220*	*265*	*200*	*860*

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	d.16	.35	.88	.24	1.31
2020	d.42	.11	1.94	.31	1.97
2021	d.06	.75	1.20	.07	1.96
2022	.02	.36	*1.07*	*.25*	*1.70*
2023	*.10*	*.55*	*1.15*	*.35*	*2.15*

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.1875	.1875	.1875	.1875	.75
2019	.1975	.1975	.1975	.1975	.79
2020	.2125	.2125	.2125	.2125	.85
2021	.230	.230	.230	.230	.92
2022	.250	.250	.250		

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 494,500 customers in 100 communities in the state of California. Accounts for about 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '21: residential, 69%; business, 19%; industrial, 3%; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/22 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group has made some moves since our early-July review. First, the company's California- and Washington-based subsidiaries both inked deal's to acquire water system assets of two adjacent utilities. The acquisitions, which are still pending customary closing conditions and regulatory approval, ought to bolster California Water's residential operating footprint in these areas. Meanwhile, in Texas, the company recently entered into a long-term water supply agreement with the Guadalupe Blanco River Authority. The deal is imperative to meeting residential water demand in the growing region, and is likely to require substantial pipeline infrastructure development. Lastly, management continues to make progress on its 2021 cost of capital review and general rate case filing.

Earnings are apt to take a step back this year. California Water posted net income of $0.36 per share in the June period, roughly half that of the prior-year tally. The softer-than-expected showing can be attributed to costs associated with a change in deferred revenue, weaker customer water consumption, and an uptick in general and administrative expenses. That said, bottom-line comparisons are poised to improve over the back half of 2022, largely owing to prospects for customer rate increases. Even so, we are shaving $0.30 from our current-year earnings estimate, to $1.70 per share.

Significant infrastructure investment is on the docket over the pull to late decade. In addition to upgrading aging water delivery systems and treatment plants, California Water is allocating funds to shore up its preparation for unexpected wildfires and climate-related challenges. Meanwhile, the company's recently announced $350-million stock buyback program is imminent.

California Water shares lack investment appeal at this juncture. The stock has slipped one notch on our Timeliness ranking scale, to 4 (Below Average). Moreover, much of the growth we envision three to five years hence appears to already be factored into the recent quotation. All told, subscribers would do well to remain on the sidelines, for now.

Nicholas Patrikis *October 7, 2022*

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due early Nov.
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. intangible assets. In '21 : $36.8 mill., $0.69/sh.
(D) In millions, adjusted for split.
(E) Excludes non-regulated revenues.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	85
Earnings Predictability	55

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ESSENTIAL UTIL. NYSE-WTRG

RECENT PRICE 43.46 | P/E RATIO 23.9 (Trailing: 25.6 / Median: 25.0) | RELATIVE P/E RATIO 1.66 | DIV'D YLD 2.7% | VALUE LINE 1782

TIMELINESS 3 Raised 9/16/22
SAFETY 3 Lowered 1/8/21
TECHNICAL 1 Raised 9/16/22
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$38-$72	$55 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+60%)	15%
Low	45	(+5%)	4%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	313	292	277
to Sell	208	248	249
Hld's(000)	178560	181504	183099

High: 19.0 21.5 28.1 28.2 31.1 35.8 39.6 39.4 47.3 54.5 53.9 53.7
Low: 15.4 16.8 20.6 22.4 24.4 28.0 29.4 32.1 32.7 30.4 41.1 41.0

LEGENDS
17.50 x "Cash Flow" p sh
Relative Price Strength
5-for-4 split 9/13
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH. INDEX
1 yr.	1.4	-12.0
3 yr.	18.1	43.2
5 yr.	64.1	54.9

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	4.03	5.96	7.43	*8.25*	*8.25*	Revenues per sh	*8.95*
1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	1.73	2.21	2.89	*3.00*	*3.20*	"Cash Flow" per sh	*4.00*
.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.04	1.12	1.67	*1.80*	*1.95*	Earnings per sh	*2.25*
.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	1.04	*1.11*	*1.20*	Div'd Decl'd per sh	*1.55*
1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	2.49	3.41	4.04	*3.95*	*3.85*	Cap'l Spending per sh	*3.80*
5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	17.58	19.09	20.50	*21.45*	*22.30*	Book Value per sh	*26.90*
165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	220.76	245.39	252.87	*255.00*	*260.00*	Common Shs Outst'g	*280.00*
34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	39.1	39.6	28.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*26.0*
1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	2.08	2.03	1.55			Relative P/E Ratio	*1.45*
1.6%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.2%	2.2%	2.2%			Avg Ann'l Div'd Yield	*2.7%*
757.8	768.6	779.9	814.2	819.9	809.5	838.1	889.7	1462.7	1878.1	*2110*	*2150*	Revenues ($mill)	*2500*
153.1	205.0	213.9	201.8	234.2	239.7	192.0	224.5	284.8	431.6	*460*	*505*	Net Profit ($mill)	*630*
39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	--	--	--	--	*4.0%*	*10.0%*	Income Tax Rate	*15.0%*
--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	7.2%	4.5%	4.8%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*6.0%*
52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	43.1%	54.0%	52.7%	*54.0%*	*54.5%*	Long-Term Debt Ratio	*53.0%*
47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	56.9%	46.0%	47.3%	*46.0%*	*45.5%*	Common Equity Ratio	*47.0%*
2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	6824.2	10192	10964	*11975*	*12800*	Total Capital ($mill)	*16000*
3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6345.8	9512.9	10252	*10900*	*11600*	Net Plant ($mill)	*13500*
6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	4.2%	3.7%	4.8%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	*8.5%*	*8.5%*	Return on Shr. Equity	*8.5%*
11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	*8.5%*	*8.5%*	Return on Com Equity	*8.5%*
4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	.9%	1.1%	3.3%	*3.0%*	*3.0%*	Retained to Com Eq	*2.5%*
61%	50%	52%	60%	56%	59%	79%	84%	82%	60%	*62%*	*62%*	All Div'ds to Net Prof	*69%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $6213.3 mill. Due in 5 Yrs $882.1 mill.
LT Debt $6087.7 mill. LT Interest $216.0 mill. (53% of Cap'l)

Pension Assets-12/21 $433.1 mill. Oblig. $452.9 mill.

Pfd Stock None
Common Stock 262,170,763 shares as of 7/22/22

MARKET CAP: $11.4 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	4.8	10.6	13.0
Receivables	154.8	141.0	143.4
Inventory (AvgCst)	58.4	109.6	128.6
Other	162.2	176.6	128.3
Current Assets	380.2	437.8	413.3
Accts Payable	177.5	192.9	194.1
Debt Due	162.6	197.1	125.6
Other	263.8	285.1	224.4
Current Liab.	603.9	675.1	544.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	5.0%	*7.5%*
"Cash Flow"	5.0%	3.0%	*10.0%*
Earnings	6.0%	1.0%	*10.0%*
Dividends	7.5%	7.0%	*8.0%*
Book Value	11.0%	14.0%	*6.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	201.1	218.9	243.6	226.1	889.7
2020	255.6	384.5	348.6	474.0	1462.7
2021	583.5	397.0	361.9	535.7	1878.1
2022	699.3	448.8	*391.9*	*570*	*2110*
2023	*660*	*475*	*420*	*595*	*2150*

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.09	.25	.38	.28	1.04
2020	.21	.29	.22	.40	1.12
2021	.72	.32	.19	.44	1.67
2022	.76	.31	*.22*	*.51*	*1.80*
2023	*.78*	*.37*	*.33*	*.47*	*1.95*

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.2047	.2047	.219	.219	.85
2019	.219	.219	.2343	.2343	.91
2020	.2343	.2343	.2507	.2507	.97
2021	.2507	.2507	.2682	.2682	1.04
2022	.2682	.2682	.287		

BUSINESS: Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2021, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employs 3,211. Acquired AquaSource, 7/13; N. Maine Util., 7/15; and others. Water respn. for 52% of revenues in 2021, residential, 30%; commercial, 8.0%; industrial, wastewater & other, 14%. Gas 46%; other, 2.0%. Off. & dir. own less than 1% of the common stock; BlackRock, 10.6%; Vanguard, 9.7%; Can. Pen. Plan 8.6% (3/22 proxy). Pres. & CEO: Christopher Franklin. Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.

Essential Utilities' second-quarter earnings were in line with our expectations. The water and gas utility posted share net of $0.31, versus our $0.32 estimate. Management reaffirmed the same guidance as before, so we are sticking with our previous bottom-line estimates of $1.80 and 1.95 for 2022 and 2023, respectively. These figures represent a solid 8% increase for both this year and next.

A potential acquisition of a large wastewater project has been shelved, for now. Last summer, Essential's Aqua America water subsidiary signed an exclusivity agreement with the Bucks County Water and Sewer Authority to discuss purchasing the asset for about $1.1 billion. In early September, the negotiations were suddenly halted. Aqua continues to express interest in completing the transaction, however. In any case, it has already closed two acquisitions this year and agreed to buy parts, or all of the assets of seven different water systems. The price tag will total approximately $365 million.

The policy of aggressively buying other water entities ought to help fuel long-term growth. America's water industry is incredibly fragmented with most water districts being run by small, undercapitalized municipal entities. Not only do they not have the funds required to replace old pipelines and treatment centers, but they are inefficient. When a bigger company, such as Aqua, takes over a smaller water authority, it can create significant efficiencies by eliminating many redundancies.

The dividend was hiked by a healthy percentage. The board increased the quarterly payout by 7%, to $0.287 a share in the latest quarter.

Shares of Essential do not look particularly attractive at this time. In the year ahead, the equity is just ranked to perform in line with the broader market averages. Also, the stock's total return potential is well below that of the average equity under *Value Line* review. Similar to others in this industry, Essential has many appealing features, including well-defined earnings and dividend growth, but they all appear to be more than reflected in the recent quotation.

James A. Flood *October 7, 2022*

(A) Diluted egs. Excl. nonrec. gains: '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report early November.
(B) Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock split.
(D) Includes intangibles: 12/31/21, $1.231 bill./$4.87 a share.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	90
Earnings Predictability	60

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MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 81.76 | P/E RATIO 35.5 (Trailing: 36.5 / Median: 24.0) | RELATIVE P/E RATIO 2.47 | DIV'D YLD 1.4% | VALUE LINE 1783

TIMELINESS 3 Raised 9/9/22
SAFETY 2 New 10/21/11
TECHNICAL 3 Raised 10/7/22
BETA .70 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$77-$160 $119 (45%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+10%)	4%
Low	65	(-20%)	-4%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	93	82	90
to Sell	84	90	93
Hld's(000)	12685	13008	11842

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	19.4	19.6	22.5	23.7	28.0	44.5	46.7	60.3	67.7	76.1	121.4	121.1						
Low:	16.5	17.5	18.6	19.1	21.2	25.0	32.2	34.0	51.0	48.8	67.1	75.8						

LEGENDS
55.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-17.9	-12.0
3 yr.	51.0	43.2
5 yr.	152.2	54.9

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.72	8.10	8.17	*8.75*	*8.95*	Revenues per sh	*9.15*
1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.90	3.25	3.28	*3.40*	*3.50*	"Cash Flow" per sh	*3.85*
.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.01	2.18	2.07	*2.45*	*2.50*	Earnings per sh A	*2.75*
.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	1.11	*1.18*	*1.25*	Div'd Decl'd per sh B■	*1.40*
2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	5.11	6.04	4.53	*5.00*	*5.25*	Cap'l Spending per sh	*6.00*
9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	18.57	19.81	20.99	*21.70*	*22.40*	Book Value per sh	*22.80*
13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	*17.75*	*17.85*	Common Shs Outst'g C	*18.00*
22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*28.0*
1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	1.58	1.55	2.43			Relative P/E Ratio	*1.30*
3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	1.6%	1.6%	1.2%			Avg Ann'l Div'd Yield	*1.8%*
110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	*155*	*160*	Revenues ($mill)	*165*
14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	*44.0*	*45.0*	Net Profit ($mill)	*50.0*
33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	---	2.8%	2.8%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	*2.5%*	*2.5%*	AFUDC % to Net Profit	*2.5%*
41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	*44.0%*	*43.5%*	Long-Term Debt Ratio	*42.0%*
57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	*55.5%*	*56.0%*	Common Equity Ratio	*57.5%*
316.5	321.4	335.8	345.4	355.4	370.7	404.1	556.7	621.5	676.3	*690*	*710*	Total Capital ($mill)	*715*
435.2	446.5	465.4	481.9	517.6	557.2	618.5	705.7	796.6	865.4	*875*	*885*	Net Plant ($mill)	*915*
5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	*6.5%*	*6.5%*	Return on Total Cap'l	*7.5%*
7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	*11.0%*	*11.0%*	Return on Shr. Equity	*12.0%*
7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	10.4%	11.1%	9.9%	*11.5%*	*11.0%*	Return on Com Equity	*12.0%*
1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	5.4%	5.8%	4.6%	*6.0%*	*5.5%*	Retained to Com Eq	*6.0%*
83%	73%	67%	63%	58%	62%	46%	48%	48%	53%	*48%*	*50%*	All Div'ds to Net Prof	*51%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $313.2 mill. Due in 5 Yrs $43.7 mill.
LT Debt $305.4 mill. LT Interest $7.5 mill.
(Total interest coverage: 5.0x)
(45% of Cap'l)

Pension Assets-12/21 $100.8 mill.
Oblig. $113.7 mill.
Pfd Stock $2.4 mill. Pfd Div'd: $.1 mill.

Common Stock 17,610,000 shs.
as of 7/29/22

MARKET CAP: $1.4 billion (Small Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	4.5	3.5	4.3
Other	29.6	30.9	34.7
Current Assets	34.1	34.4	39.0
Accts Payable	30.4	21.1	24.2
Debt Due	9.3	6.7	7.8
Other	17.1	28.8	46.8
Current Liab.	56.8	56.6	78.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.0%	.5%	*2.5%*
"Cash Flow"	5.0%	9.5%	*3.5%*
Earnings	9.5%	11.0%	*4.5%*
Dividends	3.5%	6.0%	*5.0%*
Book Value	6.0%	9.0%	*2.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	30.7	33.4	37.8	32.7	134.6
2020	31.8	35.3	39.9	34.6	141.6
2021	32.5	36.7	39.9	34.0	143.1
2022	36.2	39.7	*41.0*	*38.1*	*155*
2023	*38.0*	*41.0*	*42.0*	*39.0*	*160*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.39	.49	.66	.46	2.01
2020	.44	.55	.72	.47	2.18
2021	.39	.62	.65	.41	2.07
2022	.68	.50	*.75*	*.52*	*2.45*
2023	*.53*	*.60*	*.77*	*.60*	*2.50*

Calendar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.22375	.22375	.22375	.24	.91
2019	.24	.24	.24	.2562	.98
2020	.2562	.2562	.2562	.2725	1.04
2021	.2725	.2725	.2725	.29	1.11
2022	.29	.29	.29		

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.

Middlesex Water recently inked a deal to manage the Borough of Avalon, New Jersey's water and sewer utility operations. The new 10-year contract, which went into effect on September 1, 2022, replaces the previous decade-long agreement, and includes provisions for maintenance and customer services.

Periodic rate hikes have more than offset the company's regulated Delaware wastewater divestment from earlier this year. The latter resulted in approximately $0.7 million in reduced revenues for the June period. However, the top line is benefiting notably from the latest round of customer rate increases. To wit, the New Jersey Board of Public Utilities recently approved another rate hike, largely due to aggressive infrastructure and distribution system investments. In sum, we now look for revenues of $155 million this year (up from our previous call of $153 million) and $160 million in the next (up from $158 million).

Strong bottom-line expansion is likely on tap for 2022, despite a modest reduction to our current-year profit forecast. Earnings contracted about 20% year over year in the second quarter, to $0.50 per share. Expiring income tax benefits and higher operating expenses weighed on the figure. Consequently, we are shaving a dime from our full-year 2022 bottom-line estimate, to $2.45 per share.

Over the pull to late decade, leadership is poised to invest heavily on infrastructure-related upgrades. Indeed, aging water delivery systems and pipelines are long overdue for replacement. Management is apt to focus on facility treatment enhancements as well. Overall, aggressive spending on public infrastructure projects suggests that additional rate hikes are probably in the cards further down the road.

Middlesex stock is ranked to mirror the broader market averages over the coming six to 12 months. What's more, at the recent quotation, the equity lacks appeal over the 18-month and 3- to 5-year windows. Although the company is noncyclical and pays a stable quarterly dividend that is well-covered by earnings, we think waiting for a better entry point is the prudent move here at this juncture.

Nicholas Patrikis *October 7, 2022*

(A) Diluted earnings. Next earnings report due early November.
(B) Dividends historically paid in mid-Feb., May, Aug., and November. ■ Div'd reinvestment plan available.
(C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	90
Earnings Predictability	90

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SJW GROUP NYSE-SJW

RECENT PRICE 59.57 | P/E RATIO 28.9 (Trailing: 34.2, Median: 23.0) | RELATIVE P/E RATIO 2.01 | DIV'D YLD 2.4% | VALUE LINE 1784

TIMELINESS 4 Lowered 8/12/22
SAFETY 3 New 4/22/11
TECHNICAL 3 Raised 10/7/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$57-$96	$77 (30%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+50%)	13%
Low	60	(Nil)	3%

Institutional Decisions

	4Q2021	1Q2022	2Q2022
to Buy	98	93	78
to Sell	68	80	104
Hld's(000)	21890	21360	21790

	High:	26.8	26.9	30.1	33.7	35.7	56.9	69.3	68.4	74.5	75.0	73.7	73.4
	Low:	20.9	22.6	24.5	25.5	27.5	28.6	45.4	51.3	53.9	45.6	58.0	55.7

LEGENDS
— 42.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2025 | 2026 | 2027

Percent shares traded 15 10 5

% TOT. RETURN 8/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-5.2	-12.0
3 yr.	-0.4	43.2
5 yr.	27.2	54.9

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	18.97	14.00	14.78	19.77	19.01	*20.00*	*20.85*	Revenues per sh	*22.15*
2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.13	5.28	5.13	*3.60*	*4.15*	"Cash Flow" per sh	*4.90*
1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	.82	2.14	2.03	*1.95*	*2.50*	Earnings per sh A	*3.25*
.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	1.36	*1.44*	*1.52*	Div'd Decl'd per sh B■	*1.76*
3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	6.25	7.44	8.32	*7.50*	*8.00*	Cap'l Spending per sh	*7.75*
12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	61.27	32.12	34.28	*36.65*	*39.15*	Book Value per sh	*40.85*
18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	28.46	28.56	30.18	*30.00*	*30.00*	Common Shs Outst'g C	*30.00*
23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*23.0*
1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.77	NMF	1.54	1.80			Relative P/E Ratio	*1.30*
2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	1.9%	2.0%	2.0%			Avg Ann'l Div'd Yield	*2.3%*
261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	*600*	*625*	Revenues ($mill)	*665*
22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	*59.0*	*75.0*	Net Profit ($mill)	*98.0*
41.1%	38.7%	32.5%	38.1%	38.8%	36.7%	20.6%	26.4%	12.0%	12.2%	*21.5%*	*21.0%*	Income Tax Rate	*21.0%*
--	--	--	--	--	--	--	--	2.0%	1.5%	*1.5%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	59.1%	58.4%	59.1%	*57.5%*	*54.0%*	Long-Term Debt Ratio	*45.0%*
45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	40.9%	41.6%	40.9%	*42.5%*	*46.0%*	Common Equity Ratio	*55.0%*
610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	*2575*	*2550*	Total Capital ($mill)	*2225*
831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	2206.5	2334.9	2497.5	*2565*	*2650*	Net Plant ($mill)	*2825*
5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	*3.0%*	*3.5%*	Return on Total Cap'l	*5.0%*
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	*5.5%*	*6.5%*	Return on Shr. Equity	*8.0%*
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	*5.5%*	*6.5%*	Return on Com Equity	*8.0%*
3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	*1.5%*	*2.5%*	Retained to Com Eq	*3.5%*
59%	62%	29%	42%	31%	36%	60%	NMF	59%	66%	*74%*	*61%*	All Div'ds to Net Prof	*54%*

CAPITAL STRUCTURE as of 6/30/22
Total Debt $1494.7 mill. **Due in 5 Yrs** $39.0 mill.
LT Debt $1455.7 mill. **LT Interest** $50.0 mill.
(LT Interest Coverage: 3.6x)
(59% of Cap'l)

Pension Assets-12/21 $310.2 mill.
Oblig. $383.8 mill.
Pfd Stock None.
Common Stock 30,248,000 shs.

MARKET CAP: $1.8 billion (Small Cap)

CURRENT POSITION ($MILL.)	2020	2021	6/30/22
Cash Assets	9.3	10.9	12.0
Accts Receivable	58.1	53.7	58.8
Other	59.9	69.5	68.0
Current Assets	127.3	134.1	138.8
Accts Payable	34.2	30.4	26.6
Debt Due	76.2	39.1	39.0
Other	240.4	133.8	212.2
Current Liab.	350.8	203.3	277.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	4.0%	2.5%	*3.5%*
"Cash Flow"	6.0%	.5%	*2.5%*
Earnings	6.0%	-6.5%	*14.0%*
Dividends	6.5%	10.5%	*5.5%*
Book Value	9.0%	11.5%	*4.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	77.7	103.0	114.0	125.8	420.5
2020	115.8	147.2	165.9	135.6	564.5
2021	114.8	152.2	166.9	139.8	573.7
2022	124.3	149.0	*175*	*151.7*	*600*
2023	*130*	*160*	*180*	*155*	*625*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.21	.47	.33	d.19	.82
2020	.08	.69	.91	.46	2.14
2021	.09	.69	.64	.60	2.03
2022	.12	.38	*.75*	*.70*	*1.95*
2023	*.23*	*.57*	*.95*	*.75*	*2.50*

Calendar	QUARTERLY DIVIDENDS PAID BD■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.28	.28	.28	.28	1.12
2019	.30	.30	.30	.30	1.20
2020	.32	.32	.32	.32	1.28
2021	.34	.34	.34	.34	1.36
2022	.36	.36	.36		

BUSINESS: SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

SJW Group reported weaker-than-anticipated second-quarter bottom-line results. The East and West coast water utility operator earned $0.38 per share in the June period. Indeed, the figure, which was well short of consensus estimates, contracted about 45% year over year. On top of a softer revenue performance during the period (on an annual basis), higher administrative expenses, depreciation, and interest on long-term obligations weighed on the result. All told, despite management reaffirming an upbeat outlook for the remainder of the year, we are lowering our 2022 earnings estimate by $0.55, to $1.95 per share, which would mark the company's second-consecutive year of share profit declines.

We think 2023 holds more promise. To start, modest revenue growth ought to be underpinned by further customer rate hikes and a wider base. Regarding the former, SJW Group expects the currently pending 2021 California General Rate Case decision to be reached by the end of this year, which would allow the company to not only boost rates, but recoup revenues retroactively. Rate increases in Connecticut, Maine, and Texas were also recently approved by regulators. Moreover, prospects for a healthier economic backdrop should support increased water consumption. Elsewhere, we envision a notable earnings recovery in 2023. Leadership is likely to focus on curtailing operating expenses and lowering debt obligations.

Aggressive infrastructure investment remains on tap over the 3- to 5-year stretch. For this year, top brass has utilized roughly half of its $223 million capital investment budget. Funds are allocated across all operating regions, and support aging pipeline replacement, facility and treatment plant upgrades, as well as the company's advanced metering initiative. By late decade, SJW Group intends to spend approximately $1.3 billion on infrastructure upgrades.

Investors should turn the page, for now. SJW stock is unfavorably ranked (4) for relative year-ahead price performance. What's more, at the recent quotation, total return potential over the pull to 2025-2027 leaves much to be desired.

Nicholas Patrikis *October 7, 2022*

(A) Diluted earnings. Excludes nonrecurring losses: '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early November. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions.
(D) Paid special dividend of $0.17 per share on 11/17.

Company's Financial Strength	B+
Stock's Price Stability	85
Price Growth Persistence	85
Earnings Predictability	45

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Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2016 and 2015 with
Independent Auditor's Report

MaherDuessel
Certified Public Accountants

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2016 AND 2015

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Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2016 and 2015, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
September 26, 2016

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2016 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements.

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2016.

- During October 2015, the Authority issued Sewer Revenue Bonds to advance refund a portion ($9,345,000) of the remaining balance on the 2010 bond issue, resulting in a reduction in debt service and an economic gain of approximately $1,134,000 and $1,117,000, respectively.

- Sewer Revenue Bonds were issued in February of 2016, in the amount of $9,895,000, primarily for the purpose of financing various Authority capital projects. The three major capital projects utilizing these funds are anticipated to be the *Negley Avenue Pump Station Replacement Project*, *Wastewater Treatment Plant (WWTP) Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. All of these projects are in the design phase as of July 31, 2016, with bid and award estimated to be in 2016 or 2017.

- With the adoption of the 2016-2017 Authority budget, the Board increased rates by $3.00 per equivalent dwelling unit (EDU) effective July 1, 2016. The rate increase will cover the increases in the debt service payment obligations, operations costs, as well as allow for additional funds for ongoing/future capital project needs.

- The Authority substantially completed two major capital projects during the fiscal year. The *Zeigler Avenue Pump Station Replacement Project*, which completely replaced and eliminated the existing outdated station and included 6 new manholes, 375 feet of 8-inch gravity sewers, and 1,260 feet of 4-inch force main at a total cost of approximately $1,160,000. The *Jefferson Street Sewer & Siphon Replacement Project*, at a cost of approximately $818,000, upsized and replaced 525 linear feet of gravity sewer and an existing siphon under the Sullivan Run stream channel.

- The Authority experienced a Net Loss or a decrease in Net Position of $972,149 (2.52%) in the fiscal year ended July 31, 2016. The loss continues to be driven by high depreciation expenses totaling approximately $3,357,000 for the fiscal year ended July 31, 2016.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses for the current fiscal year and past fiscal year. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position.

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2016	Balance at July 31, 2015	Net Change
Assets:			
Current Assets	$ 25,294,391	$ 16,191,085	$ 9,103,306
Other Assets	196,852	207,788	(10,936)
Capital Assets	67,688,357	68,873,663	(1,185,306)
Total Assets	93,179,600	85,272,536	7,907,064
Deferred Outflows of Resources:			
Deferred charge on refunding	1,420,419	1,114,318	306,101
Total Deferred Outflows of Resources	1,420,419	1,114,318	306,101
Liabilities and Net Position:			
Current Liabilities	3,611,906	2,892,957	718,949
Non-Current Liabilities	53,314,611	44,848,246	8,466,365
Total Liabilities	56,926,517	47,741,203	9,185,314
Total Net Position	$ 37,673,502	$ 38,645,651	$ (972,149)

Assets and Deferred Outflows of Resources

The Authority's Current Assets increased by $9,103,306 (56%) during the year ended July 31, 2016. As the Authority issued bonds during the fiscal year, construction fund proceeds of approximately $9,587,000 were held in Trusted Accounts as of July 31, 2016 to be used for future capital projects. The Decrease in Cash and Cash Equivalents was partially offset by an increase to Other Investments during the period, which was done to increase interest earnings.

Capital Assets decreased by $1,185,306 (1.7%). Although the Authority had additions to capital assets over the period, the amount of depreciation for the period of $3,357,202 far exceeded the capital asset additions and therefore resulted in a decrease in Capital Assets for the period.

Overall, total assets increased by $7,907,064 (9.3%).

The Deferred Charge on Refunding was established from the Sewer Revenue Bonds, Series of 2013 and 2015 that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the life of the bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities and Net Position

The Authority had an increase in Current Liabilities as of July 31, 2016 of $718,949 (24.9%). This was due to an increase in Vouchers Payable of approximately $319,000. This increase correlates to the increase in construction projects at the end of the current fiscal year compared to the prior fiscal year. There was also an increase in the current portion of bonds and notes payable of approximately $385,000, which resulted primarily from the increased bond debt service

payments scheduled for next fiscal year. See the Debt section below and in the Notes for additional information.

Non-Current Liabilities had a net increase of $8,466,365 (18.9%). Bonds Payable increased approximately $9,584,000, which was due to the issuance of the 2016 Bonds for $9,895,000, as previously discussed. The Authority continued to make required debt service payments on both bonds and notes over the period. Additional discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. Post-retirement healthcare costs, OPEB Obligations, of approximately $187,000 continued to accrue.

Overall, Total Liabilities increased by $9,185,314 (19.2%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position.

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2016	Year Ended July 31, 2015	Net Change
Revenues:			
Sewer Charges	$ 9,169,767	$ 8,851,755	$ 318,012
Other Operating Fees and Charges	192,700	139,837	52,863
Non-Operating Revenues	255,452	135,670	119,782
Total Revenues	9,617,919	9,127,262	490,657
Expenses:			
Operating Expenses, Net of Depreciation	6,119,588	6,430,052	(310,464)
Depreciation	3,357,202	3,327,965	29,237
Non-Operating Expenses	1,771,398	1,394,905	376,493
Total Expenses	11,248,188	11,152,922	95,266
Capital Contributions:			
Tap-In Fees	629,120	119,655	509,465
Developer Contribution Revenue	29,000	11,329	17,671
Total Capital Contributions	658,120	130,984	527,136
Net Income (Loss)	(972,149)	(1,894,676)	922,527
Net Position:			
Beginning of Year	38,645,651	40,540,327	(1,894,676)
End of Year	$ 37,673,502	$ 38,645,651	$ (972,149)

Revenues

Total Revenues increased from the prior year amount by $490,657 (5.4%). The increase in Sewer Charges reflects a rate increase, effective July 1, 2015, of $1.00 per month per equivalent dwelling unit (EDU). The increase was somewhat offset by a decline in usage for industrial waste users. In addition, the Authority sold surplus equipment and vehicles on Municibid that drove up revenues during the fiscal year. Non-Operating Revenues increased due to an unrealized loss in the prior fiscal year of approximately $61,000 and a current fiscal year gain of approximately $33,000.

Expenses

Total Expenses increased by $95,266 (1.0%). Operating Expenses, Net of Depreciation decreased by $310,464 (4.8 %). The costs associated with major maintenance and repairs completed during the current fiscal year were approximately $272,000 less than in the prior fiscal year. The Authority experienced fluctuations with numerous operating costs between the periods, but this specific cost is the more significant of those changes.

Depreciation expense increased by $29,237 (1.0%), which directly correlates to the increase in depreciable capital assets added during the fiscal year, including the transfer from Construction in Progress to fully depreciable capital assets for the Zeigler Avenue Pump Station Replacement Project and the Jefferson Street Sewer & Siphon Replacement Project.

Non-Operating Expenses increased by $376,493 (27.0%). This was due to a decrease in interest expense of approximately $153,000 related to debt service payments made during the fiscal year and an offsetting charge for the 2015 and 2016 Bond issuance costs of approximately $555,000. No bond issuance costs were incurred in the prior fiscal year. See additional information in the Debt discussion later in the MD&A and in the Notes to Financial Statements.

Capital Contributions

Total Capital Contributions increased by $527,136 (402.4%). Almost the entire increase was due to a greater demand for sewer service connections that resulted in higher Tap-In Fees between the periods. Revenues generated from Tap-In Fees directly correlates to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2016, the Authority experienced a decreased loss of $922,527, resulting in a Net Loss of $972,149, compared to the July 31, 2015 Net Loss of $1,894,676.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its on-going capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

During the fiscal year, the Authority capitalized approximately $949,000 for costs associated with the Zeigler Avenue Pump Station Replacement Project. The project, with a total cost of approximately $1,160,000, was moved from Construction in Progress and designated as complete, and therefore, became depreciable assets for the fiscal year ending July 31, 2016. This project was funded by Authority's reserves.

The Authority also completed the Jefferson Street Sewer & Siphon Replacement Project that had been recorded in the prior fiscal year as Construction in Progress. The total cost of the project was approximately $818,000 and it began being depreciated during the fiscal year. This project was funded with the Authority's reserves.

Other capital projects and purchases incurred during the fiscal year included: remote control main breaker switch at the WWTP, Main WWTP pump number 1 variable frequency drive, primary tank hand rails, mobile bypass/dewatering pump, and contributed sewers as well as other purchases which were capitalized and depreciation began during the fiscal year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2016 that includes the following: Negley Avenue Pump Station Replacement, WWTP Headworks

Improvements, and WWTP Grit Building Motor Control Center (MCC) Replacement. Proceeds for these projects will come primarily from the 2016 bond proceeds and Authority reserves, as applicable.

Depreciation had a minor escalation from the prior fiscal year given the amount of Construction in Progress assets that were completed during the current fiscal year, as well as due to the increase in depreciation on assets that were capitalized in the prior fiscal year and that were depreciated using a half year life in the initial fiscal depreciation year.

DEBT

In December 2010, the Authority established a new Trust Indenture and issued new Sewer Revenue Bonds in the amount of $20,200,000. Proceeds from this obligation were used to fund the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the projects required under the CO&A. At the end of the fiscal year, and after the 2013 and 2015 advanced refunding of the debt, as described below and in the Notes, the Authority had outstanding bond debt for this issue of $1,160,000. Principal and interest payments will vary from year-to-year with the final payment due in 2019.

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,930,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,810,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements, and WWTP Sludge Dewatering Improvements. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,895,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In 2006, the Authority executed a loan agreement to borrow up to $7,029,130 from PennVest to fund the Deshon Area Sewer Rehabilitation Project and awarded construction contracts for this work. During 2008, the project was completed and the loan agreement was modified to reflect the actual total principal drawn for construction in the amount of $5,646,138. Principal and interest payments continued during the current fiscal year and the outstanding balance as of July 31, 2016 is $3,547,313. The final payment is scheduled for March 1, 2028.

During 2009, the Authority executed a loan agreement to borrow up to $6,077,095 from PennVest to fund the Northwest Area Sewer Rehabilitation Project and construction began on the project. This project incurred various delays, but was completed during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the current fiscal year and the outstanding balance as of July 31, 2016 is $4,149,517. The final payment is scheduled for September 1, 2028.

In February 2011, the Authority closed on two loans from PennVest in the amounts of $5,137,285 and $13,087,500 to partially fund the Deshon Act 537 and Butler City Act 537 wet weather flow equalization tanks, diversion structures, and pumping station facilities required by the CO&A, respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the fiscal year for both loans. The outstanding balances as of July 31, 2016 are $4,307,552 and $10,846,690 for Deshon Act 537 and Butler City Act 537, respectively. The final payments are scheduled for February and January 2032, respectively, for the Deshon and Butler City Act 537 Projects.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure and fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind.

Four major projects are in process as of the July 31, 2016 and advancement of those projects is expected to progress in the next fiscal year. These projects will be funded primarily from the 2016 bond proceeds with any additional funding requirements coming from the Authority's capital reserve funds. These projects include the Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements, WWTP Grit Building MCC Replacement, and WWTP Sludge Dewatering Improvements.

The Authority is also exploring and tentatively moving forward with the refinancing of three of the four PennVest loans via a 2017 bond issue. The Authority's financial advisor and bond counsel have been given permission to move forward with any necessary steps relative to this refinancing. Given the current market, the estimated savings, net of any costs, is projected to be approximately $512,000. The Authority is not committed to this refinancing and the exposure to costs is approximately $10,000 if the market would shift and the Authority does not proceed with the refinancing.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2016 AND 2015

	2016	2015
Assets		
Current assets:		
Cash and cash equivalents	$ 5,950,189	$ 8,960,399
Investments:		
Trusteed accounts	13,242,500	3,335,612
Other	2,968,000	990,000
Accounts receivable	2,296,402	2,135,874
Unbilled sewer receivable	837,300	769,200
Total current assets	25,294,391	16,191,085
Non-current assets:		
Unamortized bond insurance, net of accumulated amortization of $60,148 and $49,212	196,852	207,788
Capital assets, not being depreciated	1,167,110	1,183,531
Capital assets, net of accumulated depreciation	66,521,247	67,690,132
Total capital assets	67,688,357	68,873,663
Total non-current assets	67,885,209	69,081,451
Total Assets	93,179,600	85,272,536
Deferred Outflows of Resources		
Deferred charge on refunding	1,420,419	1,114,318
Liabilities		
Current liabilities:		
Vouchers payable	481,890	163,137
Accrued expenses	910,785	895,739
Current maturities of bonds payable	915,000	545,000
Current portion of notes payable	1,304,231	1,289,081
Total current liabilities	3,611,906	2,892,957
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	29,855,597	20,271,747
Notes payable	21,546,841	22,851,071
OPEB obligation	1,912,173	1,725,428
Total non-current liabilities	53,314,611	44,848,246
Total Liabilities	56,926,517	47,741,203
Net Position		
Net investment in capital assets	25,271,055	25,238,870
Restricted	3,655,404	3,335,612
Unrestricted	8,747,043	10,071,169
Total Net Position	$ 37,673,502	$ 38,645,651

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2016 AND 2015

	2016	2015
Operating Revenues:		
Sewer charges - non-industrial waste	$ 8,880,649	$ 8,526,065
Sewer charges - industrial waste	289,118	325,690
Other operating fees and charges	192,700	139,837
Total operating revenues	9,362,467	8,991,592
Operating Expenses:		
Operations and maintenance	5,121,142	5,131,446
Administration	998,446	1,298,606
Depreciation	3,357,202	3,327,965
Total operating expenses	9,476,790	9,758,017
Operating Income (Loss)	(114,323)	(766,425)
Non-Operating Revenues (Expenses):		
Capital grant	-	3,301
Interest income	222,788	193,233
Interest expense	(1,201,373)	(1,354,755)
Bond issuance costs	(554,760)	-
Unrealized gain (loss) on investments	32,664	(60,864)
Loss on disposal of capital assets	-	(19,011)
Amortization	(15,265)	(21,139)
Total non-operating revenues (expenses)	(1,515,946)	(1,259,235)
Income (Loss) Before Capital Contributions	(1,630,269)	(2,025,660)
Capital Contributions:		
Tap-in fees	629,120	119,655
Developer contribution revenue	29,000	11,329
Total capital contributions	658,120	130,984
Net Income (Loss)	(972,149)	(1,894,676)
Net Position:		
Beginning of year	38,645,651	40,540,327
End of year	$ 37,673,502	$ 38,645,651

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2016 AND 2015

	2016	2015
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 9,133,839	$ 9,128,863
Operations and maintenance	(4,787,343)	(5,337,305)
Administrative expenses	(811,701)	(1,007,635)
Net cash provided by (used in) operating activities	3,534,795	2,783,923
Cash Flows From Capital and Related Financing Activities:		
Capital grant	-	3,301
Tap-in fees	629,120	119,655
Proceeds from bonds and notes payable	19,860,000	495,371
Principal paid on capital debt	(11,334,080)	(1,747,271)
Interest paid on capital debt	(1,927,713)	(1,285,110)
Payments related to the acquisition, construction, or improvement of capital assets	(2,142,896)	(517,332)
Net cash provided by (used in) capital and related financing activities	5,084,431	(2,931,386)
Cash Flows From Investing Activities:		
Interest and dividends	222,788	193,233
Proceeds from sale (purchase) of long-term investments	(11,852,224)	(190,170)
Net cash provided by (used in) investing activities	(11,629,436)	3,063
Net Increase (Decrease) in Cash and Cash Equivalents	(3,010,210)	(144,400)
Cash and Cash Equivalents:		
Beginning of year	8,960,399	9,104,799
End of year	$ 5,950,189	$ 8,960,399
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ (114,323)	$ (766,425)
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,357,202	3,327,965
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	(228,628)	137,271
Vouchers payable and accrued expenses	333,799	(205,859)
OPEB obligation	186,745	290,971
Total adjustments	3,649,118	3,550,348
Net cash provided by (used in) operating activities	$ 3,534,795	$ 2,783,923
Non-Cash Items:		
Developer contributions	$ 29,000	$ 11,329

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2016 AND 2015

1. ORGANIZATION

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City does appoint a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of

the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and deferred inflows/outflows of resources and disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally government securities and money market funds, are carried at fair value.

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2016 and 2015. No provision is made for uncollectible accounts as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represent an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost.

Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized.

Bond Discounts, Bond Premiums, and Bond Insurance Costs

Bond discounts, bond premiums, and bond insurance costs are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. The unamortized balance of bond insurance costs are recorded as an asset. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows and Inflows of Resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position will sometimes report a separate section for deferred inflows of resources. This represents an acquisition of net position that

applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority does not have any items that qualify for reporting in this category.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted."

Adopted Pronouncement

The requirements of the following GASB Statement were adopted for the Authority's 2016 financial statements:

GASB Statement No. 72, *"Fair Value Measurement and Application."* This statement addresses accounting and financial reporting issues related to fair value measurements (see Note 3).

Pending Pronouncements

GASB has issued several statements that will become effective in future years including Statement Nos. 74 (OPEB Plans), 75 (OPEB Employer), 76 (GAAP Hierarchy), 77 (Tax

Abatement), 79 (External Investment Pools), 80 (Component Units), and 81 (Split-Interest Agreements). Management has not yet determined the impact of these statements on the Authority's financial statements.

3. DEPOSITS AND INVESTMENTS

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2016 and 2015 that were in violation of these policies.

The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

As of July 31, 2016 and 2015, the Authority held certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $2,968,000 and $990,000 for 2016 and 2015, respectively.

As of July 31, 2016, $5,646,778 of the Authority's bank balance of $5,896,778 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $5,911,466 as of July 31, 2016 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2016, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2015, $8,675,287 of the Authority's bank balance of $8,925,287 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits

and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $8,940,672 as of July 31, 2015 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2015, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $38,723 and $19,727 at July 31, 2016 and 2015, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2016 and 2015:

	2016			2015		
		Maturity in years			Maturity in years	
Investment Type	Fair Value	Less than 1 year	1-5 years	Fair Value	Less than 1 year	1-5 years
Money market funds	$ 11,443,858	$ 11,443,858	$ -	$ 1,548,148	$ 1,548,148	$ -
U.S. Treasuries	1,798,642	-	1,798,642	1,787,464	-	1,787,464
Total Investments	$ 13,242,500	$ 11,443,858	$ 1,798,642	$ 3,335,612	$ 1,548,148	$ 1,787,464

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The Authority has the following recurring fair value measurements as of July 31, 2016:

- U.S. Treasury securities of $1,798,642 are valued using quoted market prices (Level 1 inputs).

The Authority has the following recurring fair value measurements as of July 31, 2015:

- U.S. Treasury securities of $1,787,464 are valued using quoted market prices (Level 1 inputs).

4. CAPITAL ASSETS

A summary of changes in capital assets for the years ended July 31, 2016 and 2015 follows:

	Balance at August 1, 2015	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2016
Land	$ 820,425	$ 1,000	$ -	$ 821,425
Construction in progress	363,106	1,961,312	(1,978,733)	345,685
Capital assets, not being depreciated	$ 1,183,531	$ 1,962,312	$ (1,978,733)	$ 1,167,110
Vehicles	$ 888,485	$ -	$ (34,266)	$ 854,219
Sewer system	57,744,066	1,112,616	-	58,856,682
Pump stations	36,587,510	957,466	-	37,544,976
Plant	30,148,184	118,235	-	30,266,419
Capital assets, being depreciated	125,368,245	2,188,317	(34,266)	127,522,296
Less accumulated depreciation	(57,678,113)	(3,357,202)	34,266	(61,001,049)
Capital assets, net of accumulated depreciation	$ 67,690,132	$ (1,168,885)	$ -	$ 66,521,247

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2016 AND 2015

	Balance at August 1, 2014	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2015
Land	$ 792,013	$ 28,412	$ -	$ 820,425
Construction in progress	5,687,166	437,876	(5,761,936)	363,106
Capital assets, not being depreciated	$ 6,479,179	$ 466,288	$ (5,761,936)	$ 1,183,531
Vehicles	$ 1,001,036	$ 25,115	$ (137,666)	$ 888,485
Sewer system	52,876,886	4,867,180	-	57,744,066
Pump stations	35,801,743	879,245	(93,478)	36,587,510
Plant	30,191,109	52,769	(95,694)	30,148,184
Capital assets, being depreciated	119,870,774	5,824,309	(326,838)	125,368,245
Less accumulated depreciation	(54,657,975)	(3,327,965)	307,827	(57,678,113)
Capital assets, net of accumulated depreciation	$ 65,212,799	$ 2,496,344	$ (19,011)	$ 67,690,132

The $1,961,312 and $437,876 of additions to construction in progress at July 31, 2016 and 2015, respectively, relates to recent Authority projects, which include the Zeigler Avenue Pump Station Replacement Project, Grit Building MCC Replacement Project, Headworks Improvement Project, and the Jefferson Street Sewer Siphon Project.

5. DEBT

Bonds Payable

During 2010, the Authority issued Sewer Revenue Bonds, Series of 2010 (2010 Bonds), in the amount of $20,200,000 to finance various projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay costs related to issuance of the bonds. A portion of these bonds were defeased during the year ended July 31, 2013; and $9,345,000 was refunded during the year ended July 31, 2016. As of July 31, 2016, the balance of the 2010 Bonds will mature through 2019 and interest rates from 2017 to 2019 will range from 2.6% to 3.15%.

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. As a result, $8,315,000 of the 2010 Bonds were considered defeased and the liability for these bonds has been removed from the statement of net position. In July 2016, the defeased bonds were called and satisfied. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds

generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. This refunding reduced total debt service payments by $1,354,419 and obtained an economic gain (difference between the present values of the debt service payments on the old and new debt) of $1,116,524. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds.

During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041.

Annual maturities of the bonds payable at July 31, 2016 are as follows:

Year Ending July 31,	Principal	Interest	Total
2017	$ 915,000	$ 896,334	$ 1,811,334
2018	915,000	875,154	1,790,154
2019	925,000	849,669	1,774,669
2020	965,000	816,096	1,781,096
2021	980,000	790,296	1,770,296
2022-2026	5,360,000	3,607,062	8,967,062
2027-2031	7,765,000	2,885,178	10,650,178
2032-2036	10,325,000	1,268,543	11,593,543
2037-2041	2,645,000	273,468	2,918,468
Total Payments	30,795,000		
Less Unamortized Bond Discount/Premium	24,403		
	$ 30,770,597	$ 12,261,800	$ 43,056,800

Notes Payable - PennVest

During 2006, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,646,138 were used to fund the Deshon Area Sewer Rehabilitation Project. Principal payments of $254,018 and $247,077 were made for the years ended July 31, 2016 and 2015, respectively. The interest rate for the first sixty months is 1.387% and is 2.774% for the remainder of the loan. Principal and interest payments are due in monthly installments of $26,889 for the first fifty-eight months and $29,688 for the remainder of the loan, with the final payment scheduled for March 1, 2028.

During 2009, the Authority entered into a loan agreement with PennVest. The loan proceeds of $6,077,095 were used to fund the Northwest Area Sewer Rehabilitation Project. Principal payments of $226,654 and $239,709 were made for the years ended July 31, 2016 and 2015, respectively. The interest rate for the first sixty months is 2.270% and is 3.046% for the remainder of the loan. Principal and interest payments are due in monthly installments of $26,970 through September 2016 and $28,483 for the remainder of the loan, with the final payment scheduled for September 1, 2031.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. Principal payments of $591,794 and $587,850 were made for the years ended July 31, 2016 and 2015, respectively. The interest rate for the first sixty months is 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,137,285 were used to fund the Deshon Act 537 Project. Principal payments of $216,614 and $212,635 were made for the years ended July 31, 2016 and 2015, respectively. The interest rate for the first sixty months is 2.414% and is 3.117% for the remainder of the loan. Principal and interest payments are due in monthly installments of $27,008 for the first 28 months, $26,953 for the next 32 months, and $28,315 for the remainder of the loan with the final payment scheduled for August 2032.

Principal and interest payable in future years on all of the PennVest notes are as follows:

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2016 AND 2015

Fiscal Years	Principal	Interest	Total
2017	$ 1,304,231	$ 466,506	$ 1,770,737
2018	1,304,041	503,729	1,807,770
2019	1,332,112	480,825	1,812,937
2020	1,365,299	447,638	1,812,937
2021	1,399,359	413,579	1,812,938
2022-2026	7,539,885	1,524,803	9,064,688
2027-2031	7,293,983	583,192	7,877,175
2032-2033	1,312,162	17,199	1,329,361
	$ 22,851,072	$ 4,437,471	$ 27,288,543

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2016:

	Balance at August 1, 2015	Issuance	Payments	Balance at July 31, 2016	Due within one year
Sewer Revenue Bonds (2010)	$ 10,980,000	$ -	$ (9,820,000)	$ 1,160,000	$ 480,000
Sewer Revenue Bonds (2013)	10,000,000	-	(70,000)	9,930,000	75,000
Sewer Revenue Bonds (2015)	-	9,965,000	(155,000)	9,810,000	65,000
Sewer Revenue Bonds (2016)	-	9,895,000	-	9,895,000	295,000
PennVest Note (2006)	3,801,331	-	(254,018)	3,547,313	261,155
PennVest Note (2009)	4,376,171	-	(226,654)	4,149,517	220,821
PennVest Note (2011)	11,438,484	-	(591,794)	10,846,690	600,354
PennVest Note (2011)	4,524,166	-	(216,614)	4,307,552	221,901
Payable, end of year	$ 45,120,152	$ 19,860,000	$ (11,334,080)	$ 53,646,072	$ 2,219,231

Amounts above and below do not reflect an original issue discount in the amount of $153,050 and $163,253, as of July 31, 2016 and 2015, respectively, for the 2013 Bonds. The discount is amortized using the straight-line method over the life of the 2013 Bonds.

Amounts above and below do not reflect an original issue premium in the amount of $128,647 and $0, as of July 31, 2016 and 2015, respectively, for the 2015 Bonds and 2016 Bonds. The premium is amortized using the straight-line method over the life of the 2015 Bonds and 2016 Bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2015:

	Balance at August 1, 2014	Issuance	Payments	Balance at July 31, 2015	Due within one year
Sewer Revenue Bonds (2010)	$ 11,440,000	$ -	$ (460,000)	$ 10,980,000	$ 475,000
Sewer Revenue Bonds (2013)	10,000,000	-	-	10,000,000	70,000
PennVest Note (2006)	4,048,408	-	(247,077)	3,801,331	254,019
PennVest Note (2009)	4,615,880	-	(239,709)	4,376,171	226,654
PennVest Note (2011)	11,633,709	392,625	(587,850)	11,438,484	591,794
PennVest Note (2011)	4,634,055	102,746	(212,635)	4,524,166	216,614
Payable, end of year	$ 46,372,052	$ 495,371	$ (1,747,271)	$ 45,120,152	$ 1,834,081

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. PENSION PLAN

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2016, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year and participants are required to contribute 4% of eligible compensation to their participant account. As of October 30, 2011, the employer contributions to the Plan increased from 5% to 6% of eligible compensation. Effective June 1, 2014, employer contributions increased to 6.5% of eligible compensation. Employee and employer contributions to the Plan were $98,854 and $161,071, respectively, for the year ended July 31, 2016. Employee and employer contributions to the Plan were $98,227 and $160,185, respectively, for the year ended July 31, 2015.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements

of the 457(b) Plan are consistent with the eligibility requirements of the Plan noted above. As of July 31, 2016, all but one of the Authority's non-temporary employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $52,095 and $40,573 for the years ended July 31, 2016 and 2015, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2016, all of the Authority's non-temporary employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2016 and 2015 were $8,129 and $5,267, respectively.

7. POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (OPEBS)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. Expenditures for post-retirement healthcare benefits are recognized when paid and amounted to $88,251 and $87,270 during the years ended July 31, 2016 and 2015, for approximately 17 and 18 retirees and beneficiaries, as of July 31, 2016 and 2015, respectively.

As of August 1, 2015, the date of the most recent actuarial valuation, participants were as follows:

	Employees
Participants:	
Retired	10
Active	34
	44

Details of the benefits provided are as follows:

Eligibility: If hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employee, spouse, and eligible dependents.

Benefits: For those employees retiring between ages 62 and 65, the Authority pays up to 100% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). Upon Medicare eligibility, the retiring employee must convert to a Medicare Supplement Plan. The Authority pays the full cost of the designated employee's Medicare Supplement premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated employee's Medicare Supplement premium, provided that Medicare eligibility is sustained. For spouses and eligible dependent(s) that are under age 65, the Authority will pay up to 100% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Supplement premium, provided that Medicare eligibility is sustained. All Authority paid benefits to the spouse cease upon the death of the retiring employee. All Authority paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the retiree's eligibility for Medicare, or the retiree's death.

Retiree Contributions: The Authority will pay costs up to the active employee base group rate as of the date of retirement, net of any required active employee contributions, towards the retiree group rate for a maximum period of 36 months as described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, plus the required active employee premium contributions and any premium increases after retirement.

Medical Plans Available: For Pre-age 65 coverage, Highmark PPO Blue, $250/$500 Deductible Plan administered by Municipal Benefits Services. For post-age 65 coverage, Medicare Supplement, where Highmark bills the Authority through the retiree.

Funding Policy

The costs of these benefits are expensed when incurred and are financed on a pay-as-you-go basis.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2016 AND 2015

The Authority's annual OPEB cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of accounting standards. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a closed period not to exceed 30 years. The following table shows the component of the Authority's annual OPEB cost for fiscal years 2016 and 2015, the amount actually contributed, and changes in the Authority's net OPEB obligation:

	2016	2015
Annual required contribution	$ 303,279	$ 401,483
Interest on net OPEB obligation	77,644	64,551
Adjustment to annual required contribution	(105,927)	(87,793)
Annual OPEB cost	274,996	378,241
Contributions made	(88,251)	(87,270)
Increase in net OPEB obligation	186,745	290,971
Net OPEB obligation - beginning of year	1,725,428	1,434,457
Net OPEB obligation - end of year	$ 1,912,173	$ 1,725,428

Actuarial valuation date	8/1/2015
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Amortization period	30 years
Actuarial assumptions:	
Interest Rate	4.5%
Mortality	RP-2000 Combined Mortality Table with Blue Collar Adjustment
Annual trend rates for OPEB Costs:	0% for 2015; 5.0% per year thereafter

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2016 AND 2015

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed and the net OPEB obligation were as follows:

Fiscal Year Ending	Annual OPEB Cost	% Contributed	Net OPEB Obligation
July 31, 2016	$ 274,996	32.09%	$ 1,912,173
July 31, 2015	378,241	23.07%	1,725,428
July 31, 2014	383,388	15.81%	1,434,457

The schedule of funding progress for the other postemployment benefits is as follows:

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll {(b)-(a)/(c)}
August 1, 2015	$ -	$ 3,536,975	$ 3,536,975	0.0%	$ 2,651,503	133.4%
August 1, 2012	-	4,262,104	4,262,104	0.0%	2,336,451	182.4%
August 1, 2009	-	3,269,790	3,269,790	0.0%	2,220,725	147.2%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Healthcare cost trend assumptions are based on recent experience and anticipated future cost increases under the Authority's medical plans. Amounts determined regarding the funded status and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Projections and calculations of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and covered members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

8. COMMITMENTS AND CONTINGENCIES

As of July 31, 2016, the Authority has entered into construction contracts that have not been completed as of the end of the fiscal year. Amounts remaining on contracts for construction services not performed as of July 31, 2016 total approximately $138,000. Work is scheduled to be completed on these projects during the upcoming fiscal year.

There are various other matters of pending litigation in which the Authority is involved. The Authority's Solicitor believes that it is unlikely such matters would significantly affect the financial position of the Authority. Accordingly, the financial statements do not include any adjustment for possible effects.

Required Supplementary Information

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF FUNDING PROGRESS

OTHER POSTEMPLOYMENT BENEFIT PLANS

YEAR ENDED JULY 31, 2016

Actuarial Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability	(b-a) (Overfunded) Unfunded Actuarial Accrued Liability	(a/b) Funded Ratio	(c) Covered Payroll	(Overfunded)/Unfunded Actuarial Accrued Liability (b-a) as a Percentage of Covered Payroll ((b-a)/c)
August 1, 2015	$ -	$ 3,536,975	$ 3,536,975	0.0%	$ 2,651,503	133.4%
August 1, 2012	-	4,262,104	4,262,104	0.0%	2,336,451	182.4%
August 1, 2009	-	3,269,790	3,269,790	0.0%	2,220,725	147.2%

BUTLER AREA SEWER AUTHORITY

POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (OPEBs)
FACTORS AND TRENDS USED IN ACTUARIAL VALUATION

YEAR ENDED JULY 31, 2016

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Actuarial valuation date	8/1/2015
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Amortization period	30 years
Actuarial assumptions:	
Interest Rate	4.5%
Mortality	RP-2000 Combined Mortality Table with Blue Collar Adjustment
Annual trend rates for OPEB Costs:	0% for 2015; 5.0% per year thereafter

Supplementary Information

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2016

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Northwest Area Sewer Rehabilitation Project Fund	Butler City Act 537 Project Fund	Deshon Act 537 Project Fund	Construction Fund	Total
Assets										
Current assets:										
Cash and cash equivalents	$ 2,067,911	$ -	$ -	$ 3,882,278	$ -	$ -	$ -	$ -	$ -	$ 5,950,189
Investments:										
Trusteed accounts	-	92	2,207,427	-	1,447,885	-	-	-	9,587,096	13,242,500
Other	2,474,000	-	-	494,000	-	-	-	-	-	2,968,000
Accounts receivable	2,296,402	-	-	-	-	-	-	-	-	2,296,402
Unbilled sewer receivable	837,300	-	-	-	-	-	-	-	-	837,300
Total current assets	7,675,613	92	2,207,427	4,376,278	1,447,885	-	-	-	9,587,096	25,294,391
Non-current assets:										
Unamortized bond insurance, net of accumulated amortization of $60,148	196,852	-	-	-	-	-	-	-	-	196,852
	196,852	-	-	-	-	-	-	-	-	196,852
Capital assets, not being depreciated	1,167,110	-	-	-	-	-	-	-	-	1,167,110
Capital assets, net of accumulated depreciation	66,521,247	-	-	-	-	-	-	-	-	66,521,247
Total capital assets	67,688,357	-	-	-	-	-	-	-	-	67,688,357
Total non-current assets	67,885,209	-	-	-	-	-	-	-	-	67,885,209
Total Assets	75,560,822	92	2,207,427	4,376,278	1,447,885	-	-	-	9,587,096	93,179,600
Deferred Outflows of Resources										
Deferred charge on refunding	1,420,419	-	-	-	-	-	-	-	-	1,420,419
Liabilities										
Current liabilities:										
Vouchers payable	481,890	-	-	-	-	-	-	-	-	481,890
Accrued expenses	910,785	-	-	-	-	-	-	-	-	910,785
Current maturities of bonds payable	915,000	-	-	-	-	-	-	-	-	915,000
Current portion of notes payable	1,304,231	-	-	-	-	-	-	-	-	1,304,231
Total current liabilities	3,611,906	-	-	-	-	-	-	-	-	3,611,906
Non-current liabilities:										
Bonds payable, net of unamortized discount and premium	29,855,597	-	-	-	-	-	-	-	-	29,855,597
Notes payable	21,546,841	-	-	-	-	-	-	-	-	21,546,841
OPEB obligation	1,912,173	-	-	-	-	-	-	-	-	1,912,173
Total non-current liabilities	53,314,611	-	-	-	-	-	-	-	-	53,314,611
Total Liabilities	56,926,517	-	-	-	-	-	-	-	-	56,926,517
Net Position										
Net investment in capital assets	25,271,055	-	-	-	-	-	-	-	-	25,271,055
Restricted	(9,587,096)	92	2,207,427	-	1,447,885	-	-	-	9,587,096	3,655,404
Unrestricted	4,370,765	-	-	4,376,278	-	-	-	-	-	8,747,043
Total Net Position	$ 20,054,724	$ 92	$ 2,207,427	$ 4,376,278	$ 1,447,885	$ -	$ -	$ -	$ 9,587,096	$ 37,673,502

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2015

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Northwest Area Sewer Rehabilitation Project Fund	Butler City Act 537 Project Fund	Deshon Act 537 Project Fund	Construction Fund	Total
Assets										
Current assets:										
Cash and cash equivalents	$ 3,307,876	$ -	$ -	$ 5,652,523	$ -	$ -	$ -	$ -	$ -	$ 8,960,399
Investments:										
Trusteed accounts	-	22	2,054,292	-	1,281,298	-	-	-	-	3,335,612
Other	990,000	-	-	-	-	-	-	-	-	990,000
Accounts receivable	2,135,874	-	-	-	-	-	-	-	-	2,135,874
Unbilled sewer receivable	769,200	-	-	-	-	-	-	-	-	769,200
Total current assets	7,202,950	22	2,054,292	5,652,523	1,281,298	-	-	-	-	16,191,085
Non-current assets:										
Unamortized bond insurance, net of accumulated amortization of $49,212	207,788	-	-	-	-	-	-	-	-	207,788
	207,788	-	-	-	-	-	-	-	-	207,788
Capital assets not being depreciated:	1,183,531	-	-	-	-	-	-	-	-	1,183,531
Capital assets, net of accumulated depreciation	67,690,132	-	-	-	-	-	-	-	-	67,690,132
Total capital assets	68,873,663	-	-	-	-	-	-	-	-	68,873,663
Total non-current assets	69,081,451	-	-	-	-	-	-	-	-	69,081,451
Total Assets	76,284,401	22	2,054,292	5,652,523	1,281,298	-	-	-	-	85,272,536
Deferred Outflows of Resources										
Deferred charge on refunding	1,114,318	-	-	-	-	-	-	-	-	1,114,318
Liabilities										
Current liabilities:										
Vouchers payable	163,137	-	-	-	-	-	-	-	-	163,137
Accrued expenses	895,739	-	-	-	-	-	-	-	-	895,739
Current maturities of bonds payable	545,000	-	-	-	-	-	-	-	-	545,000
Current portion of notes payable	1,289,081	-	-	-	-	-	-	-	-	1,289,081
Total current liabilities	2,892,957	-	-	-	-	-	-	-	-	2,892,957
Non-current liabilities:										
Bonds payable, net of unamortized discount	20,271,747	-	-	-	-	-	-	-	-	20,271,747
Notes payable	22,851,071	-	-	-	-	-	-	-	-	22,851,071
OPEB obligation	1,725,428	-	-	-	-	-	-	-	-	1,725,428
Total non-current liabilities	44,848,246	-	-	-	-	-	-	-	-	44,848,246
Total Liabilities	47,741,203	-	-	-	-	-	-	-	-	47,741,203
Net Position										
Net investment in capital assets	25,238,870	-	-	-	-	-	-	-	-	25,238,870
Restricted	-	22	2,054,292	-	1,281,298	-	-	-	-	3,335,612
Unrestricted	4,418,646	-	-	5,652,523	-	-	-	-	-	10,071,169
Total Net Position	$ 29,657,516	$ 22	$ 2,054,292	$ 5,652,523	$ 1,281,298	$ -	$ -	$ -	$ -	$ 38,645,651

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2016

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Northwest Area Sewer Rehabilitation Project Fund	Butler City Act 537 Project Fund	Deshon Act 537 Project Fund	Construction Fund	Total
Operating Revenues:										
Sewer charges - non-industrial waste	$ 8,880,649	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,880,649
Sewer charges - industrial waste	289,118	-	-	-	-	-	-	-	-	289,118
Other operating fees and charges	192,700	-	-	-	-	-	-	-	-	192,700
Total operating revenues	9,362,467	-	-	-	-	-	-	-	-	9,362,467
Operating Expenses:										
Operations and maintenance	5,121,142	-	-	-	-	-	-	-	-	5,121,142
Administration	998,446	-	-	-	-	-	-	-	-	998,446
Depreciation	3,357,202	-	-	-	-	-	-	-	-	3,357,202
Total operating expenses	9,476,790	-	-	-	-	-	-	-	-	9,476,790
Operating Income (Loss)	(114,323)	-	-	-	-	-	-	-	-	(114,323)
Non-Operating Revenues (Expenses):										
Capital grant	-	-	-	-	-	-	-	-	-	-
Interest income	187,573	70	31,358	-	367	-	-	-	3,420	222,788
Interest expense	(1,201,373)	-	-	-	-	-	-	-	-	(1,201,373)
Bond issuance costs	(554,760)	-	-	-	-	-	-	-	-	(554,760)
Unrealized gain (loss) on investments	-	-	10,872	21,792	-	-	-	-	-	32,664
Loss on disposal of capital assets	-	-	-	-	-	-	-	-	-	-
Amortization	(15,265)	-	-	-	-	-	-	-	-	(15,265)
Total non-operating revenues (expenses)	(1,583,825)	70	42,230	21,792	367	-	-	-	3,420	(1,515,946)
Income (Loss) Before Capital Contributions and Transfers	(1,698,148)	70	42,230	21,792	367	-	-	-	3,420	(1,630,269)
Capital Contributions:										
Tap-in fees	629,120	-	-	-	-	-	-	-	-	629,120
Developer contribution revenue	29,000	-	-	-	-	-	-	-	-	29,000
Total capital contributions	658,120	-	-	-	-	-	-	-	-	658,120
Net Income (Loss) Before Transfers	(1,040,028)	70	42,230	21,792	367	-	-	-	3,420	(972,149)
Transfers:										
Transfers in from:										
Revenue Fund	-	1,341,708	-	-	731,265	-	-	-	9,583,676	11,656,649
Debt Service Fund	1,341,708	-	-	-	-	-	-	-	-	1,341,708
Deshon Area Sewer Rehabilitation Project Fund	-	-	-	-	-	-	-	-	-	-
Butler City Act 537 Project	-	-	-	-	-	-	-	-	-	-
Northwest Area Sewer Rehabilitation Project Fund	-	-	-	-	-	-	-	-	-	-
Capital Improvement and Redemption Fund	1,863,082	-	110,905	-	-	-	-	-	-	1,973,987
Bond Redemption and Improvement Fund	-	-	-	565,045	-	-	-	-	-	565,045
Transfers out to:										
Revenue Fund	-	(1,341,708)	-	(1,863,082)	-	-	-	-	-	(3,204,790)
Debt Service Fund	(1,341,708)	-	-	-	-	-	-	-	-	(1,341,708)
Debt Service Reserve Fund	(110,905)	-	-	-	-	-	-	-	-	(110,905)
Deshon Area Sewer Rehabilitation Project Fund	-	-	-	-	-	-	-	-	-	-
Butler City Act 537 Project	-	-	-	-	-	-	-	-	-	-
Northwest Area Sewer Rehabilitation Project Fund	-	-	-	-	-	-	-	-	-	-
Capital Improvement and Redemption Fund	-	-	-	-	(565,045)	-	-	-	-	(565,045)
Bond Redemption and Improvement Fund	(731,265)	-	-	-	-	-	-	-	-	(731,265)
Construction Fund	(9,583,676)	-	-	-	-	-	-	-	-	(9,583,676)
Net Income (Loss)	(9,602,792)	70	153,135	(1,276,245)	166,587	-	-	-	9,587,096	(972,149)
Net Position:										
Beginning of year	29,657,516	22	2,054,292	5,652,523	1,281,298	-	-	-	-	38,645,651
End of year	$ 20,054,724	$ 92	$ 2,207,427	$ 4,376,278	$ 1,447,885	$ -	$ -	$ -	$ 9,587,096	$ 37,673,502

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2015

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Northwest Area Sewer Rehabilitation Fund	Butler City Act 537 Project Fund	Deshon Act 537 Project Fund	Construction Fund	Total
Operating Revenues:										
Sewer charges - non-industrial waste	$ 8,526,065	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,526,065
Sewer charges - industrial waste	325,690	-	-	-	-	-	-	-	-	325,690
Other operating fees and charges	139,837	-	-	-	-	-	-	-	-	139,837
Total operating revenues	8,991,592	-	-	-	-	-	-	-	-	8,991,592
Operating Expenses:										
Operations and maintenance	5,131,446	-	-	-	-	-	-	-	-	5,131,446
Administration	1,298,606	-	-	-	-	-	-	-	-	1,298,606
Depreciation	3,327,965	-	-	-	-	-	-	-	-	3,327,965
Total operating expenses	9,758,017	-	-	-	-	-	-	-	-	9,758,017
Operating Income (Loss)	(766,425)	-	-	-	-	-	-	-	-	(766,425)
Non-Operating Revenues (Expenses):										
Capital grant	3,301	-	-	-	-	-	-	-	-	3,301
Interest income	162,153	11	30,983	-	86	-	-	-	-	193,233
Interest expense	(1,108,956)	-	-	-	-	(43,227)	(137,536)	(65,036)	-	(1,354,755)
Bond issuance costs	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	-	-	(60,864)	-	-	-	-	-	-	(60,864)
Loss on disposal of capital assets	(19,011)	-	-	-	-	-	-	-	-	(19,011)
Amortization	(21,139)	-	-	-	-	-	-	-	-	(21,139)
Total non-operating revenues (expenses)	(983,652)	11	(29,881)	-	86	(43,227)	(137,536)	(65,036)	-	(1,259,235)
Income (Loss) Before Capital Contributions and Transfers	(1,750,077)	11	(29,881)	-	86	(43,227)	(137,536)	(65,036)	-	(2,025,660)
Capital Contributions:										
Tap-in fees	119,655	-	-	-	-	-	-	-	-	119,655
Developer contribution revenue	11,329	-	-	-	-	-	-	-	-	11,329
Total capital contributions	130,984	-	-	-	-	-	-	-	-	130,984
Net Income (Loss) Before Transfers	(1,619,093)	11	(29,881)	-	86	(43,227)	(137,536)	(65,036)	-	(1,894,676)
Transfers:										
Transfers in from:										
Revenue Fund	-	1,257,589	-	-	512,000	153,075	627,577	188,946	-	2,739,187
Debt Service Fund	1,257,589	-	-	-	-	-	-	-	-	1,257,589
Deshon Area Sewer Rehabilitation Project Fund	3,640,958	-	-	-	-	-	-	-	-	3,640,958
Butler City Act 537 Project	13,541,870	-	-	-	-	-	-	-	-	13,541,870
Northwest Area Sewer Rehabilitation Project Fund	865,955	-	-	-	-	-	-	-	-	865,955
Capital Improvement and Redemption Fund	984,004	-	111,907	-	-	-	10,511	1,877	-	1,108,299
Bond Redemption and Improvement Fund	-	-	-	462,817	-	-	-	-	-	462,817
Transfers out to:					-					
Revenue Fund	-	(1,257,589)	-	(984,004)	-	(865,955)	(13,541,870)	(3,640,958)	-	(20,290,376)
Debt Service Fund	(1,257,589)	-	-	-	-	-	-	-	-	(1,257,589)
Debt Service Reserve Fund	-	-	-	(111,907)	-	-	-	-	-	(111,907)
Deshon Area Sewer Rehabilitation Project Fund	(188,946)	-	-	(1,877)	-	-	-	-	-	(190,823)
Butler City Act 537 Project	(627,577)	-	-	(10,511)	-	-	-	-	-	(638,088)
Northwest Area Sewer Rehabilitation Project Fund	(153,075)	-	-	-	-	-	-	-	-	(153,075)
Capital Improvement and Redemption Fund	-	-	-	-	(462,817)	-	-	-	-	(462,817)
Bond Redemption and Improvement Fund	(512,000)	-	-	-	-	-	-	-	-	(512,000)
Construction Fund	-	-	-	-	-	-	-	-	-	-
Net Income (Loss)	15,932,096	11	82,026	(645,482)	49,269	(756,107)	(13,041,318)	(3,515,171)	-	(1,894,676)
Net Position:										
Beginning of year	13,725,420	11	1,972,266	6,298,005	1,232,029	756,107	13,041,318	3,515,171	-	40,540,327
End of year	$ 29,657,516	$ 22	$ 2,054,292	$ 5,652,523	$ 1,281,298	$ -	$ -	$ -	$ -	$ 38,645,651

Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2017 and 2016 with
Independent Auditor's Report

MaherDuessel

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2017 AND 2016

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MaherDuessel

Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2017 and 2016, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2017 and 2016, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements

themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
September 22, 2017

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2017 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements.

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2017.

- With the adoption of the 2016-2017 Authority budget, the Board increased rates by $3.00 (9.1%) per month per equivalent dwelling unit (EDU) effective July 1, 2016. The rate increase covered the heightened debt service payment obligations, operations costs, as well as allowed for additional funds for ongoing/future capital project needs. No sewer service charge rate increases were adopted with the 2017-2018 Authority budget.

- The Authority has diligently continued its efforts to collect delinquent utility billing account balances during the year. This has contributed to an overall decrease in accounts receivable of $201,461 from the prior fiscal year.

- By Resolution on July 11, 2017, the Authority Board authorized the issuance of Sewer Revenue Bonds, Series 2017 to refinance up to three of the four PennVest Notes held by the Authority, provided a minimum debt service savings of $300,000 was reached. As of July 31, 2017 no bonds were issued, however the Authority will continue to pursue the refinancing if such conditions are realized after fiscal year end.

- During the year, the Authority completed design, bidding, and award of both the *Negley Avenue Pump Station Replacement Project* and the *Waste Water Treatment Plant (WWTP) Headworks Improvements Project*. Construction on these projects will begin and is scheduled for completion in the 2017-2018 fiscal year. A third major project, *WWTP Sludge Dewatering Improvements Project*, is in the design phase. Funding for these projects is from the 2016 Bond proceeds.

- The Authority experienced a Net Loss or a decrease in Net Position of $550,714 (1.5%) in the fiscal year ended July 31, 2017. The loss continues to be driven by high depreciation expenses totaling $3,317,568 for the fiscal year ended July 31, 2017.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses for the current fiscal year and past fiscal year. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position.

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2017	Balance at July 31, 2016	Net Change
Assets:			
Current Assets	$ 25,021,485	$ 25,294,391	$ (272,906)
Other Assets	131,235	196,852	(65,617)
Capital Assets	65,265,282	67,688,357	(2,423,075)
Total Assets	90,418,002	93,179,600	(2,761,598)
Deferred Outflows of Resources:			
Deferred charge on refunding	1,327,290	1,420,419	(93,129)
Total Deferred Outflows of Resources	1,327,290	1,420,419	(93,129)
Liabilities and Net Position:			
Current Liabilities	3,333,593	3,611,906	(278,313)
Non-Current Liabilities	51,288,911	53,314,611	(2,025,700)
Total Liabilities	54,622,504	56,926,517	(2,304,013)
Total Net Position	$ 37,122,788	$ 37,673,502	$ (550,714)

Assets and Deferred Outflows of Resources

The Authority's Current Assets remained consistent with the prior year, decreasing by only $272,906 (1.1%) during the period. There was a net increase to cash and cash equivalents

($903,020) that was offset by a net decrease ($974,765) to investments in trusted accounts, primarily due to a reimbursement for eligible capital expenditures from bond proceeds held in trust to an unrestricted Authority fund. The Authority also has focused much attention on collecting outstanding utility billing account balances over the past few years, which has resulted in a decrease to accounts receivable of $201,461 during the period.

Capital Assets decreased by $2,423,075 (3.6%). Although the Authority had additions to capital assets during the year, the amount of depreciation for the period of $3,317,568 far exceeded the capital asset additions and therefore resulted in a decrease in Capital Assets for the period.

Overall, total assets decreased by $2,761,598 (3.0%).

The Deferred Charge on Refunding was established from the Sewer Revenue Bonds, Series of 2013 and 2015 that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the life of the bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities and Net Position

The Authority had a decrease in Current Liabilities as of July 31, 2017 of $278,313 (7.7%). This was due to a decrease in vouchers payable of $351,243. This decrease correlates to the reduction in construction projects at the end of the current fiscal year compared to the prior fiscal year. Additional information on capital projects can be seen in the Capital Improvements section of the MD&A below. There was also an offsetting increase in accrued expenses of $73,120, of which $60,473 was due to increases in unpaid vacation, sick, and personal leave accrued liabilities.

Non-Current Liabilities had a net decrease of $2,025,700 (3.8%). The Authority continued to make required debt service payments on both bonds and notes over the period resulting in decreases of $910,671 and $1,304,043, respectively. Additional discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. Post-retirement healthcare costs, OPEB Obligations, of $189,014 continued to accrue.

Overall, Total Liabilities decreased by $2,304,013 (4.0%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position.

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2017	Year Ended July 31, 2016	Net Change
Revenues:			
Sewer Charges	$ 9,949,061	$ 9,169,767	$ 779,294
Other Operating Fees and Charges	140,030	192,700	(52,670)
Non-Operating Revenues	270,106	255,452	14,654
Total Revenues	10,359,197	9,617,919	741,278
Expenses:			
Operating Expenses, Net of Depreciation	6,243,862	6,119,588	124,274
Depreciation	3,317,568	3,357,202	(39,634)
Non-Operating Expenses	1,525,915	1,771,398	(245,483)
Total Expenses	11,087,345	11,248,188	(160,843)
Capital Contributions:			
Tap-In Fees	149,934	629,120	(479,186)
Developer Contribution Revenue	27,500	29,000	(1,500)
Total Capital Contributions	177,434	658,120	(480,686)
Net Income (Loss)	(550,714)	(972,149)	421,435
Net Position:			
Beginning of Year	37,673,502	38,645,651	(972,149)
End of Year	$ 37,122,788	$ 37,673,502	$ (550,714)

Revenues

Total Revenues increased from the prior year amount by $741,278 (7.7%). Effective July 1, 2016, a rate increase of $3.00 per month per equivalent dwelling unit (EDU) accounted for the substantial increase in Sewer Charges for the period. In addition, Other Operating Fees and Charges decreased as the Authority sold less surplus equipment and vehicles on Municibid (online auction site) during this fiscal year. Increases in Non-Operating Revenues are attributed to higher rates of return on investments as well as a full year's worth of returns on construction fund bond proceeds.

Expenses

Total Expenses decreased by $160,843 (1.4%). Operating Expenses, Net of Depreciation increased by $124,274 (2.0%). The Authority incurred increased costs for salaries and wages (approximately $99,000), benefits (approximately $35,000), utilities (approximately $45,000), and bank fees (approximately $20,000). The Authority incurred costs savings from the prior year on major maintenance and repairs (approximately $70,000). The Authority experienced fluctuations with numerous operating costs between the periods, but the above costs are the more significant of those changes.

Depreciation expense decreased by $39,634 (1.2%). The change in depreciation is minimal in the current year, due to relatively minor capital additions having long service lives as well as reductions in depreciation expenses for assets that became fully depreciated in the prior period.

Non-Operating Expenses decreased by $245,483 (13.9%). Due to the 2015 and 2016 Bond issues that were completed in the 2016-2017 fiscal year and as no such bond issues were incurred in the current fiscal year, Bond issuance costs decreased by $554,760, while interest costs increased by $254,596 to cover costs for the 2016 Series Bond interest.

Capital Contributions

Total Capital Contributions decreased by $480,686 (73.0%). Almost the entire decrease was due to a reduced demand for sewer service connections that resulted in lower Tap-In Fees between the periods. Revenues generated from Tap-In Fees directly correlate to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2017, the Authority experienced a decreased loss of $421,435, resulting in a Net Loss of $550,714, compared to the July 31, 2016 Net Loss of $972,149.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its on-going capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

During the fiscal year, the Authority completed design, bidding, and award of both the *Negley Avenue Pump Station Replacement Project* and the *WWTP Headworks Improvements Project*. Construction on these projects will begin and is scheduled for completion in the 2017-2018 fiscal year. A third major project, *WWTP Sludge Dewatering Improvements Project*, is in the design phase. Funding for these projects is from the 2016 Bond proceeds.

During the fiscal year, the Authority capitalized $107,655 and $219,045 for costs associated with the *Automatic Transfer Switch Replacement for the WWTP Emergency Generator* and *WWTP Grit Building Motor Control Center (MCC) Replacement Project*, respectively. These projects were funded by the Authority's reserves and 2016 bond proceeds, respectively, and began to be depreciated during the current fiscal year.

Other capital projects and purchases incurred during the fiscal year included: trickling filter access road installation, security window for office entryway, new flow meter at Karns Crossing pump station, explosion proof heaters for pump stations (2), new manhole at Rock Lick pump station, portable flow meters (2), contributed sewers from Cambridge VA facility, and the purchase of a new Ford Explorer. These purchases were capitalized and depreciation began during the fiscal year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2017 that includes the following: *Negley Avenue Pump Station Replacement*, *WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvement Project*s. Funding for these projects will come primarily from the 2016 bond proceeds and Authority reserves, as applicable.

Depreciation had a minor decrease from the prior fiscal year given the relatively minimal capital additions as well as reductions in depreciation expenses for assets that became fully depreciated in the prior period.

DEBT

In December 2010, the Authority established a new Trust Indenture and issued new Sewer Revenue Bonds in the amount of $20,200,000. Proceeds from this obligation were used to fund the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the projects required under the Consent Order and Agreement (CO&A). At the end of the fiscal year, and after the 2013 and 2015 advanced refunding of the debt, as described below and in the Notes, the Authority had outstanding bond debt for this issue of $680,000. Principal and interest payments will vary from year-to-year with the final payment due in 2019.

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,855,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,745,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the *Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,600,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In 2006, the Authority executed a loan agreement to borrow up to $7,029,130 from PennVest to fund the *Deshon Area Sewer Rehabilitation Project* and awarded construction contracts for this work. During 2008, the project was completed and the loan agreement was modified to reflect the actual total principal drawn for construction in the amount of $5,646,138. Principal and interest payments continued during the current fiscal year and the outstanding balance as of July 31, 2017 is $3,286,157. The final payment is scheduled for March 1, 2028.

During 2009, the Authority executed a loan agreement to borrow up to $6,077,095 from PennVest to fund the *Northwest Area Sewer Rehabilitation Project* and construction began on the project. This project incurred various delays, but was completed during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the current fiscal year and the outstanding balance as of July 31, 2017 is $3,928,695. The final payment is scheduled for September 1, 2031.

In February 2011, the Authority closed on two loans from PennVest in the amounts of $5,137,285 and $13,087,500 to partially fund the *Deshon Act 537* and *Butler City Act 537 Wet Weather Flow Equalization Tanks, Diversion Structures, and Pumping Station Facilities Projects* required by the CO&A, respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the fiscal year for both loans. The outstanding balances as of July 31, 2017 are $4,085,651 and $10,246,336 for

Deshon Act 537 and Butler City Act 537, respectively. The final payments are scheduled for February and January 2032, respectively, for the *Deshon* and *Butler City Act 537 Projects*.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure in fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind.

Three major projects are in process as of the July 31, 2017 and advancement of those projects is expected to progress in the next fiscal year. These projects will be funded primarily from the 2016 bond proceeds with any additional funding requirements coming from the Authority's capital reserve funds. These projects include the *Negley Avenue Pump Station Replacement Project*, *WWTP Headworks Improvements Project*, and *WWTP Sludge Dewatering Improvements Project*.

The Authority has also authorized by Board Resolution on July 11, 2017, the issuance of Sewer Revenue Bonds, Series of 2017 for the purpose of refinancing up to three of the four PennVest notes. The minimum debt service savings target has been set at $300,000 and although no bonds have been issued as of July 31, 2017, the Authority will continue to pursue the refinancing if such conditions are realized after year end.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2017 AND 2016

	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	$ 6,853,209	$ 5,950,189
Investments:		
Trusteed accounts	12,267,735	13,242,500
Other	2,956,000	2,968,000
Accounts receivable	2,094,941	2,296,402
Unbilled sewer receivable	849,600	837,300
Total current assets	25,021,485	25,294,391
Non-current assets:		
Unamortized bond insurance, net of accumulated amortization of $125,765 and $60,148	131,235	196,852
Capital assets, not being depreciated	1,562,578	1,167,110
Capital assets, net of accumulated depreciation	63,702,704	66,521,247
Total capital assets	65,265,282	67,688,357
Total non-current assets	65,396,517	67,885,209
Total Assets	90,418,002	93,179,600
Deferred Outflows of Resources		
Deferred charge on refunding	1,327,290	1,420,419
Liabilities		
Current liabilities:		
Vouchers payable	130,647	481,890
Accrued expenses	983,905	910,785
Current maturities of bonds payable	915,000	915,000
Current portion of notes payable	1,304,041	1,304,231
Total current liabilities	3,333,593	3,611,906
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	28,944,926	29,855,597
Notes payable	20,242,798	21,546,841
OPEB obligation	2,101,187	1,912,173
Total non-current liabilities	51,288,911	53,314,611
Total Liabilities	54,622,504	56,926,517
Net Position		
Net investment in capital assets	23,890,555	25,271,055
Restricted	3,694,222	3,655,404
Unrestricted	9,538,011	8,747,043
Total Net Position	$ 37,122,788	$ 37,673,502

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2017 AND 2016

	2017	2016
Operating Revenues:		
Sewer charges - non-industrial waste	$ 9,612,881	$ 8,880,649
Sewer charges - industrial waste	336,180	289,118
Other operating fees and charges	140,030	192,700
Total operating revenues	10,089,091	9,362,467
Operating Expenses:		
Operations and maintenance	5,223,505	5,121,142
Administration	1,020,357	998,446
Depreciation	3,317,568	3,357,202
Total operating expenses	9,561,430	9,476,790
Operating Income (Loss)	527,661	(114,323)
Non-Operating Revenues (Expenses):		
Interest income	291,941	222,788
Interest expense	(1,455,969)	(1,201,373)
Bond issuance costs	-	(554,760)
Unrealized gain (loss) on investments	(21,835)	32,664
Amortization	(69,946)	(15,265)
Total non-operating revenues (expenses)	(1,255,809)	(1,515,946)
Income (Loss) Before Capital Contributions	(728,148)	(1,630,269)
Capital Contributions:		
Tap-in fees	149,934	629,120
Developer contribution revenue	27,500	29,000
Total capital contributions	177,434	658,120
Net Income (Loss)	(550,714)	(972,149)
Net Position:		
Beginning of year	37,673,502	38,645,651
End of year	$ 37,122,788	$ 37,673,502

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2017 AND 2016

	2017	2016
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 10,278,252	$ 9,133,839
Operations and maintenance	(5,312,614)	(4,600,598)
Administrative expenses	(1,020,357)	(998,446)
Net cash provided by (used in) operating activities	3,945,281	3,534,795
Cash Flows From Capital and Related Financing Activities:		
Tap-in fees	149,934	629,120
Proceeds from bonds and notes payable	-	19,860,000
Principal paid on capital debt	(2,219,231)	(11,334,080)
Interest paid on capital debt	(1,362,842)	(1,927,713)
Payments related to the acquisition, construction, or improvement of capital assets	(866,993)	(2,142,896)
Net cash provided by (used in) capital and related financing activities	(4,299,132)	5,084,431
Cash Flows From Investing Activities:		
Interest and dividends	291,941	222,788
Proceeds from sale (purchase) of long-term investments	964,930	(11,852,224)
Net cash provided by (used in) investing activities	1,256,871	(11,629,436)
Net Increase (Decrease) in Cash and Cash Equivalents	903,020	(3,010,210)
Cash and Cash Equivalents:		
Beginning of year	5,950,189	8,960,399
End of year	$ 6,853,209	$ 5,950,189
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ 527,661	$ (114,323)
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,317,568	3,357,202
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	189,161	(228,628)
Vouchers payable and accrued expenses	(278,123)	333,799
OPEB obligation	189,014	186,745
Total adjustments	3,417,620	3,649,118
Net cash provided by (used in) operating activities	$ 3,945,281	$ 3,534,795
Non-Cash Items:		
Developer contributions	$ 27,500	$ 29,000

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2017 AND 2016

1. Organization

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. Summary of Significant Accounting Policies

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City does appoint a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2017 AND 2016

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and deferred inflows/outflows of resources and disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally government securities and money market funds, are carried at fair value.

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2017 and 2016. No provision is made for uncollectible accounts as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represents an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost.

Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized.

Compensated Absences

The Authority provides paid vacation, personal, and sick leave benefits to all eligible employees. Vacation days can be accumulated by eligible employees, not to exceed 24 days. Personal days can be accumulated by eligible full-time employees; however may not be carried over from calendar year to calendar year. Sick leave can be accumulated by employees, not to exceed 130 days. The Authority's policy at the time of separation of employment is to pay unused vacation, personal, and sick leave, on a pro-rata basis, at the time of separation. The balance of compensated absences at July 31, 2017 and 2016, was $907,581 and $847,108, respectively, and is recorded in accrued expenses on the statements of net position.

Bond Discounts, Bond Premiums, and Bond Insurance Costs

Bond discounts, bond premiums, and bond insurance costs are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. The unamortized balance of bond insurance costs is recorded as an asset. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows and Inflows of Resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position will sometimes report a separate section for deferred inflows of resources. This represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority does not have any items that qualify for reporting in this category.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets.

Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted."

Reclassification

Certain prior year amounts in the 2016 financial statements were reclassified to conform to the current year presentation.

Pending Pronouncements

The Governmental Accounting Standards Board (GASB) has issued several statements that will become effective in future years, including Statement Nos. 75 (OPEB Employer), 81 (Split-Interest Agreements), 83 (Certain Asset Retirement Obligations), 84 (Fiduciary Activities), 85 (Omnibus 2017), 86 (Debt Extinguishment), and 87 (Leases). Management has not yet determined the impact of these statements on the Authority's financial statements.

3. Deposits and Investments

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2017 and 2016 that were in violation of these policies.

The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

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As of July 31, 2017 and 2016, the Authority held certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $2,956,000 and $2,968,000 for 2017 and 2016, respectively.

As of July 31, 2017, $6,536,977 of the Authority's bank balance of $6,786,977 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,782,281 as of July 31, 2017 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2017, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2016, $5,646,778 of the Authority's bank balance of $5,896,778 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $5,911,466 as of July 31, 2016 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2016, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $70,928 and $38,723 at July 31, 2017 and 2016, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2017 and 2016:

	2017			2016		
		Maturity in years			Maturity in years	
Investment Type	Fair Value	Less than 1 year	1-5 years	Fair Value	Less than 1 year	1-5 years
Money market funds	$ 10,490,929	$ 10,490,929	$ -	$ 11,443,858	$ 11,443,858	$ -
U.S. Treasuries	1,776,806	-	1,776,806	1,798,642	-	1,798,642
Total Investments	$ 12,267,735	$ 10,490,929	$ 1,776,806	$ 13,242,500	$ 11,443,858	$ 1,798,642

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The Authority has the following recurring fair value measurements as of July 31, 2017:

- U.S. Treasury securities of $1,776,806 are valued using quoted market prices (Level 1 inputs).

The Authority has the following recurring fair value measurements as of July 31, 2016:

- U.S. Treasury securities of $1,798,642 are valued using quoted market prices (Level 1 inputs).

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2017 AND 2016

4. Capital Assets

A summary of changes in capital assets for the years ended July 31, 2017 and 2016 follows:

	Balance at August 1, 2016	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2017
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	345,685	614,513	(219,045)	741,153
Capital assets, not being depreciated	$ 1,167,110	$ 614,513	$ (219,045)	$ 1,562,578
Vehicles	$ 854,219	$ 31,358	$ (49,297)	$ 836,280
Sewer system	58,856,682	98,856	-	58,955,538
Pump stations	37,544,976	25,761	-	37,570,737
Plant	30,266,419	343,050	-	30,609,469
Capital assets, being depreciated	127,522,296	499,025	(49,297)	127,972,024
Less accumulated depreciation	(61,001,049)	(3,317,568)	49,297	(64,269,320)
Capital assets, net of accumulated depreciation	$ 66,521,247	$ (2,818,543)	$ -	$ 63,702,704

	Balance at August 1, 2015	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2016
Land	$ 820,425	$ 1,000	$ -	$ 821,425
Construction in progress	363,106	1,961,312	(1,978,733)	345,685
Capital assets, not being depreciated	$ 1,183,531	$ 1,962,312	$ (1,978,733)	$ 1,167,110
Vehicles	$ 888,485	$ -	$ (34,266)	$ 854,219
Sewer system	57,744,066	1,112,616	-	58,856,682
Pump stations	36,587,510	957,466	-	37,544,976
Plant	30,148,184	118,235	-	30,266,419
Capital assets, being depreciated	125,368,245	2,188,317	(34,266)	127,522,296
Less accumulated depreciation	(57,678,113)	(3,357,202)	34,266	(61,001,049)
Capital assets, net of accumulated depreciation	$ 67,690,132	$ (1,168,885)	$ -	$ 66,521,247

The $614,513 and $1,961,312 of additions to construction in progress at July 31, 2017 and

2016, respectively, relates to recent Authority projects, which include the Negley Avenue Pump Station Replacement Project, Grit Building MCC Replacement Project, Headworks Improvement Project, Sludge Dewatering Improvement Project, Primary Tank 1 and 2 Improvements, and the North Traveling Bridge Improvements.

5. Debt

Bonds Payable

During 2010, the Authority issued Sewer Revenue Bonds, Series of 2010 (2010 Bonds), in the amount of $20,200,000 to finance various projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay costs related to issuance of the bonds. A portion of these bonds were defeased during the year ended July 31, 2013; and $9,345,000 was refunded during the year ended July 31, 2016. As of July 31, 2016, the balance of the 2010 Bonds will mature through 2019 and interest rates from 2017 to 2019 will range from 2.6% to 3.15%.

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. As a result, $8,315,000 of the 2010 Bonds were considered defeased and the liability for these bonds has been removed from the statement of net position. In July 2016, the defeased bonds were called and satisfied. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds.

During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

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Annual maturities of the bonds payable at July 31, 2017 are as follows:

Year Ending July 31,	Principal	Interest	Total
2018	$ 915,000	$ 875,154	$ 1,790,154
2019	925,000	849,669	1,774,669
2020	965,000	816,096	1,781,096
2021	980,000	790,296	1,770,296
2022	1,010,000	763,996	1,773,996
2023-2027	5,535,000	3,492,316	9,027,316
2028-2032	8,930,000	2,669,808	11,599,808
2033-2037	8,470,000	923,086	9,393,086
2038-2041	2,150,000	185,045	2,335,045
Total Payments	29,880,000		
Less Unamortized Bond Discount/Premium	20,074		
	$ 29,859,926	$ 11,365,466	$ 41,245,466

Notes Payable - PennVest

During 2006, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,646,138 were used to fund the Deshon Area Sewer Rehabilitation Project. Principal payments of $261,156 and $254,018 were made for the years ended July 31, 2017 and 2016, respectively. The interest rate for the first sixty months is 1.387% and is 2.774% for the remainder of the loan. Principal and interest payments are due in monthly installments of $26,889 for the first fifty-eight months and $29,688 for the remainder of the loan, with the final payment scheduled for March 1, 2028.

During 2009, the Authority entered into a loan agreement with PennVest. The loan proceeds of $6,077,095 were used to fund the Northwest Area Sewer Rehabilitation Project. Principal payments of $220,822 and $226,654 were made for the years ended July 31, 2017 and 2016, respectively. The interest rate for the first sixty months is 2.270% and is 3.046% for the remainder of the loan. Principal and interest payments are due in monthly installments of $26,970 through September 2016 and $28,483 for the remainder of the loan, with the final payment scheduled for September 1, 2031.

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During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. Principal payments of $600,354 and $591,794 were made for the years ended July 31, 2017 and 2016, respectively. The interest rate for the first sixty months is 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,137,285 were used to fund the Deshon Act 537 Project. Principal payments of $221,901 and $216,614 were made for the years ended July 31, 2017 and 2016, respectively. The interest rate for the first sixty months is 2.414% and is 3.117% for the remainder of the loan. Principal and interest payments are due in monthly installments of $27,008 for the first 28 months, $26,953 for the next 32 months, and $28,315 for the remainder of the loan with the final payment scheduled for August 2032.

Principal and interest payable in future years on all of the PennVest notes are as follows:

Fiscal Years	Principal	Interest	Total
2018	$ 1,304,041	$ 503,729	$ 1,807,770
2019	1,332,112	480,825	1,812,937
2020	1,365,299	447,638	1,812,937
2021	1,399,359	413,579	1,812,938
2022	1,434,312	378,626	1,812,938
2023-2027	7,728,969	1,335,720	9,064,689
2028-2032	6,797,450	410,330	7,207,780
2033	185,297	518	185,815
	$ 21,546,839	$ 3,970,965	$ 25,517,804

BUTLER AREA SEWER AUTHORITY

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YEARS ENDED JULY 31, 2017 AND 2016

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2017:

	Balance at August 1, 2016	Issuance	Payments	Balance at July 31, 2017	Due within one year
Sewer Revenue Bonds (2010)	$ 1,160,000	$ -	$ (480,000)	$ 680,000	$ 465,000
Sewer Revenue Bonds (2013)	9,930,000	-	(75,000)	9,855,000	80,000
Sewer Revenue Bonds (2015)	9,810,000	-	(65,000)	9,745,000	70,000
Sewer Revenue Bonds (2016)	9,895,000	-	(295,000)	9,600,000	300,000
PennVest Note (2006)	3,547,313	-	(261,156)	3,286,157	268,493
PennVest Note (2009)	4,149,517	-	(220,822)	3,928,695	225,249
PennVest Note (2011)	10,846,690	-	(600,354)	10,246,336	593,748
PennVest Note (2011)	4,307,552	-	(221,901)	4,085,651	216,551
Payable, end of year	$ 53,646,072	$ -	$ (2,219,233)	$ 51,426,839	$ 2,219,041

Amounts above and below do not reflect an original issue discount in the amount of $142,847 and $153,050, as of July 31, 2017 and 2016, respectively, for the 2013 Bonds. The discount is amortized using the straight-line method over the life of the 2013 Bonds.

Amounts above and below do not reflect an original issue premium in the amount of $122,773 and $128,647, as of July 31, 2017 and 2016, respectively, for the 2015 Bonds and 2016 Bonds. The premium is amortized using the straight-line method over the life of the 2015 Bonds and 2016 Bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2016:

	Balance at August 1, 2015	Issuance	Payments	Balance at July 31, 2016	Due within one year
Sewer Revenue Bonds (2010)	$ 10,980,000	$ -	$ (9,820,000)	$ 1,160,000	$ 480,000
Sewer Revenue Bonds (2013)	10,000,000	-	(70,000)	9,930,000	75,000
Sewer Revenue Bonds (2015)	-	9,965,000	(155,000)	9,810,000	65,000
Sewer Revenue Bonds (2016)	-	9,895,000	-	9,895,000	295,000
PennVest Note (2006)	3,801,331	-	(254,018)	3,547,313	261,155
PennVest Note (2009)	4,376,171	-	(226,654)	4,149,517	220,821
PennVest Note (2011)	11,438,484	-	(591,794)	10,846,690	600,354
PennVest Note (2011)	4,524,166	-	(216,614)	4,307,552	221,901
Payable, end of year	$ 45,120,152	$ 19,860,000	$ (11,334,080)	$ 53,646,072	$ 2,219,231

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. Pension Plan

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2017, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year and participants are required to contribute 4% through December 31, 2016 and 4.5% beginning January 1, 2017 of eligible compensation to their participant account. Employer contributions were 6.5% of eligible compensation until January 1, 2017 when employer contributions increased to 7.0% of eligible compensation. Employee and employer contributions to the Plan were $110,918 and $176,536, respectively, for the year ended July 31, 2017. Employee and employer contributions to the Plan were $98,854 and $161,071, respectively, for the year ended July 31, 2016.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements of the 457(b) Plan are consistent with the eligibility requirements of the Plan noted above. As of July 31, 2017, all but one of the Authority's non-temporary employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $57,904 and $52,095 for the years ended July 31, 2017 and 2016, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2017, all of the Authority's non-temporary employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2017 and 2016 were $13,688 and $8,129, respectively.

7. Postemployment Benefits Other Than Pension Benefits (OPEBs)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. Expenditures for post-retirement healthcare benefits are recognized when paid and amounted to $83,035 and $88,251 during the years ended July 31, 2017 and 2016, for approximately 18 and 17 retirees and beneficiaries, as of July 31, 2017 and 2016, respectively.

As of August 1, 2015, the date of the most recent actuarial valuation, participants were as follows:

	Employees
Participants:	
Retired	10
Active	34
	44

Details of the benefits provided are as follows:

Eligibility: If hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employee, spouse, and eligible dependents.

Benefits: For those employees retiring between ages 62 and 65, the Authority pays up to 100% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). Upon Medicare eligibility, the retiring employee must convert to a Medicare Supplement Plan. The Authority pays the full cost of the designated employee's Medicare Supplement premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated employee's Medicare Supplement premium, provided that Medicare eligibility is sustained. For spouses and eligible dependent(s) that are under age 65, the Authority will pay up to 100% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Supplement premium, provided that Medicare eligibility is sustained. All Authority paid benefits to the spouse cease upon the death of the retiring employee. All Authority paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the retiree's eligibility for Medicare, or the retiree's death.

Retiree Contributions: The Authority will pay costs up to the active employee base group rate as of the date of retirement, net of any required active employee contributions, towards the retiree group rate for a maximum period of 36 months as described above. The

retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, plus the required active employee premium contributions and any premium increases after retirement.

Medical Plans Available: For Pre-age 65 coverage, Highmark PPO Blue, $250/$500 Deductible Plan administered by Municipal Benefits Services. For post-age 65 coverage, Medicare Supplement, where Highmark bills the Authority through the retiree.

Funding Policy

The costs of these benefits are expensed when incurred and are financed on a pay-as-you-go basis.

The Authority's annual OPEB cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of accounting standards. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a closed period not to exceed 30 years. The following table shows the component of the Authority's annual OPEB cost for fiscal years 2017 and 2016, the amount actually contributed, and changes in the Authority's net OPEB obligation:

	2017	2016
Annual required contribution	$ 303,279	$ 303,279
Interest on net OPEB obligation	85,737	77,644
Adjustment to annual required contribution	(116,967)	(105,927)
Annual OPEB cost	272,049	274,996
Contributions made	(83,035)	(88,251)
Increase in net OPEB obligation	189,014	186,745
Net OPEB obligation - beginning of year	1,912,173	1,725,428
Net OPEB obligation - end of year	$ 2,101,187	$ 1,912,173

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2017 AND 2016

Actuarial valuation date	8/1/2015
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Amortization period	30 years
Actuarial assumptions:	
Interest Rate	4.5%
Mortality	RP-2000 Combined Mortality Table with Blue Collar Adjustment
Annual trend rates for OPEB Costs:	0% for 2015; 5.0% per year thereafter

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed and the net OPEB obligation were as follows:

Fiscal Year Ending	Annual OPEB Cost	% Contributed	Net OPEB Obligation
July 31, 2017	$ 272,049	30.52%	$ 2,101,187
July 31, 2016	274,996	32.09%	1,912,173
July 31, 2015	378,241	23.07%	1,725,428

The schedule of funding progress for the other postemployment benefits is as follows:

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll {(b)-(a)/(c)}
August 1, 2015	$ -	$ 3,536,975	$ 3,536,975	0.0%	$ 2,651,503	133.4%
August 1, 2012	-	4,262,104	4,262,104	0.0%	2,336,451	182.4%
August 1, 2009	-	3,269,790	3,269,790	0.0%	2,220,725	147.2%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Healthcare cost trend assumptions are based on recent experience and anticipated future cost increases under the Authority's medical plans. Amounts determined regarding

the funded status and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Projections and calculations of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and covered members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

8. Commitments and Contingencies

As of July 31, 2017, the Authority has entered into construction contracts that have not been completed as of the end of the fiscal year. Amounts remaining on contracts for construction services not performed as of July 31, 2017 total approximately $3,165,000. Work is scheduled to be completed on these projects during the upcoming fiscal year.

There are various other matters of pending litigation in which the Authority is involved. The Authority's Solicitor believes that it is unlikely such matters would significantly affect the financial position of the Authority. Accordingly, the financial statements do not include any adjustment for possible effects.

REQUIRED SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF FUNDING PROGRESS

OTHER POSTEMPLOYMENT BENEFIT PLANS

YEAR ENDED JULY 31, 2017

Actuarial Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability	(b-a) (Overfunded) Unfunded Actuarial Accrued Liability	(a/b) Funded Ratio	(c) Covered Payroll	(Overfunded)/Unfunded Actuarial Accrued Liability (b-a) as a Percentage of Covered Payroll ((b-a)/c)
August 1, 2015	$ -	$ 3,536,975	$ 3,536,975	0.0%	$ 2,651,503	133.4%
August 1, 2012	-	4,262,104	4,262,104	0.0%	2,336,451	182.4%
August 1, 2009	-	3,269,790	3,269,790	0.0%	2,220,725	147.2%

BUTLER AREA SEWER AUTHORITY

POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (OPEBs)
FACTORS AND TRENDS USED IN ACTUARIAL VALUATION

YEAR ENDED JULY 31, 2017

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Actuarial valuation date	8/1/2015
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Amortization period	30 years
Actuarial assumptions:	
Interest Rate	4.5%
Mortality	RP-2000 Combined Mortality Table with Blue Collar Adjustment
Annual trend rates for OPEB Costs:	0% for 2015; 5.0% per year thereafter

SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2017

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,668,469	$ -	$ -	$ 4,184,740	$ -	$ -	$ 6,853,209
Investments:							
Trusteed accounts	-	1,673	2,219,107	-	1,473,442	8,573,513	12,267,735
Other	2,462,000	-	-	494,000	-	-	2,956,000
Accounts receivable	2,094,941	-	-	-	-	-	2,094,941
Unbilled sewer receivable	849,600	-	-	-	-	-	849,600
Total current assets	8,075,010	1,673	2,219,107	4,678,740	1,473,442	8,573,513	25,021,485
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization of $125,765	131,235	-	-	-	-	-	131,235
Capital assets, not being depreciated	1,562,578	-	-	-	-	-	1,562,578
Capital assets, net of accumulated depreciation	63,702,704	-	-	-	-	-	63,702,704
Total capital assets	65,265,282	-	-	-	-	-	65,265,282
Total non-current assets	65,396,517	-	-	-	-	-	65,396,517
Total Assets	73,471,527	1,673	2,219,107	4,678,740	1,473,442	8,573,513	90,418,002
Deferred Outflows of Resources							
Deferred charge on refunding	1,327,290	-	-	-	-	-	1,327,290
Liabilities							
Current liabilities:							
Vouchers payable	130,647	-	-	-	-	-	130,647
Accrued expenses	983,905	-	-	-	-	-	983,905
Current maturities of bonds payable	915,000	-	-	-	-	-	915,000
Current portion of notes payable	1,304,041	-	-	-	-	-	1,304,041
Total current liabilities	3,333,593	-	-	-	-	-	3,333,593
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	28,944,926	-	-	-	-	-	28,944,926
Notes payable	20,242,798	-	-	-	-	-	20,242,798
OPEB obligation	2,101,187	-	-	-	-	-	2,101,187
Total non-current liabilities	51,288,911	-	-	-	-	-	51,288,911
Total Liabilities	54,622,504	-	-	-	-	-	54,622,504
Net Position							
Net investment in capital assets	23,890,555	-	-	-	-	-	23,890,555
Restricted	(8,573,513)	1,673	2,219,107	-	1,473,442	8,573,513	3,694,222
Unrestricted	4,859,271	-	-	4,678,740	-	-	9,538,011
Total Net Position	$ 20,176,313	$ 1,673	$ 2,219,107	$ 4,678,740	$ 1,473,442	$ 8,573,513	$ 37,122,788

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2016

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,067,911	$ -	$ -	$ 3,882,278	$ -	$ -	$ 5,950,189
Investments:							
Trusteed accounts	-	92	2,207,427	-	1,447,885	9,587,096	13,242,500
Other	2,474,000	-	-	494,000	-	-	2,968,000
Accounts receivable	2,296,402	-	-	-	-	-	2,296,402
Unbilled sewer receivable	837,300	-	-	-	-	-	837,300
Total current assets	7,675,613	92	2,207,427	4,376,278	1,447,885	9,587,096	25,294,391
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization of $60,148	196,852	-	-	-	-	-	196,852
Capital assets not being depreciated:	1,167,110	-	-	-	-	-	1,167,110
Capital assets, net of accumulated depreciation	66,521,247	-	-	-	-	-	66,521,247
Total capital assets	67,688,357	-	-	-	-	-	67,688,357
Total non-current assets	67,885,209	-	-	-	-	-	67,885,209
Total Assets	75,560,822	92	2,207,427	4,376,278	1,447,885	9,587,096	93,179,600
Deferred Outflows of Resources							
Deferred charge on refunding	1,420,419	-	-	-	-	-	1,420,419
Liabilities							
Current liabilities:							
Vouchers payable	481,890	-	-	-	-	-	481,890
Accrued expenses	910,785	-	-	-	-	-	910,785
Current maturities of bonds payable	915,000	-	-	-	-	-	915,000
Current portion of notes payable	1,304,231	-	-	-	-	-	1,304,231
Total current liabilities	3,611,906	-	-	-	-	-	3,611,906
Non-current liabilities:							
Bonds payable, net of unamortized discount	29,855,597	-	-	-	-	-	29,855,597
Notes payable	21,546,841	-	-	-	-	-	21,546,841
OPEB obligation	1,912,173	-	-	-	-	-	1,912,173
Total non-current liabilities	53,314,611	-	-	-	-	-	53,314,611
Total Liabilities	56,926,517	-	-	-	-	-	56,926,517
Net Position							
Net investment in capital assets	25,271,055	-	-	-	-	-	25,271,055
Restricted	(9,587,096)	92	2,207,427	-	1,447,885	9,587,096	3,655,404
Unrestricted	4,370,765	-	-	4,376,278	-	-	8,747,043
Total Net Position	$ 20,054,724	$ 92	$ 2,207,427	$ 4,376,278	$ 1,447,885	$ 9,587,096	$ 37,673,502

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2017

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,612,881	$ -	$ -	$ -	$ -	$ -	$ 9,612,881
Sewer charges - industrial waste	336,180	-	-	-	-	-	336,180
Other operating fees and charges	140,030	-	-	-	-	-	140,030
Total operating revenues	10,089,091	-	-	-	-	-	10,089,091
Operating Expenses:							
Operations and maintenance	5,223,505	-	-	-	-	-	5,223,505
Administration	1,020,357	-	-	-	-	-	1,020,357
Depreciation	3,317,568	-	-	-	-	-	3,317,568
Total operating expenses	9,561,430	-	-	-	-	-	9,561,430
Operating Income (Loss)	527,661	-	-	-	-	-	527,661
Non-Operating Revenues (Expenses):							
Interest income	205,243	1,581	33,515	8,125	5,396	38,081	291,941
Interest expense	(1,455,969)	-	-	-	-	-	(1,455,969)
Bond issuance costs	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	-	-	(21,835)	-	-	-	(21,835)
Amortization	(69,946)	-	-	-	-	-	(69,946)
Total non-operating revenues (expenses)	(1,320,672)	1,581	11,680	8,125	5,396	38,081	(1,255,809)
Income (Loss) Before Capital Contributions and Transfers	(793,011)	1,581	11,680	8,125	5,396	38,081	(728,148)
Capital Contributions:							
Tap-in fees	149,934	-	-	-	-	-	149,934
Developer contribution revenue	27,500	-	-	-	-	-	27,500
Total capital contributions	177,434	-	-	-	-	-	177,434
Net Income (Loss) Before Transfers	(615,577)	1,581	11,680	8,125	5,396	38,081	(550,714)
Transfers:							
Transfers in from:							
Revenue Fund	-	1,811,334	-	-	344,780	-	2,156,114
Debt Service Fund	1,811,334	-	-	-	-	-	1,811,334
Capital Improvement and Redemption Fund	1,081,946	-	-	-	-	-	1,081,946
Bond Redemption and Improvement Fund	-	-	-	324,619	-	-	324,619
Construction Fund	-	-	-	1,051,664	-	-	1,051,664
Transfers out to:							
Revenue Fund	-	(1,811,334)	-	(1,081,946)	-	-	(2,893,280)
Debt Service Fund	(1,811,334)	-	-	-	-	-	(1,811,334)
Debt Service Reserve Fund	-	-	-	-	-	-	-
Capital Improvement and Redemption Fund	-	-	-	-	(324,619)	(1,051,664)	(1,376,283)
Bond Redemption and Improvement Fund	(344,780)	-	-	-	-	-	(344,780)
Construction Fund	-	-	-	-	-	-	-
Net Income (Loss)	121,589	1,581	11,680	302,462	25,557	(1,013,583)	(550,714)
Net Position:							
Beginning of year	20,054,724	92	2,207,427	4,376,278	1,447,885	9,587,096	37,673,502
End of year	$ 20,176,313	$ 1,673	$ 2,219,107	$ 4,678,740	$ 1,473,442	$ 8,573,513	$ 37,122,788

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2016

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 8,880,649	$ -	$ -	$ -	$ -	$ -	$ 8,880,649
Sewer charges - industrial waste	289,118	-	-	-	-	-	289,118
Other operating fees and charges	192,700	-	-	-	-	-	192,700
Total operating revenues	9,362,467	-	-	-	-	-	9,362,467
Operating Expenses:							
Operations and maintenance	5,121,142	-	-	-	-	-	5,121,142
Administration	998,446	-	-	-	-	-	998,446
Depreciation	3,357,202	-	-	-	-	-	3,357,202
Total operating expenses	9,476,790	-	-	-	-	-	9,476,790
Operating Income (Loss)	(114,323)	-	-	-	-	-	(114,323)
Non-Operating Revenues (Expenses):							
Interest income	187,573	70	31,358	-	367	3,420	222,788
Interest expense	(1,201,373)	-	-	-	-	-	(1,201,373)
Bond issuance costs	(554,760)	-	-	-	-	-	(554,760)
Unrealized gain (loss) on investments	-	-	10,872	21,792	-	-	32,664
Amortization	(15,265)	-	-	-	-	-	(15,265)
Total non-operating revenues (expenses)	(1,583,825)	70	42,230	21,792	367	3,420	(1,515,946)
Income (Loss) Before Capital Contributions and Transfers	(1,698,148)	70	42,230	21,792	367	3,420	(1,630,269)
Capital Contributions:							
Tap-in fees	629,120	-	-	-	-	-	629,120
Developer contribution revenue	29,000	-	-	-	-	-	29,000
Total capital contributions	658,120	-	-	-	-	-	658,120
Net Income (Loss) Before Transfers	(1,040,028)	70	42,230	21,792	367	3,420	(972,149)
Transfers:							
Transfers in from:							
Revenue Fund	-	1,341,708	-	-	731,265	9,583,676	11,656,649
Debt Service Fund	1,341,708	-	-	-	-	-	1,341,708
Capital Improvement and Redemption Fund	1,863,082	-	110,905	-	-	-	1,973,987
Bond Redemption and Improvement Fund	-	-	-	565,045	-	-	565,045
Transfers out to:					-		
Revenue Fund	-	(1,341,708)	-	(1,863,082)	-	-	(3,204,790)
Debt Service Fund	(1,341,708)	-	-	-	-	-	(1,341,708)
Debt Service Reserve Fund	(110,905)	-	-	-	-	-	(110,905)
Capital Improvement and Redemption Fund	-	-	-	-	(565,045)	-	(565,045)
Bond Redemption and Improvement Fund	(731,265)	-	-	-	-	-	(731,265)
Construction Fund	(9,583,676)	-	-	-	-	-	(9,583,676)
Net Income (Loss)	(9,602,792)	70	153,135	(1,276,245)	166,587	9,587,096	(972,149)
Net Position:							
Beginning of year	29,657,516	22	2,054,292	5,652,523	1,281,298	-	38,645,651
End of year	$ 20,054,724	$ 92	$ 2,207,427	$ 4,376,278	$ 1,447,885	$ 9,587,096	$ 37,673,502

NEW ISSUE – BOOK-ENTRY ONLY

RATINGS: **S&P: "AA" Stable Outlook (Insured Rating)**
S&P: "A" Stable Outlook (Underlying Rating)
(See "RATINGS" herein)

In the opinion of Bond Counsel, based upon an analysis of existing laws, regulations, rulings and court decisions, interest on the Series A Bonds (including, in the case of the Series A Bonds sold at an original issue discount, the difference between the initial offering price and par) is excluded from gross income for Federal income tax purposes. Bond Counsel is also of the opinion that interest on the Series A Bonds is not a specific item of tax preference under §57 of the Internal Revenue Code of 1986, as amended (the "Code") for purposes of Federal individual or corporate alternative minimum taxes. The Bonds, and the interest income therefrom, are free from taxation for purposes of personal income, corporate net income and personal property taxes within the Commonwealth of Pennsylvania. (See ***"TAX MATTERS"*** *herein.)*

The Authority has designated the Series A Bonds as "Qualified Tax-Exempt Obligations" pursuant to §265(b)(3) of the Code (relating to the deductibility of interest expense by certain financial institutions).

$11,320,000
BUTLER AREA SEWER AUTHORITY
(Butler County, Pennsylvania)
$9,995,000 Sewer Revenue Bonds, Series A of 2017
$1,325,000 Sewer Revenue Bonds, Series B of 2017 (Federally Taxable)

Dated: Date of Delivery
Principal Due: January 1, as shown on inside cover
Interest Payable: January 1 and July 1
First Interest Payment: January 1, 2018

PAYMENT OF PRINCIPAL AND INTEREST: The Sewer Revenue Bonds, Series A of 2017 (the "Series A Bonds") and the Sewer Revenue Bonds, Series B of 2017 (Federally Taxable) (the "Series B Bonds," and together with the Series A Bonds, the "Bonds"), in the aggregate principal amount of $11,320,000 (the "Bonds"), will be issued as fully registered bonds and, when issued, the Bonds will be registered in the name of Cede & Co., as registered owner and nominee for The Depository Trust Company ("DTC"), New York, New York. So long as Cede & Co. is the registered owner, reference herein to the registered owner of Bonds shall mean Cede & Co., and not the Beneficial Owners (as defined herein). DTC will act as securities depository of the Bonds, and purchases of beneficial ownership interests in the Bonds will be made in book-entry form only, in denominations of $5,000 or integral multiples thereof. Beneficial Owners will not receive certificates representing their interest in the Bonds. (See "BOOK-ENTRY ONLY SYSTEM" herein). Interest on the Bonds is payable initially on January 1, 2018 and semiannually thereafter on January 1 and July 1 of each year until the principal sum thereof is paid. Principal of, and premium, if any, on the Bonds will be paid by The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania (the "Trustee"). So long as Cede & Co. is the registered owner, the Trustee will pay principal of, and interest on, the Bonds to DTC, which will remit such principal and interest to its Direct or Indirect Participants (as defined herein), which will in turn remit such principal and interest to the Beneficial Owners of the Bonds, as more fully described herein. (See "BOOK-ENTRY ONLY SYSTEM" herein.) The Series A Bonds are subject to redemption prior to their stated maturities, as more fully described herein. (See "REDEMPTION OF BONDS" herein.)

SECURITY FOR THE BONDS: The Bonds will be secured under the provisions of a Trust Indenture, dated December 30, 2010, as previously amended and supplemented, and as further amended and supplemented by the Fourth Supplemental Trust Indenture dated October 25, 2017 (collectively, the "Indenture"), as more fully described herein. The Bonds shall be payable solely from the Pledged Revenues of the Authority, including the receipts and revenues derived from its Sewer System and from other moneys as may be made available for such purpose, as set forth in the Indenture.

The Authority has no taxing power. Neither the credit nor the taxing power of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof is pledged for the payment when due of the principal of, redemption premium, if any, and the interest on the Bonds; nor shall any of the Bonds be deemed to be obligations of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof, other than the Authority.

AUTHORIZATION FOR ISSUANCE: The Bonds are being issued in accordance with the Pennsylvania Municipality Authorities Act, as amended (the "Act"), and pursuant to both the Indenture and a Resolution duly adopted by the Authority on September 28, 2017 (the "Resolution").

CREDIT ENHANCEMENT: The scheduled payment of principal of and interest on the Bonds when due will be guaranteed under an insurance policy to be issued concurrently with the delivery of the Bonds by MUNICIPAL ASSURANCE CORP.

MUNICIPAL ASSURANCE CORP.
AN ASSURED GUARANTY COMPANY

MATURITIES, AMOUNTS, RATES AND PRICES/YIELDS
(As Shown on Inside Cover)

CONTINUING DISCLOSURE UNDERTAKING: *The Authority has agreed to provide, or cause to be provided, in a timely manner, certain information in accordance with the requirements of Rule 15c2-12, as promulgated under the Securities and Exchange Act of 1934, as amended and interpreted (the "Rule"). (See* "CONTINUING DISCLOSURE UNDERTAKING" *herein.)*

LEGAL APPROVALS: *The Bonds are offered when, as and if issued by the Authority and received by the Underwriter, subject to prior sale and subject to the receipt of the approving legal opinion to be issued by Dinsmore & Shohl LLP, Pittsburgh, Pennsylvania, Bond Counsel. Certain additional matters, as requested by Bond Counsel, will be passed upon for the Authority by its Solicitor, Dillon McCandless King Coulter & Graham, LLP, Butler, Pennsylvania. The Bonds are expected to be available for delivery on October 25, 2017 (the "Date of Delivery"), in New York, New York.*

PNC

$11,320,000
BUTLER AREA SEWER AUTHORITY
(Butler County, Pennsylvania)
$9,995,000 Sewer Revenue Bonds, Series A of 2017
$1,325,000 Sewer Revenue Bonds, Series B of 2017 (Federally Taxable)

Dated: Date of Delivery
Principal Due: January 1, as shown below
Interest Due: January 1 and July 1
First Interest Payment: January 1, 2018

MATURITY DATES, PRINCIPAL AMOUNTS, INTEREST RATES AND PRICES

$9,995,000 Sewer Revenue Bonds, Series A of 2017

Year (January 1)	Principal Amount	Interest Rate	Initial Offering Yield	Initial Offering Price	CUSIP[1]
2019	$ 55,000	2.000%	1.060%	101.101	123781LE4
2020	800,000	2.000%	1.280%	101.544	123781LF1
2021	815,000	2.000%	1.480%	101.610	123781LG9
2022	835,000	2.000%	1.680%	101.286	123781LH7
2023	850,000	2.000%	1.850% [2]	100.668	123781LJ3
2024	865,000	2.000%	2.030%	99.825	123781LK0
2025	885,000	2.000%	2.180%	98.807	123781LL8
2026	905,000	2.125%	2.330%	98.479	123781LM6
2027	925,000	2.250%	2.430%	98.524	123781LN4
2028	825,000	2.375%	2.600%	97.996	123781LP9
2029	605,000	2.500%	2.730%	97.794	123781LQ7
2032 [3]	1,630,000	3.000%	2.750% [2]	101.089	123781LR5

$1,325,000 Sewer Revenue Bonds, Series B of 2017 (Federally Taxable)

Year (January 1)	Principal Amount	Interest Rate	Initial Offering Yield	Initial Offering Price	CUSIP[1]
2018	$ 595,000	1.500%	1.500%	100.000	123781LS3
2019	730,000	1.800%	1.800%	100.000	123781LT1

[1] The above CUSIP (Committee on Uniform Securities Identification Procedures) numbers have been assigned by an organization not affiliated with the Authority or the Underwriter, and such parties are not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders and no representation is made as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such issue or the use of secondary market financial products. Neither the Authority nor the Underwriter has agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers set forth above.

[2] Based on the first optional redemption date of July 1, 2022.

[3] Term Bonds.

BUTLER AREA SEWER AUTHORITY
(Butler County, Pennsylvania)

100 Litman Road
Butler, Pennsylvania 16001
Telephone: (724) 282-1978
Fax: (724) 282-7656

BOARD OF DIRECTORS

Gerald S. Patterson, Jr. ..... Chairman
Cynthia S. McKnight ..... Vice Chairman
Paul F. Sybert ..... Secretary
Kenneth L. Henry ..... Treasurer
Edgar E. Hassler, Jr. ..... Asst. Secretary/Asst. Treasurer

ADMINISTRATION

Thomas D. Rockovich ..... Executive Director (through October 13, 2017)
Duane McKee ..... Executive Director (as of October 14, 2017)
M. John Schon ..... Operations Director
Ronata L. Lavorini, CPA ..... Finance Director

SOLICITOR

Dillon McCandless King Coulter & Graham, LLP
Butler, Pennsylvania

CONSULTING ENGINEER

Hatch Chester
Pittsburgh, Pennsylvania

TRUSTEE AND PAYING AGENT

The Bank of New York Mellon Trust Company, N.A.
Pittsburgh, Pennsylvania

BOND COUNSEL

Dinsmore & Shohl LLP
Pittsburgh, Pennsylvania

FINANCIAL ADVISOR

Susquehanna Group Advisors, Inc.
Harrisburg, Pennsylvania

UNDERWRITER

PNC Capital Markets LLC
Pittsburgh, Pennsylvania

No dealer, broker or any other person has been authorized by the Authority to give any information or make any representation, other than those contained in this Official Statement, and if given or made, such other information and representation must not be relied upon. This Official Statement does not constitute an offer to sell or the solicitation of any offer to buy, nor shall there be any sale of the Bonds in any jurisdiction in which it is unlawful to make such offer, solicitation or sale. The information set forth herein has been obtained from the Authority and from other sources which are believed to be reliable, but the Authority does not guarantee the accuracy or completeness of information from sources other than the Authority. PNC Capital Markets LLC, Pittsburgh, Pennsylvania, as the Underwriter (the "Underwriter"), has provided the following sentence for inclusion in this Official Statement. The Underwriter has reviewed the information included in this Official Statement in accordance with and as part of its responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriter does not guaranty the accuracy or completeness of such information, which, has been obtained from either the Authority or from sources other than the Authority. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement, nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in any of the information set forth herein since the date hereof.

IN CONNECTION WITH THE OFFERING OF THE BONDS, THE UNDERWRITER MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF SUCH BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

THE BONDS HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION UNDER THE SECURITIES ACT OF 1933, AS AMENDED, NOR HAS THE INDENTURE BEEN QUALIFIED UNDER THE TRUST INDENTURE ACT OF 1939, AS AMENDED, IN RELIANCE UPON EXEMPTIONS CONTAINED IN SUCH ACTS. THE REGISTRATION OR QUALIFICATION OF THE BONDS OR THE INDENTURE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE SECURITIES LAWS OF CERTAIN STATES, IF ANY, IN WHICH THE BONDS HAVE BEEN REGISTERED OR QUALIFIED AND THE EXEMPTION FROM REGISTRATION OR QUALIFICATION IN CERTAIN OTHER STATES CANNOT BE REGARDED AS A RECOMMENDATION THEREOF. NEITHER THESE STATES NOR ANY OF THEIR AGENCIES HAVE PASSED UPON THE MERITS OF THE BONDS OR THE ACCURACY OR COMPLETENESS OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.

Municipal Assurance Corp. ("MAC") makes no representation regarding the Bonds or the advisability of investing in the Bonds. In addition, MAC has not independently verified, makes no representation regarding, and does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding MAC supplied by MAC and presented under the heading "BOND INSURANCE" and "APPENDIX D - Specimen Municipal Bond Insurance Policy".

The Authority deems this Official Statement to be final for the purpose of SEC Rule 15c2-12(b)(1).

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This Table of Contents is for convenience of reference only and does not list all of the subjects in this Official Statement. In all instances, references should be made of the complete Official Statement to determine the subjects discussed in it. The order and placement of material in this Official Statement, including the Appendices, are not to be deemed a determination of relevance, materiality or importance, and this Official Statement, including the Appendices, must be considered in its entirety.

SUMMARY PAGE

This Summary Statement is subject in all respects to more complete information in this Official Statement. No person is authorized to detach this Summary Statement from this Official Statement or otherwise use it without the entire Official Statement. A full review of the entire Official Statement should be made by potential Bond purchasers.

Issuer.....	Butler Area Sewer Authority, Butler County, Pennsylvania (the "Authority")
Bonds	The Authority's Sewer Revenue Bonds, Series A of 2017 (the "Series A Bonds") and Sewer Revenue Bonds, Series B of 2017 (Federally Taxable) (the "Series B Bonds," and together with the Series A Bonds, the "Bonds"), in the aggregate principal amount of $11,320,000 (the "Bonds"). The Bonds are initially dated the Date of Delivery, and will mature as shown on the inside of the Cover Page of this Official Statement. Interest on the Bonds will begin to accrue on the Date of Delivery, and is payable initially on January 1, 2018, and on each January 1 and July 1 thereafter. (See "THE BONDS" herein.)
Redemption	The Series A Bonds are subject to redemption prior to maturity. The Series B Bonds are <u>not</u> subject to redemption prior to maturity. See "REDEMPTION PROVISIONS" herein.
Form	Book-Entry Only.
Application of Proceeds.....	Proceeds of the Bonds are to be used as follows: (i) to refund certain outstanding loans from the Pennsylvania Infrastructure Investment Authority ("Pennvest") (the "Refunding Project"), as further described herein; (ii) to purchase a surety policy for deposit into the Debt Service Reserve Fund established pursuant to the Indenture; and (iii) to pay related costs and expenses, including the costs of issuing the Bonds.
Security.....	The Bonds will be secured under the provisions of the Indenture. The principal of, redemption premium, if any, and the interest on the Bonds shall be payable solely from the Pledged Revenues of the Authority derived from its Sewer System, and from other moneys as may be made available for such purpose, as set forth in the Indenture. **The Authority has no taxing power. Neither the credit nor the taxing power of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof is pledged for the payment when due of the principal of, redemption premium, if any, and the interest on the Bonds; nor shall any of the Bonds be deemed to be obligations of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof, other than the Authority, as described herein.**

Credit Enhancement.....	The scheduled payment of principal of and interest on the Bonds when due will be guaranteed under an insurance policy to be issued concurrently with the delivery of the Bonds by Municipal Assurance Corp. ("MAC"). (See "BOND INSURANCE" herein.)
Rating	The Bonds are expected to receive a credit rating of "AA" (Stable Outlook) from S&P Global Ratings ("S&P"), with the understanding that the above-described insurance policy will be issued at the time of settlement of the Bonds. S&P has also assigned its "A" (Stable Outlook) underlying rating to the Bonds. (See "RATINGS" herein.)
Continuing Disclosure Undertaking	The Authority has agreed to provide, or cause to be provided, in a timely manner, certain information in accordance with the requirements of Rule 15c2-12, as promulgated under the Securities and Exchange Act of 1934, as amended and interpreted (the "Rule"). (See "CONTINUING DISCLOSURE UNDERTAKING" herein.)

OFFICIAL STATEMENT

$11,320,000
BUTLER AREA SEWER AUTHORITY
(Butler County, Pennsylvania)
$9,995,000 Sewer Revenue Bonds, Series A of 2017
$1,325,000 Sewer Revenue Bonds, Series B of 2017 (Federally Taxable)

INTRODUCTION

This Official Statement, including the Cover Page hereof and the Appendices hereto, is furnished in connection with the offering by the Butler Area Sewer Authority, Butler County, Pennsylvania (the "Authority"), of its Sewer Revenue Bonds, Series A of 2017 (the "Series A Bonds") and Sewer Revenue Bonds, Series B of 2017 (Federally Taxable) (the "Series B Bonds," and together with the Series A Bonds, the "Bonds"), in the aggregate principal amount of $11,320,000. The Bonds are authorized to be issued pursuant to the provisions of the Pennsylvania Municipality Authorities Act, as amended (the "Act") and pursuant to the provisions of a Trust Indenture, dated December 30, 2010, as amended and supplemented by the First Supplemental Trust Indenture dated June 6, 2013, as further amended and supplemented by the Second Supplemental Trust Indenture dated November 12, 2015, as further amended and supplemented by the Third Supplemental Trust Indenture dated February 25, 2016, and as further amended and supplemented by the Fourth Supplemental Trust Indenture dated October 25, 2017 (collectively, the "Indenture"), entered into by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as Trustee (the "Trustee") as more fully described herein.

The Bonds are secured pursuant to the provisions of the Indenture and are deemed to be special, limited obligations of the Authority. The prompt payment when due of the principal of, redemption premium, if any, and the interest on the Bonds is payable solely from the Pledged Revenues of the Authority derived from the operation of its Sewer System, and from other moneys as may be made available for such purpose, as set forth in the Indenture. (See "SECURITY FOR THE BONDS" and "SUMMARY OF CERTAIN PROVISIONS OF THE TRUST INDENTURE" herein.)

The Authority has no taxing power. Neither the credit nor the taxing power of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof is pledged for the payment when due of the principal of, redemption premium, if any, and the interest on the Bonds; nor shall any of the Bonds be deemed to be obligations of the United States of America, the Commonwealth of Pennsylvania, or any political subdivision thereof, other than the Authority.

The proceeds to be derived by the Authority from the issuance and sale of the Bonds will be used: (i) to refund certain outstanding Pennvest loans (the "Refunding Project"), as further described herein; (ii) to purchase a surety policy for deposit into the Debt Service Reserve Fund established pursuant to the Indenture; and (iii) to pay related costs and expenses, including the costs of issuing the Bonds. (See "PURPOSE OF THE ISSUE" and "ESTIMATED SOURCES AND USES OF FUNDS".)

The scheduled payment of principal of and interest on the Bonds when due will be guaranteed under an insurance policy to be issued concurrently with the delivery of the Bonds by Municipal Assurance Corp. ("MAC"). (See "BOND INSURANCE" herein.)

THE BONDS

The aggregate principal amount of the Bonds is $11,320,000. The Bonds are initially dated the Date of Delivery, bear interest at the rates per annum, and mature in the amounts and on the dates shown on the inside of the Cover Page of this Official Statement. Interest is payable on January 1 and July 1 of each year ("Interest Payment Dates"), commencing January 1, 2018. Interest on each Bond shall be payable from the Interest Payment Date next preceding the date of authentication of such bond unless (a) such Bond is authenticated as of an Interest Payment

Date, in which event it will bear interest from said Interest Payment Date, or (b) such Bond is registered and authenticated after a Record Date (as such term is hereinafter defined) and before the next succeeding Interest Payment Date, in which event such Bonds shall bear interest from such Interest Payment Date, or (c) such Bond is authenticated on or prior to the Record Date next preceding January 1, 2018, in which event such Bond will bear interest from the Date of Delivery, or (d) as shown on the records of the Trustee, interest on such Bond shall be in default, in which event such Bond shall bear interest from the date to which interest was last paid on such Bond, or, if no interest has been paid, from the Date of Delivery.

In case an Event of Default, as defined in the Indenture, shall occur, the principal of all bonds, including the Bonds and any Additional Bonds then outstanding under the Indenture, may be declared or may become due and payable upon the conditions, in the manner with the effect provided in the Indenture. (See "SECURITY FOR THE BONDS" and "SUMMARY OF CERTAIN PROVISIONS OF THE TRUST INDENTURE" herein.)

The Bonds are issued only as fully registered bonds in the denomination of $5,000 and integral multiples thereof. The principal of each of the Bonds is payable to the registered owner thereof, when due, upon surrender of such Bond at the designated corporate trust office of the Trustee or its designee. Interest on each of the Bonds is payable by check mailed to the person in whose name such Bond is registered at the address of such person appearing on the registration books maintained by or on behalf of the Authority at the close of business on the fifteenth day of the month (whether or not a business day) next preceding each Interest Payment Date (the "Record Date"), irrespective of any transfer or exchange of such Bond subsequent to such Record Date and prior to such Interest Payment Date, unless the Authority shall default in the payment of interest due on such Interest Payment Date. In the event of any such default, such defaulted interest will be payable to the person in whose name such Bond is registered at the close of business on a special record date for the payment of such defaulted interest established by notice mailed by or on behalf of the Authority to the registered holders of Bonds not less than fifteen days preceding such special record date. Such notice shall be mailed to the person in whose name the Bond is registered at the close of business on the fifth day preceding the date of mailing.

Registration, Transfer and Exchange of Bonds

The Trustee is responsible for maintaining the books of the Authority pertaining to the registration of ownership of each Bond. The ownership of Bonds may be transferred upon the registration books upon delivery to the Trustee of such Bonds, accompanied by a written instrument or instruments of transfer in form and with guaranty of signature satisfactory to the Trustee or its designee, duly executed by the registered holder of the Bonds transferred or his duly authorized attorney, subject to such reasonable regulations as the Authority may prescribe, and upon payment of any taxes or other governmental charges incident to such transfer. No transfer of any Bond will be effective until entered on the registration books.

In all cases of the transfer of a Bond, the Trustee or its designee will enter the transfer of ownership in the registration books and will authenticate and deliver in the name of the transferee or transferees a new fully registered Bond or Bonds of authorized denominations of the same maturity and interest rate for the aggregate principal amount which the registered holder is entitled to receive at the earliest practicable time in accordance with the provisions of the Indenture.

Bonds may, at the option of the holder thereof and upon presentation thereof to the Trustee or its designee with satisfactory instructions, be exchanged for any equal aggregate principal amount of Bonds of the same maturity and interest rate, in any of the authorized denominations, upon payment of any tax, fee or other governmental charge required to be paid with respect to such exchange.

Neither the Authority nor the Trustee or its designee shall be required to register the transfer of or to exchange any Bonds then considered for redemption, during a period beginning at the close of business on the fifteenth day next preceding any date of selection of Bonds to be redeemed and ending at the close of business on the day on which the applicable notice of redemption is mailed, or, to register the transfer of or to exchange any portion of any Bond selected for redemption in whole or in part until after the redemption date.

Trustee, Transfer Agent, Bond Registrar, and Sinking Fund Depository

The obligations and duties of the Trustee or its designee are described in the Indenture. The Trustee has undertaken only those obligations and duties which are expressly set out in said document or required by the same. The Trustee has not independently passed upon the validity of the Bonds, the security therefore, the adequacy of the provisions for payment thereof, or the tax-exempt status of the interest on the Bonds. The Trustee is not required to take notice or be deemed to have notice of any default under the Indenture, except for failure by the Authority to make or cause to be made any of the payments required to be made for the principal of the Bonds when due at maturity or earlier redemption, or the interest thereon. (See "THE TRUSTEE" herein.) The Trustee may designate an agent for purposes of exercising the duties and functions described herein.

BOOK-ENTRY ONLY SYSTEM

The information in this section has been obtained from materials provided by DTC for such purpose. The Authority (herein referred to as the "Issuer") does not guaranty the accuracy or completeness of such information and such information is not to be construed as a representation of the Authority.

The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for the Bonds. The Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or in such other name as may be requested by an authorized representative of DTC. One fully-registered certificate for the Bonds of each maturity will be issued in principal amount equal to the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants (the "Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (the "Indirect Participants"). DTC has a Standard & Poor's rating of "AA+." The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond (the "Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owners entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of the Beneficial Owners. *Beneficial Owners will not receive certificates representing their ownership interests in the Bonds except in the event that use of the book-entry system for the Bonds is discontinued.*

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the Bonds, such as defaults, and proposed amendments to the security documents. For example, Beneficial Owners of Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices of Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Trustee and request that copies of the notices be provided directly to them.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's Procedures. Under its usual procedures, DTC mails on Omnibus Proxy to the Issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

So long as the Bonds are held by DTC under a book-entry system, payments of the principal of and interest on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Issuer or the Trustee on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participants and not of DTC, the Trustee or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of the principal of and interest on the Bonds and, if applicable, any premium payable upon redemption thereof to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Issuer or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue its services as a securities depository for the Bonds at any time by giving reasonable notice to the Issuer or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, Bonds are required to be printed and delivered.

The Authority may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, Bond certificates will be printed and delivered.

So long as a nominee of DTC is the registered owner of the Bonds, references herein to the Bondholders or the holders or owners of the Bonds shall mean DTC and shall not mean the Beneficial Owners of the Bonds. The Authority and the Trustee will recognize DTC or its nominee as the holder of all of the Bonds for all purposes, including the payment of the principal or redemption price of and interest on the Bonds, as well as the giving of notices and any consent or directive required or permitted to be given to or on behalf of the Bondholders under the Indenture. Neither the Authority nor the Trustee will have any responsibility or obligation to Participants of Beneficial Owners with respect to payments or notices to Bondholders.

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO ANY DTC PARTICIPANT, INDIRECT PARTICIPANT OR BENEFICIAL OWNER OR ANY OTHER PERSON WITH RESPECT TO: (1) THE BONDS; (2) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC OR ANY DTC PARTICIPANT OR INDIRECT PARTICIPANT; (3) THE PAYMENT

BY DTC OR ANY DTC PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT DUE TO ANY BENEFICIAL OWNER IN RESPECT OF THE PRINCIPAL OR REDEMPTION PRICE OF OR INTEREST ON THE BONDS; (4) THE DELIVERY TO ANY BENEFICIAL OWNER BY DTC OR ANY DTC PARTICIPANT OR INDIRECT PARTICIPANT OF ANY NOTICE WHICH IS REQUIRED OR PERMITTED UNDER THE TERMS OF THE INDENTURE TO BE GIVEN TO BONDHOLDERS; (5) THE SELECTION OF THE BENEFICIAL OWNERS TO RECEIVE PAYMENT IN THE EVENT OF ANY PARTIAL REDEMPTION OF THE BONDS; OR (6) ANY OTHER ACTION TAKEN BY DTC AS BONDHOLDER.

The Authority and the Trustee cannot give any assurances that DTC or the Participants will distribute payments of the principal of and interest on the Bonds paid to DTC or its nominee, as the registered owner of the Bonds, or any notice, to the Beneficial Owners or that they will do so on a timely basis or that DTC will serve and act in the manner described in this Official Statement.

REDEMPTION OF BONDS

Notice of Redemption

When required or directed to redeem Bonds, the Trustee or its designee shall cause notice of the redemption to be given by first-class mail, postage pre-paid, to all registered holders of Bonds to be redeemed at their registered addresses not less than thirty (30) days nor more than sixty (60) days prior to the redemption date. Any such notice shall be given in the name of the Authority, shall identify the Bonds to be redeemed (and, in the case of a partial redemption of any Bonds, the respective principal amounts thereof to be redeemed), shall specify the redemption date and the redemption price and shall state that on the redemption date the Bonds called for redemption will be payable at a designated office of the Trustee or its designee and that from that date interest will cease to accrue on the Bonds or portions thereof to be redeemed. Failure to mail any notice or any defect in the mailed notice or in the mailing thereof shall not affect the validity of the proceedings for the redemption of Bonds with respect to which no such failure or defect occurred. The Trustee may use CUSIP numbers in notices of redemption as a convenience to holders of the Bonds, provided that such notice shall state that no representation is made as to the correctness of such numbers either as printed on the Bonds or as contained in any notice of redemption and that reliance may be placed only on the serial numbers of the Bonds.

If the date for the payment of the principal of, interest on, or redemption premium, if any, on any of the Bonds shall be a Saturday, Sunday, legal holiday, or a day on which banking institutions in the municipality where the designated corporate trust office of the Trustee or its designee is located are authorized by law or executive order to close, then the date for payment of the principal, redemption premium, if any, and interest shall be the next succeeding day which is not a Saturday, Sunday, legal holiday, or a day on which such banking institutions in the Commonwealth are authorized to close, and payment on such date shall have the same force and effect as if made on the nominal date of payment.

Manner of Redemption

Portions of any Bond of a denomination larger than $5,000 may be redeemed, but only in the principal amount of $5,000 or any integral multiple thereof. For the purpose of redemption, each Bond shall be treated as representing the number of Bonds that is equal to the principal amount thereof divided by $5,000, each $5,000 portion of such Bond being subject to redemption. Upon surrender of any Bond for redemption of a portion only, the Trustee or its designee shall authenticate and deliver to the owner thereof a new Bond or Bonds of the same series, maturity date and interest rate, in authorized denominations in an aggregate principal amount equal to the unredeemed portion of the Bond surrendered.

Mandatory Redemption

The Series A Bonds stated to mature on January 1, 2032 are subject to mandatory redemption, in part, prior to maturity, by lot within a maturity, at a redemption price equal to 100% of the principal amount thereof, together with accrued interest thereon, to the dates fixed for redemption, on January 1 of the years and in the amounts set forth in the following tables:

The Series A Bonds Stated
to Mature on January 1, 2032

Year	Principal Amount
2030	$ 620,000
2031	640,000
2032 [(1)]	370,000

[(1)] Upon maturity.

Optional Redemption

In the manner and upon the terms and conditions provided in the Indenture, the Series A Bonds stated to mature on or after January 1, 2023 are subject to redemption prior to maturity at the option of the Authority either as a whole, or in part, at any time on or after July 1, 2022 and, if in part within a maturity by lot, at a redemption price equal to 100% of the principal amount thereof, together with accrued interest to the date fixed for redemption.

The Series B Bonds are not subject to redemption at the option of the Authority prior to maturity.

SECURITY FOR THE BONDS

General

No recourse shall be had for the payment of the principal of or the interest on any Bond, or for any claim based thereon or in the Indenture against any member of the Authority, or any officer or agent or employee of the Authority, past, present or future or of any successor body, as such, either directly or through the Authority or any such successor body, under any constitutional provision, statute or rule of law, or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, and all such liability of such members of the Authority, officers, agents or employees is released as a condition of and as consideration for the issuance of the Bonds.

The Indenture

The Bonds will be issued under and secured by the Indenture. Said Indenture provides for the issuance of bonds in addition to the Bonds under the limitations therein set forth, and defines the duties and responsibilities of the parties with respect to the expenditure of the proceeds of the Bonds, the maintenance and operation of the Sewer System, the conservation and application of all Funds of the Authority created pursuant to the Indenture, the security for moneys on deposit, the provisions relating to reserves, the provisions relating to the redemption of the Bonds, and the provisions for the payment of the principal of, maturity value of, redemption premium, if any, and the interest on the Bonds. The Bonds are equally and ratably secured, except as otherwise provided in the Indenture, with bonds of other series which may be issued and outstanding from time to time under the Indenture.

The principal of, redemption premium, if any, and the interest on the Bonds and any other bonds outstanding under the Indenture, shall be equally and ratably secured by a first lien on, together with a pledge and assignment under the Indenture, of the Pledged Revenues of the Authority, including receipts and revenues derived from the operation of its Sewer System and from other moneys as may be made available for such purpose, as set forth in the Indenture. Revenues available to pay debt service on the Bonds when due will be derived by the Authority from the operation of the Sewer System after payment of operation and maintenance expenses and the establishment of reserves for such purposes.

Pursuant to the provisions of the Indenture, the Authority covenants, inter alia, to pay all amounts due on the Bonds; not to assent to the extension of time for such payment; and to charge rates sufficient to collect in each year net revenues equal to 110% of the annual debt service requirements on all bonds outstanding under the Indenture.

The Authority further covenants that if, at any time, the Pledged Revenues shall not be sufficient to enable the Authority to comply with the above-described provisions of the Indenture, the Authority will promptly revise its schedule of rates and other charges so that it will be in compliance with the provisions of the Indenture. Any deficiencies in transfers of funds required to be made pursuant to the provisions of the Indenture will be remedied before the end of the next ensuing fiscal year.

Prior to the adoption of any revision of sewer charges, all computations and estimations upon which such revisions shall be based shall be reviewed and approved by the Consulting Engineer to the Authority, which is currently Hatch Chester, Pittsburgh, Pennsylvania (the "Consulting Engineer"). Forthwith, upon the adoption of any revised sewer rates and other charges, the Authority shall cause certified copies thereof to be filed with both the Trustee and the Consulting Engineer.

(See "SUMMARY OF CERTAIN PROVISIONS OF THE TRUST INDENTURE" and "SCHEDULE OF ANNUAL DEBT SERVICE OBLIGATIONS" herein.)

Bondholder Rights and Remedies

Upon the happening and continuance of any event of default specified in the Indenture, then and in every such case the owners of twenty-five percent (25%) in aggregate principal amount of the bonds then outstanding, by instrument or instruments filed in the office of the Recorder of Deeds of the County in which the Sewer System is situate, and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the bond owners. Should any event of default specified in the Indenture occur and continue, then such trustee, or the Trustee hereunder may, and upon written request of the owners of twenty-five percent (25%) in principal amount of the bonds then outstanding, must, by notice in writing delivered to the Authority, declare the principal of all bonds then outstanding to be due and payable immediately, and upon such declaration the principal, together with interest accrued thereon, will become due and payable immediately, at the place of payment provided therein, anything in the Indenture or in the bonds to the contrary notwithstanding.

The above provisions, however, are subject to the condition that if, after the principal of the bonds has been so declared to be due and payable, all arrears of interest, if any, upon the bonds (with interest on overdue installments of interest at the rate of interest specified in the bonds, so far as the same may be legally enforceable) is paid by the Authority, and the Authority also performs all other duties in respect of which it may have been in default hereunder, and has paid the reasonable charges of the Trustee and its counsel and of the owners of the bonds, including appropriate surety bond fees and reasonable attorney's fees paid or incurred, then, in every such case, the owners of a majority in principal amount of the bonds then outstanding, by written notice to the Authority and to the Trustee, may waive such default and its consequences and such waiver will be binding upon the Trustee and upon all owners of bonds issued hereunder; but no such waiver will extend to or affect any subsequent default or impair any right or remedy consequent thereon.

Whenever in this subsection the word "Trustee" is used, it means and includes any trustee appointed by an instrument or instruments signed by owners of twenty-five percent (25%) in aggregate principal amount of the bonds outstanding and filed in the office of the Recorder of Deeds of the County in which the Sewer System is situated, as well as the Trustee hereunder.

BOND INSURANCE

Bond Insurance Policy

Concurrently with the issuance of the Bonds, Municipal Assurance Corp. ("MAC") will issue its Municipal Bond Insurance Policy for the Bonds (the "Policy"). The Policy guarantees the scheduled payment of principal of and interest on the Bonds when due as set forth in the form of the Policy included as Appendix D to this Official Statement.

The Policy is not covered by any insurance security or guaranty fund established under New York or Connecticut insurance law.

Municipal Assurance Corp.

MAC is a New York domiciled financial guaranty insurance company and an indirect subsidiary of Assured Guaranty Ltd. ("AGL"), a Bermuda-based holding company whose shares are publicly traded and are listed on the New York Stock Exchange under the symbol "AGO". AGL, through its operating subsidiaries, provides credit enhancement products to the U.S. and global public finance, infrastructure and structured finance markets. Neither AGL nor any of the shareholders or affiliates of AGL, other than MAC, is obligated to pay any debts of MAC or any claims under any insurance policy issued by MAC.

MAC is wholly owned by Municipal Assurance Holdings Inc., which, in turn, is owned 61% by Assured Guaranty Municipal Corp. and 39% by Assured Guaranty Corp.

MAC's financial strength is rated "AA" (stable outlook) by S&P Global Ratings, a business unit of Standard & Poor's Financial Services LLC ("S&P") and "AA+" (stable outlook) by Kroll Bond Rating Agency, Inc. ("KBRA"). Each rating of MAC should be evaluated independently. An explanation of the significance of the above ratings may be obtained from the applicable rating agency. The above ratings are not recommendations to buy, sell or hold any security, and such ratings are subject to revision or withdrawal at any time by the rating agencies, including withdrawal initiated at the request of MAC in its sole discretion. In addition, the rating agencies may at any time change MAC's long-term rating outlooks or place such ratings on a watch list for possible downgrade in the near term. Any downward revision or withdrawal of any of the above ratings, the assignment of a negative outlook to such ratings or the placement of such ratings on a negative watch list may have an adverse effect on the market price of any security guaranteed by MAC. MAC only guarantees scheduled principal and scheduled interest payments payable by the issuer of bonds insured by MAC on the date(s) when such amounts were initially scheduled to become due and payable (subject to and in accordance with the terms of the relevant insurance policy), and does not guarantee the market price or liquidity of the securities it insures, nor does it guarantee that the ratings on such securities will not be revised or withdrawn.

Current Financial Strength Ratings

On July 14, 2017, KBRA issued a financial guaranty surveillance report in which it affirmed the insurance financial strength rating of "AA+", with a Stable Outlook, of MAC. MAC can give no assurance as to any further ratings action that KBRA may take.

On June 26, 2017, S&P issued a research update report in which it affirmed MAC's financial strength rating of "AA" (stable outlook). MAC can give no assurance as to any further ratings action that S&P may take.

For more information regarding MAC's financial strength ratings and the risks relating thereto, see AGL's Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

Capitalization of MAC

As of June 30, 2017, MAC's policyholders' surplus and contingency reserve were approximately $759 million and its unearned premium reserve was approximately $294 million, in each case, determined in accordance with statutory accounting principles.

Incorporation of Certain Documents by Reference

Portions of the following documents filed by AGL with the Securities and Exchange Commission (the "SEC") that relate to MAC are incorporated by reference into this Official Statement and shall be deemed to be a part hereof:

(i) the Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (filed by AGL with the SEC on February 24, 2017);

(ii) the Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017 (filed by AGL with the SEC on May 5, 2017); and

(iii) the Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2017 (filed by AGL with the SEC on August 3, 2017).

All financial statements of MAC and all other information relating to MAC included in, or as exhibits to, documents filed by AGL with the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, excluding Current Reports or portions thereof "furnished" under Item 2.02 or Item 7.01 of Form 8-K, after the filing of the last document referred to above and before the termination of the offering of the Bonds shall be deemed incorporated by reference into this Official Statement and to be a part hereof from the respective dates of filing such documents. Copies of materials incorporated by reference are available over the internet at the SEC's website at http://www.sec.gov, at AGL's website at http://www.assuredguaranty.com, or will be provided upon request to Municipal Assurance Corp.: 1633 Broadway, New York, New York 10019, Attention: Communications Department (telephone (212) 974-0100). Except for the information referred to above, no information available on or through AGL's website shall be deemed to be part of or incorporated in this Official Statement.

Any information regarding MAC included herein under the caption "BOND INSURANCE – Municipal Assurance Corp." or included in a document incorporated by reference herein (collectively, the "MAC Information") shall be modified or superseded to the extent that any subsequently included MAC Information (either directly or through incorporation by reference) modifies or supersedes such previously included MAC Information. Any MAC Information so modified or superseded shall not constitute a part of this Official Statement, except as so modified or superseded.

Miscellaneous Matters

MAC makes no representation regarding the Bonds or the advisability of investing in the Bonds. In addition, MAC has not independently verified, makes no representation regarding, and does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding MAC supplied by MAC and presented under the heading "BOND INSURANCE".

BOND INSURANCE RISK FACTORS

In the event of a default in the payment of principal or interest with respect to the Bonds when any such payment becomes due, any owner of the Bonds will have a claim under the Policy for such payment. However, in the event of any acceleration of the due date of such principal by reason of mandatory or optional redemption or resulting from any default or otherwise, other than any advancement of maturity pursuant to a mandatory sinking fund payment, any payments to be made pursuant to the Policy will be made in such amounts and at such times as such payments would have been due had there not been any such acceleration. In addition, the Policy does not insure the payment of any redemption premium. To the extent that any payment of principal and interest by the Authority in connection with a mandatory or optional prepayment of the Bonds is recovered by the Authority from any owner of the Bonds as a voidable preference under applicable bankruptcy law, such payments are covered by the Policy. However, such payments will be made by MAC at such times and in such amounts as such payments would have been due had there been no such prepayment by the Authority, unless MAC chooses to pay such amounts at an earlier date.

Under most circumstances, any default in the payment of principal and interest does not accelerate the obligations of MAC without its consent. MAC may direct, and must consent to, any remedies that the Trustee exercises following such a default and MAC's consent may be required in connection with amendments to the Indenture in those circumstances.

In the event that MAC is unable to make any payments of principal and interest as such payments become due under the Policy, the Bonds will be payable solely from the moneys received by the Trustee pursuant to the Indenture. In the event that MAC becomes obligated to make payments with respect to the Bonds, no assurance is given that such event will not adversely affect the market price of the Bonds or the marketability (liquidity) for the Bonds.

The long-term ratings on the Bonds are dependent in part on the financial strength of MAC and its claims paying ability. MAC's financial strength and claims paying ability are predicated upon a number of factors that could change over time. No assurance is given that the long-term ratings of MAC and, therefore, the ratings on the Bonds insured will not be subject to downgrade, and such event could adversely affect the market price of the Bonds or the marketability (liquidity) for the Bonds. See "RATINGS" herein.

The obligations of MAC under the Policy are general obligations of MAC and, upon an event of default by MAC, the remedies available to the Trustee may be limited by applicable bankruptcy law or other similar laws related to the insolvency of entities like MAC.

Neither the Authority nor the Underwriter has made an independent investigation into the claims paying ability of MAC and no assurance or representation regarding the financial strength or projected financial strength of MAC is given. Thus, when making an investment decision, potential investors should carefully consider the ability of the Authority to pay principal and interest on the Bonds and the claims paying ability of MAC, particularly over the life of their investment. See "BOND INSURANCE" herein for further information provided by MAC with respect to itself and the Policy, which includes further instructions for obtaining current financial information concerning MAC.

PURPOSE OF THE ISSUE

The proceeds to be derived by the Authority from the issuance and sale of the Bonds will be used: (i) to refund certain outstanding Pennvest loans (the "Refunding Project"), as further described herein; (ii) to purchase a surety policy for deposit into the Debt Service Reserve Fund established pursuant to the Indenture; and (iii) to pay related costs and expenses, including the costs of issuing the Bonds.

See "ESTIMATED SOURCES AND USES OF FUNDS" herein.

Refunding Project

As authorized by the Indenture, upon settlement for the Bonds, a portion of the proceeds derived from the sale of the Bonds will be used to refund, on a current refunding basis, the Authority's (i) promissory note to Pennvest dated February 22, 2006 (the "Pennvest Note #71317"); (ii) promissory note to Pennvest dated September 8, 2009 (the "Pennvest Note #71364"); (iii) and promissory note to Pennvest dated February 9, 2011 (the "Pennvest Note #75237," and together with the Pennvest Note #71317 and Pennvest Note #71364, the "Refunded Pennvest Notes). On October 25, 2017, the Paying Agent will transfer sufficient monies to Pennvest to (i) pay the interest on the Refunded Pennvest Notes to be refunded on October 25, 2017; and (ii) redeem the Refunded Pennvest Notes, at 100% of the principal amount thereof, on October 25, 2017.

ESTIMATED SOURCES AND USES OF FUNDS

Sources of Funds	Series A Bonds	Series B Bonds	Total
Par Amount of Bonds	$ 9,995,000.00	$ 1,325,000.00	$ 11,320,000.00
Less: Net Original Issue Discount	(9,123.30)	-	(9,123.30)
Total Sources	$ 9,985,876.70	$ 1,325,000.00	$ 11,310,876.70
Uses			
Discharge of Refunded Pennvest Notes	$ 9,841,411.79	$ 1,305,831.33	$ 11,147,243.12
Underwriting	28,485.75	3,776.25	32,262.00
Costs of Issuance [1]	115,979.16	15,392.42	131,371.58
Total Uses	$ 9,985,876.70	$ 1,325,000.00	$ 11,310,876.70

[1] Includes municipal bond insurance premium, debt service reserve fund surety bond premium, and all legal, financial advisory, printing, rating agency, trustee, and any other costs associated with the issuance of the Bonds.

SCHEDULE OF ANNUAL DEBT SERVICE OBLIGATIONS

	Existing Debt Service Requirements		Sewer Revenue Bonds, Series A of 2017			Sewer Revenue Bonds, Series B of 2017 (Federally Taxable)			
Period Ending July 31	Pennvest Loan	Outstanding Bonds	Principal	Interest	Total	Principal	Interest	Total	Aggregate Annual Debt Service
2018	$ 771,310	$ 1,790,154		$ 154,271	$ 154,271	$ 595,000	$10,615	$ 605,615	$ 3,579,444
2019	775,116	1,774,669	$ 55,000	225,213	280,213	730,000	6,570	736,570	3,566,567
2020	775,116	1,781,096	800,000	216,663	1,016,663				3,572,875
2021	775,116	1,770,296	815,000	200,513	1,015,513				3,560,925
2022	775,116	1,773,996	835,000	184,013	1,019,013				3,568,125
2023	775,116	1,778,690	850,000	167,163	1,017,163				3,570,969
2024	775,116	1,777,675	865,000	150,013	1,015,013				3,567,804
2025	775,116	1,795,375	885,000	132,513	1,017,513				3,588,004
2026	775,116	1,841,325	905,000	114,047	1,019,047				3,635,488
2027	775,116	1,834,250	925,000	94,025	1,019,025				3,628,391
2028	775,116	1,975,113	825,000	73,822	898,822				3,649,051
2029	775,116	2,240,255	605,000	56,463	661,463				3,676,834
2030	775,116	2,245,255	620,000	39,600	659,600				3,679,971
2031	775,116	2,355,305	640,000	20,700	660,700				3,791,121
2032	775,116	2,783,880	370,000	5,550	375,550				3,934,546
2033	129,185	3,513,605							3,642,790
2034		4,128,830							4,128,830
2035		583,205							583,205
2036		584,023							584,023
2037		583,423							583,423
2038		582,335							582,335
2039		585,760							585,760
2040		582,740							582,740
2041		584,210							584,210
Total [1]	$11,752,120	$41,245,464	$9,995,000	$1,834,565	$11,829,565	$1,325,000	$17,185	$1,342,185	$66,427,428

[1] Totals may not add due to rounding.

FUTURE FINANCING

The Authority does not anticipate the need for any additional non-refunding, long-term financing for capital projects of the Authority within the next five years.

SUMMARY OF CERTAIN PROVISIONS OF THE TRUST INDENTURE

The Bonds are to be issued by the Authority under a Trust Indenture, dated as of December 30, 2010, as amended and supplemented by the First Supplemental Trust Indenture dated June 6, 2013, as further amended and supplemented by the Second Supplemental Trust Indenture dated November 12, 2015, as further amended and supplemented by the Third Supplemental Trust Indenture dated February 25, 2016, and as further amended and supplemented by the Fourth Supplemental Trust Indenture dated October 25, 2017 (collectively, the "Indenture"), by and between the Authority and the Trustee. The Bonds are secured by an assignment and pledge under the Indenture to the Trustee of the Pledged Revenues (as defined in the Indenture) from the Sewer System and certain other funds held under the Indenture. The following summarizes certain provisions of the Indenture, but is not regarded as a full statement thereof.

The Indenture is being amended by the terms of the Fourth Supplemental Trust Indenture to permit the refunding, by the issuance of Additional Bonds, of any Senior Debt of the Authority including the Pennvest Notes.

Application of Proceeds of the Bonds

The proceeds of the sale of the Bonds, including interest thereon accrued to the date of delivery, if any, shall be paid over to the Trustee and deposited by the Trustee in a Clearing Fund, which is hereby established. From the Clearing Fund, the Trustee shall make the payments, disbursements and deposits as set forth in the Authority Certificate. Any reserves which shall be established in the Clearing Fund shall be disbursed from time to time by the Trustee pursuant to further written directions of the Chairman or Vice Chairman of the Authority and any balance ultimately remaining in the Clearing Fund on October 25, 2017 shall be deposited in the Debt Service Fund.

Revenue Fund

The Authority covenants to deposit all Receipts and Revenues from the Sewer System received by the Authority into the Revenue Fund.

The moneys at any time on deposit in the Revenue Fund shall be applied by the Authority to the following purposes in the following order of priority:

(i) to the payment of Administrative Expenses, including amounts budgeted by the Authority;

(ii) amounts equal to the payment of debt service on the Bonds and the Pennvest Notes, when due;

(iii) if necessary to restore the Debt Service Reserve Fund to an amount equal to the Debt Service Reserve Requirement;

(iv) to the payment of Subordinate Debt, if applicable;

(v) to the cost of constructing or acquiring Capital Additions or making extraordinary repairs or expenditures for extraordinary maintenance or the payment of indebtedness incurred by the Authority for such purposes;

(vi) the payment of any liabilities of the Authority arising out of its ownership of the Sewer System which are not properly payable out of any other Fund established by this Indenture; and

(vii) no later than the last business day of each fiscal year to the Bond Redemption and Improvement Fund, all remaining amounts on deposit in the Revenue Fund other than an amount equal to 5/12 of the

estimated annual current expenses of the Authority based upon the budget of current expenses of the Authority plus any excess amount that the Authority determines to use to redeem Bonds pursuant to the provisions of this Indenture.

Debt Service Fund

Subject to the provisions contained in the Indenture, the Authority shall transfer from the Revenue Fund and deposit with the Trustee, on or before the fourth business day prior to January 1 and July 1 of each year beginning January 1, 2018, to the Debt Service Fund, moneys which shall be sufficient to meet the current interest and principal requirements on the Bonds.

Debt Service Reserve Fund

A "Debt Service Reserve Fund" has been created in the Indenture, which shall be held in trust by the Trustee until applied as provided in the Indenture. The Trustee shall deposit an amount equal to the difference, if any, between the balance in the Debt Service Reserve Fund and the Debt Service Reserve Requirement into the Debt Service Reserve Fund out of the proceeds of the Bonds. Such deposit may be in the form of a surety policy, the value of which will result in the Debt Service Reserve Requirement being met.

The Debt Service Reserve Fund will be available to pay the interest and principal on the Bonds in case there is a deficiency in the Debt Service Fund in any year, and in the event of such a payment, deposits will be resumed into the Debt Service Reserve Fund until the required balance is restored.

Bond Redemption and Improvement Fund

A "Bond Redemption and Improvement Fund" has been created under the Indenture, which shall be held by the Trustee until applied as provided in the Indenture. To the extent not paid out of any other Fund the moneys at any time on deposit in the Bond Redemption and Improvement Fund shall be applied by the Trustee, so long as no event of default has occurred and is continuing, to any one or more of the following purposes as the Authority shall direct in writing:

(i) the cost of constructing or acquiring Capital Additions or making extraordinary repairs or expenditures for extraordinary maintenance or the payment of indebtedness incurred by the Authority for such purposes;

(ii) the transfer to the Revenue Fund to satisfy the rate covenant requirements under the Indenture;

(iii) the payment of any liabilities of the Authority arising out of its ownership of the Sewer System which are not properly payable out of any other Fund established by the Indenture including without limitation Subordinate Debt; or

(iv) the redemption or purchase of Bonds.

Without any direction from the Authority, the Trustee shall be authorized to transfer moneys from the Bond Redemption and Improvement Fund to the Debt Service Fund to the extent that the moneys in the Debt Service Fund may at any time be insufficient to pay the Bonds as the same shall become due.

Issuance of Additional Bonds

The Authority may issue from time to time, and the Trustee shall authenticate, Additional Bonds for the purpose of providing (a) all or part of the funds necessary to refund Senior Debt, including accrued and unpaid interest and redemption premium, if any, and all costs and expenses incidental to redemption, (b) all or part of the funds required to construct or acquire Capital Additions, or (c) additional funds to complete the original construction project, or Capital Additions, including in each case the costs and the expenses of the financing.

Defaults and Remedies

The Indenture sets forth remedies available to the Trustee and the Bondholders in the event of a default under the Indenture. Among other things, events of default are defined in the Indenture to be the failure to pay the principal and interest on the Bonds when the same shall become due.

Upon the happening of an Event of Default as therein defined, the Trustee may enforce, and upon the written request of the holders of not less than 25% of principal amount of the Bonds then outstanding, accompanied by indemnity as provided in the Indenture, shall enforce for the benefit of all Bondholders all their rights provided under the Indenture and said Municipality Authorities Act, including the right of entry, of bringing suit, action or proceeding at law or in equity, and of having a receiver appointed. For a more precise statement of the events of Default and of the rights and remedies of the Trustee and Bondholders, reference is made to the Indenture.

Rate Covenant

The Indenture contains a covenant by the Authority that it has adopted and will charge, maintain and collect throughout its service area in each fiscal year so long as any Bonds remain Outstanding and funds for their payment have not been provided, rates, rents and other charges with respect to the Sewer System which shall result in the Pledged Revenues being at least sufficient to provide in such fiscal year the sum of:

(i) funds to pay the Administrative Expenses of the Authority, plus

(ii) an amount equal to 110% of the Debt Service Requirements in such fiscal year with respect to the Bonds, plus

(iii) an amount equal to the interest and principal payments due on the Pennvest Notes, plus

(iv) funds sufficient to cure any deficiency in the Debt Service Reserve Fund, plus

(v) funds sufficient to pay the amount due in such fiscal year on all Subordinate Debt and other payment obligations of the Sewer System.

THE AUTHORITY

The Butler Area Sewer Authority is a body corporate and politic, organized under the Pennsylvania Municipality Authorities Act of 2001, P.L. 287, as amended and supplemented (the "Act"), having been duly organized under said Act by the joint action of the City of Butler and Butler Township (the "Incorporating Municipalities"), both of Butler County, Pennsylvania. The Authority's Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, an Amendment to the Articles of Incorporation was filed to extend the life of the Authority to February 6, 2046.

The Authority is governed by a Board of five voting members, three of whom are appointed by the Butler City Council for a period of five years each. The other two members are appointed by the Butler Township Commissioners for a period of five years each. The terms of the members are staggered so that the term of at least one member expires each year and, in accordance with the Act, a successor is appointed each year. Members of the Board may be re-appointed.

The following table sets forth the names, offices and term expirations for the current members of the Authority Board:

Member	Authority Office	Term Expires
Gerald S. Patterson, Jr.	Chairman	December 31, 2021
Cynthia S. McKnight	Vice Chairman	December 31, 2020
Paul F. Sybert	Secretary	December 31, 2019
Kenneth L. Henry	Treasurer	December 31, 2018
Edgar E. Hassler, Jr.	Asst. Secretary/Asst. Treasurer	December 31, 2017

The day-to-day management of the Authority is overseen by the Executive Director. The current Executive Director, Thomas D. Rockovich, will retire on October 13, 2017. The incoming Executive Director, Duane McKee, will begin on October 14, 2017.

The Authority is empowered to exercise any and all powers conferred by the Act as may be necessary with respect to the construction, ownership, operation, and maintenance either in whole or part of the Sanitary Sewer System (the "Sewer System"). Said powers include the power to acquire, by purchase of condemnation, sites and rights of way necessary in connection with said construction, ownership, operation, and maintenance of the Sewer System. The Authority is also empowered to enter into contracts, agreements, and leases, either in the capacity of the lessee or lessor, respecting the construction and operation of the Sewer System.

Additionally, the operation and maintenance of the Sewer System is governed pursuant to terms and provisions of the Water Pollution Control Agreement for Central Butler County, dated February 20, 1974 (the "Service Agreement"). This Service Agreement was entered into by and between the Authority and the Service Area Municipalities: the City of Butler, Butler Township, Center Township, Summit Township, and East Butler Borough; and the other authorities within the Service Area which are no longer in operation and/or existence. Additional Service Agreements are also in place between the Authority and Connoquenessing Township and Oakland Township.

THE SEWER SYSTEM

The Authority's Sewer System serves the City of Butler and Butler Township and its environs with a public sanitary sewer collection and treatment system. Other municipalities served are Center Township, Summit Township, and East Butler Borough and portions of Connoquenessing and Oakland Townships.

Description and History

The City of Butler constructed the original wastewater treatment plant facilities in 1938 on the same site in Butler Township as the present-day treatment plant. In 1962, the City of Butler and Butler Township created the Butler Area Sewer Authority for the purposes of providing a non-political municipal body for solving sewage issues in the City of Butler and Butler Township through the expansion of the collection sewer system and the treatment plant facilities.

During 1963 and 1964, the Authority spent almost $3,000,000 to expand the collector sewer system and to expand and repair the original 1938 wastewater treatment facilities to a capacity of 5.0 million gallons per day (MGD). The facilities built by this 1963 Project served as the basis for a major expansion and upgrade of the facilities which was completed under the 1978 Construction Project. The 1978 Construction Project required the expenditure of $58,500,000 in construction fund moneys provided by the U.S. Environmental Protection Agency (EPA) Construction Grants, new customer tap-in fees, interest earnings, and proceeds of the Series of 1978 Bond Issue and Series of 1979 Construction Note Issue.

The 1978 Construction Project involved rehabilitation of existing sewage collection and interceptor lines, the construction of new sewer collection systems, interceptor lines, pumping stations and force mains, and the construction of substantial additions to expand the capacity of the wastewater treatment plant and upgrading of the treatment plant processes to provide a tertiary treatment of the sewage.

More recently, the Authority implemented an on-going, long-term sewer rehabilitation and replacement program to routinely replace the aging sewage collection system infrastructure. The Deshon Area Sewer Rehabilitation Project began in 2006 and has been completed at a cost of $5,646,138. A second major system rehabilitation project, the Northwest Area Sewer Rehabilitation Project, was completed in 2012. The total cost of this project at completion was approximately $5,510,000. The Authority has entered into two loan agreements with Pennvest to fund these rehabilitation projects.

In 2010, the Authority began a series of capital projects that included the construction of four (4) new wet weather flow diversion pump stations with associated pipelines, diversion structures and other related machinery and equipment, the construction of seven (7) new flow equalization/storage tanks on three sites (totaling over 22 million gallons of storage capacity), the upsizing of two interceptor sewers, and other renovations to the Authority's main office and treatment facilities. The cost of these construction/rehabilitation projects was approximately $38,759,000, which was funded with a portion of the proceeds of the Authority's $20,200,000 aggregate principal amount of Sewer Revenue Bonds, Series of 2010 and two Pennvest loans of $5,137,285 and $13,087,400 (original amount). These construction projects have been completed.

The Authority will apply proceeds of the Bonds to currently refund certain of the above-referenced Pennvest loans (see "PURPOSE OF THE ISSUE").

The current wastewater treatment plant has a design and permitted average daily flow capacity of 10.0 MGD and a rated maximum flow capacity of 25.0 MGD. The treatment facility has a permitted average annual organic loading capacity of 12,750lbs BOD5/day and is designed to serve an equivalent population of 75,000 people. As of December 31, 2016, the treatment plant served an average of 22,827 Equivalent Dwelling Units (EDUs) with an annual average daily sewage flow of 5.949 MGD and an annual average daily organic loading of 11,407lbs BOD5/day.

As part of the Authority's compliance with the Consent Order and Agreement, dated as of October 13, 2006, between the Authority and the Department of Environmental Protection, the Authority submitted and received approval for the "Act 537 Sewage Facilities Planning Study Update" on August 27, 2009 (the "Act 537 Plan"). The Plan proposed that the hydraulic capacity of the current wastewater treatment plant be re-rated to a permitted monthly average daily flow of 11.0 MGD and a peak flow capacity of 27.5 MGD. A request for approval of this proposed re-rating will be submitted to the DEP.

The System primarily serves the City of Butler, Butler Township, Center Township, areas in East Butler Borough, and limited areas in Summit, Connoquenessing and Oakland Townships. The collection system is comprised of over 300 miles of collection and interceptor sewers ranging in size from 6 inches to 48 inches in diameter and 23 sewage pumping stations which contribute flow to the wastewater treatment plant.

Authority Employment

The Authority currently employees forty (40) full-time employees, comprised of ten (10) management personnel, three (3) hourly office personnel, and twenty-seven (27) hourly operations and maintenance personnel for the plant, pump stations, and collector sewer system, including realty transfer inspection crews. The day-to-day management of the Authority is overseen by the Executive Director. The operations of the Authority are overseen by the Operations Director. The Operations Director oversees the Authority Engineer, Project Engineer, Plant Superintendent, Field Operations Superintendent, Flow Meter Supervisor, and Inspection Programs Supervisor as well as the overall facilities operations and maintenance and laboratory operations. The Authority's finances and finance department are overseen by the Finance Director including billing, data processing, accounting functions, and general office operations.

In addition to the above described administrative and hourly staff personnel, the Authority currently retains Dillon, McCandless, King, Coulter & Graham, L.L.P., Butler, Pennsylvania, as its legal counsel, Hatch Chester, Pittsburgh, Pennsylvania, as its Consulting Engineer, and Maher Duessel, Certified Public Accountants, Pittsburgh, Pennsylvania as the Authority's independent auditor.

Authority Labor Relations

The three hourly office personnel and twenty-seven hourly operations and maintenance personnel for the plant, pump stations, and collector sewer system are represented for purposes of collective bargaining by District Council 84, American Federation of State, County, and Municipal Employees, AFL-CIO (Union). The current collective bargaining agreement expires on December 31, 2019. The Authority considers its labor relations to be satisfactory. No work stoppages have ever been staged by the classified personnel of the Authority.

Authority Pension Plans

The Authority sponsors and maintains a single-employer, contributory, 401(a) defined contribution pension plan covering all eligible employees as defined by the plan document. Authority employees become eligible to participate in the plan upon obtaining twelve months of consecutive service and have worked a minimum of 1,000 hours during the period. Once eligible, the Authority currently contributes seven percent (7.0%) of eligible compensation and the employee is required to contribute four and one half percent (4.5%) of eligible compensation. On January 1, 2018, the Authority contribution will increase to seven and one half percent (7.5%) of eligible compensation and the employee contribution will increase to five percent (5.0%) of eligible compensation. Currently, all Authority employees are required to participate in the plan after meeting any eligibility requirements specified in the Plan Document. Employees are immediately vested in both the Authority and employee contributions.

In addition, the Authority sponsors and maintains two separate 457(b) defined contribution pension plans. The Authority provides no contribution into either of the two plans and participation by eligible employees is optional. Eligibility for one of the two plans is immediately upon employment at the Authority. The second plan establishes eligibility upon obtaining twelve months of consecutive service and having worked a minimum of 1,000 hours during the period. Currently, all employees are eligible to participate in the plans after meeting any eligibility requirements specified in the Plan Documents. Employees are immediately vested in their contributions.

The Authority does not sponsor a defined benefit pension plan and therefore no actuarial valuation is necessary.

Other Postemployment Benefits

The Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. The Authority's annual other postemployment benefits (OPEB) cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of accounting standards. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a closed period not to exceed 30 years.

In 2016, the Authority's annual OPEB cost was $274,996, the percentage of annual OPEB cost contributed to the plan was 32.09%, and the net OPEB obligation on July 31, 2016 was $1,912,173.

Insurance Coverage of the Authority

The Authority maintains adequate general insurance coverage against fire, property, liability, automobile, workers compensation and such other risks as are generally included in extended coverage endorsements. The limits of insurance are reviewed annually and updated as needed. Such insurances are carried in such amounts and with such responsible insurance companies that are duly qualified to conduct business within the Commonwealth of Pennsylvania. The Authority requires that all outside contractors to maintain appropriate insurance coverage during the performance of any alterations or capital improvements to the existing System, or the construction of any additions or extensions thereto. The Authority also retains a professional insurance consultant on an as-needed basis that assists in evaluating the insurance coverage of the Authority and its outside vendors and/or contractors.

Billing and Collection Procedures

The Authority bills all customers within its Service Area. The majority of customers, primarily residential, are billed on a quarterly basis. However, monthly billings are prepared and sent for larger volume customers such as industrial, commercial, and certain apartment complexes. Bills are payable within thirty days from receipt. The Authority pursues its own collection procedures with respect to delinquent accounts. In 2011, the Authority adopted revised penalty provisions to assess interest at a rate of 10% per year on delinquent accounts, which is applied on either a monthly (0.83%) or quarterly (2.50%) basis based on the billing cycle of the customer. Interest is in addition to the existing 10% late payment penalty. In 1991, the Authority entered into a cooperative agreement with the local private water supply company to terminate water service for delinquent Authority customers. The Authority will terminate water service to delinquent customers within a specified period of time and after exhausting all available means of collection; partial payment agreements may be accepted by the Authority on an individualized basis. Pursuant to the provisions of the laws of the Commonwealth of Pennsylvania, the Authority is also empowered to and does obtain municipal liens against real property of debtors, such as those customers who are protected from water service terminations or those customers with increasing delinquent account balances.

Accounts Receivable

The following table shows the amount of billed Sewer Service Charges, including penalties and interest, receivable that were recorded by the Authority as of the end of each of the past ten fiscal years. It should be noted that the amounts listed below include the regular quarterly and monthly billing which are sent out in July of each year, but not due until after the closing date of the fiscal year. Therefore, a large portion of the receivable balance is a result of current billings. The Authority's outstanding Sewer Service Charges, including penalties and interest, receivable at June 30, 2016 was $1,006,411. The June 30 balance excludes the effect of the July billing and more accurately reflects the overdue receivable balance of the Authority with some exceptions relative to monthly and industrial waste recently invoiced receivables. In addition, the base sewer service rate has been increased from $13.00 per month per EDU as of August 1, 2000 to $36.00 per month per EDU as of July 31, 2016.

July 31,	Amount	July 31,	Amount
2016	$2,296,402	2011	$1,781,883
2015	2,135,874	2010	1,673,049
2014	2,266,345	2009	1,484,266
2013	1,955,462	2008	1,362,934
2012	1,961,936	2007	1,334,087

Source: Authority's independent audited financial statements and Authority financial data.

The increase in the accounts receivable is directly related to the increase in the base sewer service rate over the last ten year period. The Authority pursues various collection procedures including liening properties and water shut-off, as described above, which results in minimal write-offs to account receivable balances. As of June 30, 2016, approximately $707,000 of the receivable balance has liens placed against the respective properties and an additional $204,000 of receivables is owed on a total of 1,837 individual accounts. Balances are accrued until they are determined to be uncollectable which generally is determined by bankruptcy proceedings or judicial sales of the property by the County.

Ten Largest Customers

The following table depicts the ten largest customers of the Authority, together with their estimated annual sewer use revenues, estimated annual usage, and average EDUs for each customer as of the fiscal year ended July 31, 2016.

Name	Estimated Annual Sewer Use Revenues	Estimated Annual Usage (gallons)	Average EDU's
Butler Memorial Hospital	$ 150,336	16,704,000	348
JSP International	99,792	11,088,000	231
Pennsylvania American Water Co.	88,992	9,888,000	206
County of Butler - County Jail	73,872	8,208,000	171
Villa/Highlands, Apartments	72,576	8,064,000	168
Terrace Apartments	69,552	7,728,000	161
AK Steel	68,688	7,632,000	159
Greenview Gardens, Apartments	58,752	6,528,000	136
Butler Arbors Apartments	51,840	5,760,000	120
Butler Crossings Plaza	48,816	5,424,000	113
	$ 783,216	87,024,000	1,813

* Includes suspended solids surcharge revenues.

The estimated total annual sewer use revenues generated by the ten largest customers of the Authority ($783,216) is equal to about 8.0% of the estimated total annual sewer use revenues generated by billings to the customers of the Authority ($9,791,700). The estimated annual revenue from the largest customer represents approximately 1.5% of the total annual billing revenues.

Recent Equivalent Dwelling Unit Trends

The number of average annual EDUs for each type of customer account, the total EDUs served by the Authority at the end of each calendar year since December 31, 2011, and the EDU and percentage change over the last six-year period are shown in the following table:

	Average Annual EDU's						2011-2016 EDU	2011-2016 EDU
Customer Type	2011	2012	2013	2014	2015	2016	Net Change	% Change
Quarterly	20,626	20,608	20,457	20,444	20,431	20,545	(81)	(0.39%)
Monthly	2,169	2,115	1,970	1,861	1,565	1,691	(478)	(22.04%)
Industrial Waste	857	919	766	629	609	591	(266)	(31.04%)
Total	23,652	23,642	23,193	22,934	22,605	22,827	(825)	(3.49%)

Sewer Service Charges

The Authority's Articles of Incorporation, the 1974 Service Agreement, and the subsequent Service Agreements with Oakland Township and Connoquenessing Township assigned the ownership and the operation and maintenance responsibility for all of the System within the Service Area to the Authority, and empowered the Authority to assess Sewer Service Charges necessary for the operation, maintenance, repair, and replacement of the System.

Where long-term debt was incurred or Authority funds were utilized to finance the construction of new sanitary sewer collection systems to extend sewer service to new Service Areas, such as the 1978 Construction Project, the Authority was also authorized to assess a Sewer Surcharge sufficient to meet the scheduled debt payments or reimbursement of Authority funds, respectively, for that district or area. The Sewer Surcharge has been utilized in lieu of front foot assessments. Currently, the Authority has only one small Sewer Surcharge area. The Sewer Surcharge was implemented as of January 1, 2011 for the sewer extension to serve the Dutchtown Road Area, which affects no more than 12 of the Authority's total EDUs.

The revenues needed for the operation, maintenance, repair, and replacement of the System are derived from the Sewer Service Charges imposed on the customers in the Service Area. Residential customers are billed on a flat rate basis for each EDU. Commercial and industrial customers are billed based upon actual water usage and an EDU unit rate basis for every 4,000 gallons per month of water usage. The total annual costs for the operation, maintenance, repair, and replacement of the System, including debt service, serves as the basis for determining the Authority's annual Sewer Service Charge per EDU.

All sewer service customers are billed directly by the Authority and the total annual charge for any customer is the total of the Sewer Service Charge plus any applicable Sewer Surcharge. The current quarterly and monthly Sewer Service Charges and Sewer Surcharges per EDU or unit, which became effective as of July 1, 2016, are as follows:

	Per EDU (Unit) Per Quarter	Per EDU (Unit) Per Month
Sewer Service Rates Per EDU (Unit)	$108.00	$36.00
Multi-Family Residential Unit Rates		
First 25 units or any part thereof	$108.00	$36.00
Next 25 units or any part thereof	105.85	35.28
Next 25 units or any part thereof	103.70	34.57
Next 25 units or any part thereof	101.55	33.85
Next 25 units or any part thereof	99.40	33.13
Next 25 units or any part thereof	97.25	32.42
For all units over 150 or any part thereof	95.10	31.70

Surcharges for Debt	Annual Surcharge	Quarterly Surcharge
Dutchtown Opt 2	$432.00	$108.00
Dutchtown Opt 3	576.00	144.00

In accordance with the requirements of Act 57 of 2003, which amended Act 203 of 1990, the Authority developed and adopted a rate schedule for new sewer service connections to the Authority's public sewer system. The schedule, which became effective on March 1, 2013, provides for the charging of a tapping fee, a connection fee, and an inspection fee. Under the terms of Act 57, the Authority is permitted to periodically review the rate schedule and to revise it as necessary.

All customers desiring to make a new sewer connection for a Single Family Residential house to the various segments of the sewer system will be charged a connection fee and tapping fee in accordance with the following rate schedule:

Permit Class	Sanitary Sewer Segment Used For New Connection	Connection Fee (Per Connection)	Inspection Fee (Per Connection)	Tapping Fee (Per EDU)	Total Fee
A	Butler Area Sewer Authority public sewer with an existing wye connection	$300.00	$100.00	$2,790.00	$3,190.00
B	Butler Area Sewer Authority public sewer requiring a new sewer connection by owner	$150.00	$100.00	$2,790.00	$3,040.00
C	New sewer construction by a developer since March 1, 2007 with an existing wye connection	-	$100.00	$2,790.00	$2,890.00

Multi-Family Residential Tapping Fees

All customers desiring to make a new sewer connection of a Multi-Family Residential structure by a single service line shall pay a single connection fee and inspection fee in accordance with the schedule shown above plus a tapping fee for each dwelling unit in accordance with the rate schedule shown above. An additional connection fee shall be paid for each additional physical connection to the Public Sewer System.

Commercial, Industrial, Institutional, Public or Mixed Use Fee

All customers desiring to make a new connection of a building being used for Commercial, Industrial, Institutional, Public or Mixed Use (i.e. Residential and Commercial) by a single service line shall pay a single connection fee and inspection fee in accordance with the rate schedule above plus a tapping fee for each Equivalent Dwelling Unit (EDU) or water consumption.

SOURCE OF PAYMENT AND RATE COVENANT

All Bonds outstanding under the Indenture are required to be equally and ratably secured. The Authority has assigned and pledged to the Trustee for the security and payment of all Bonds issued under the Indenture the Pledged Revenues of the Authority.

Pursuant to the terms of the Indenture, the Authority has agreed to fix rates and other charges so that its Receipts and Revenues in each Fiscal Year together with amounts representing Receipts and Revenues received in prior years on hand at the beginning of the applicable Fiscal Year will be sufficient to provide in such fiscal year the sum of:

(i) funds to pay the Administrative Expenses of the Authority, plus

(ii) an amount equal to 110% of the Debt Service Requirements in such fiscal year with respect to the Bonds, plus

(iii) an amount equal to the interest and principal payments due on the Pennvest Notes, plus

(iv) funds sufficient to cure any deficiency in the Debt Service Reserve Fund, plus

(v) funds sufficient to pay the amount due in such fiscal year on all Subordinate Debt and other payment obligations of the Sewer System.

BUDGET AND FINANCES

The Indenture requires that, prior to each Fiscal Year, the Authority file with the Trustee a budget for such year. The budget must set forth in reasonable detail the estimated expenses of operating, maintaining and repairing the Sewer System, the administration expenses of the Authority not otherwise provided for, making all ordinary improvements, additions and extensions to the Sewer System not otherwise provided for and operating contingencies for the next succeeding fiscal year.

The budget must be approved by the Consulting Engineer, who for this purpose may be an engineer who is an employee of the Authority. The budget may be amended or supplemented during the year which it covers, but such amendment or supplement shall not supersede any prior budget until it shall have been approved by such Engineer and filed with the Trustee.

Information with respect to the Authority's 2016 financial statements is set forth below and in Appendix D.

The Indenture requires the Authority to establish and maintain a fund to be known as the “Revenue Fund” into which shall be deposited all Sewer Revenues received by the Authority, except receipts from tapping fees and refundable deposits under extension agreements, which the Authority may deposit with authorized depositories in separate accounts and use only to pay tapping costs or to make refunds pursuant to the extension agreements as the case may be.

While subject to the requirements imposed by the Indenture as to maintenance and utilization, the Revenue Fund and the other accounts of initial deposit as described above are not required to be maintained with the Trustee, nor does the Trustee exercise administrative control over withdrawals from such accounts.

BUTLER AREA SEWER AUTHORITY
Summary Statements of Net Position

	2013	2014	2015	2016
ASSETS:				
Current Assets:				
Cash and Cash Equivalents	$10,072,742	$ 9,104,799	$ 8,960,399	$ 5,950,189
Investments:				
Trust Accounts	7,556,621	3,204,306	3,335,612	13,242,500
Other	992,000	992,000	990,000	2,968,000
Accounts Receivable	1,955,462	2,266,345	2,135,874	2,296,402
Unbilled Sewer Receivable	797,200	776,000	769,200	837,300
Total Current Assets	$21,374,025	$16,343,450	$16,191,085	$25,294,391
Non-Current Assets:				
Unamortized Bond Insurance [1]	$ 229,660	$ 218,724	$ 207,788	$ 196,852
Capital Assets, not being Depreciated	40,201,603	6,479,179	1,183,531	1,167,110
Capital Assets, net of Accumulated Depreciation	28,451,911	65,212,799	67,690,132	66,521,247
Total Non-Current Assets	$68,883,174	$71,910,702	$69,081,451	$67,885,209
Total Assets	$90,257,199	$88,254,152	$85,272,536	$93,179,600
DEFERRED OUTFLOWS OF RESOURCES:				
Deferred Charge on Refunding:	$ 1,253,608	$ 1,183,963	$ 1,114,318	$ 1,420,419
LIABILITIES:				
Current Liabilities:				
Vouchers Payable	$ 624,436	$ 406,355	$ 163,137	$ 481,890
Accrued Expenses	840,575	858,380	895,739	910,785
Current Maturities of Bonds Payable	445,000	460,000	545,000	915,000
Current Portion of Notes Payable	1,308,309	1,328,062	1,289,081	1,304,231
Total Current Liabilities	$ 3,218,320	$ 3,052,797	$ 2,892,957	$ 3,611,906
Non-Current Liabilities:				
Bonds Payable [2]	$21,256,341	$20,806,544	$20,271,747	$29,855,597
Notes Payable	24,632,279	23,603,990	22,851,071	21,546,841
OPEB Obligation	1,111,698	1,434,457	1,725,428	1,912,173
Total Non-Current Liabilities	$47,000,318	$45,844,991	$44,848,246	$53,314,611
Total Liabilities	$50,218,638	$48,897,788	$47,741,203	$56,926,517
NET POSITION:				
Investment in Capital Assets	$21,186,434	$26,235,047	$25,238,870	$25,271,055
Restricted	7,556,621	3,204,306	3,335,612	3,655,404
Unrestricted	12,549,114	11,100,974	10,071,169	8,747,043
Total Net Position	$41,292,169	$40,540,327	$38,645,651	$37,673,502

[1] Net of accumulated amortization.
[2] Net of unamortized bond discount and premium.

Source: Audited Financial Statements (2013, 2014, 2015 and 2016)

BUTLER AREA SEWER AUTHORITY
Summary Statements of Revenues, Expenses and Changes in Net Position

	2013	2014	2015	2016
OPERATING REVENUES:				
Sewer Charges – Non-Industrial Waste	$ 8,153,714	$ 8,504,320	$ 8,526,065	$ 8,880,649
Sewer Charges – Industrial Waste	404,048	313,383	325,690	289,118
Other Operating Fees and Charges	127,858	118,268	139,837	192,700
Total Operating Revenues	$ 8,685,620	$ 8,935,971	$ 8,991,592	$ 9,362,467
OPERATING EXPENSES:				
Operations and Maintenance	$ 4,689,120	$ 4,936,707	$ 5,131,446	$ 5,121,142
Administration	1,047,193	1,028,142	1,298,606	998,446
Depreciation	2,059,644	2,761,359	3,327,965	3,357,202
Total Operating Expenses	$ 7,795,957	$ 8,726,208	$ 9,758,017	$ 9,476,790
Operating Income (Loss)	$ 889,663	$ 209,763	($ 766,425)	($ 114,323)
NON-OPERATING REVENUES (EXPENSES):				
Capital Grant	$ 1,000	$ -	$ 3,301	$ -
Interest Income	183,757	206,758	193,233	222,788
Interest Expense	(1,154,731)	(1,414,472)	(1,354,755)	(1,201,373)
Bond Issuance Costs	-	-	-	(554,760)
Unrealized Gain (Loss) on Investments	(96,910)	5,060	(60,864)	32,664
Loss on Disposal of Capital Assets	(123,646)	-	(19,011)	-
Amortization	(21,139)	(21,139)	(21,139)	(15,265)
Total Non-Operating Revenue (Expenses)	($1,211,669)	($1,223,793)	($1,259,235)	($1,515,946)
Income (Loss) Before Capital Contributions	($ 322,006)	($1,014,030)	($2,025,660)	($1,630,269)
Capital Contributions:				
Tap-in Fees	$ 294,570	$ 250,559	$ 119,655	$ 629,120
Developer Contribution Revenue	11,629	11,629	11,329	29,000
Total Capital Contributions	$ 306,199	$ 262,188	$ 130,984	$ 658,120
Net Income (Loss)	($ 15,807)	($ 751,842)	($1,894,676)	($ 972,149)
Net Position Beginning of Year	$41,307,976	$41,292,169	$40,540,327	$38,645,651
Net Position End of Year	$41,292,169	$40,540,327	$38,645,651	$37,673,502

Source: Audited Financial Statements (2013, 2014, 2015 and 2016)

BUTLER AREA SEWER AUTHORITY
Operating Budget

	Fiscal Year Ending July 31,		
	2016	2017	2018
REVENUES:			
Sewer Service and Surcharges	$ 8,779,850	$ 9,429,450	$ 9,726,450
Sewer Tap-in Fees	446,400	486,900	197,500
Connection Inspection Fees	2,000	2,000	3,000
Connection Fees	3,000	3,000	4,500
Industrial Waste Fees	323,400	327,400	314,400
Interest and Penalty Income	157,200	186,750	206,400
Other Income	137,000	125,300	157,650
Total Revenues	$ 9,848,850	$10,560,800	$10,609,900
EXPENSES:			
Operation and Maintenance:			
Plant	$1,605,300	$1,646,500	$1,690,700
Biosolids	284,900	291,400	309,400
Pump Stations and Tanks	388,280	392,980	425,600
Sewer System	1,040,000	1,041,700	1,057,800
Transportation	58,400	55,300	58,000
Pretreatment	2,000	1,900	1,500
Office	387,000	366,600	408,600
Administrative	688,100	677,130	731,630
Employee Benefits	1,229,300	1,198,800	1,274,000
Professional Services	147,450	153,600	153,700
Capital Improvements	585,900	971,690	721,970
Debt Service	3,279,800	3,582,100	3,598,000
Transfer to Capital Improvement and Redemption Fund	152,420	181,100	179,000
Total Expenses	$ 9,848,850	$10,560,800	$10,609,900
Net Revenue (Loss)	$ -	$ -	$ -

Source: Authority Officials

THE TRUSTEE

The Issuer has appointed The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States, to serve as Trustee. The Trustee is to carry out those duties assignable to it under the Indenture. Except for the contents of this section, the Trustee has not reviewed or participated in the preparation of this Official Statement and assumes no responsibility for the nature, contents, accuracy or completeness of the information set forth in this Official Statement or for the recitals contained in the Indenture or the Bonds, or for the validity, sufficiency, or legal effect of any of such documents.

Furthermore, the Trustee has no oversight responsibility, and is not accountable, for the use or application of the proceeds of such Bonds by the Authority. The Trustee has not evaluated the risks, benefits, or propriety of any investment in the Bonds and makes no representation, and has reached no conclusions, regarding the value or condition of any assets or revenues pledged or assigned as security for the Bonds, the technical or financial feasibility of the Project, or the investment quality of the Bonds, about all of which the Trustee expresses no opinion and expressly disclaims the expertise to evaluate.

CONTINUING DISCLOSURE UNDERTAKING

In accordance with the requirements of Rule 15c2-12 (the "Rule"), promulgated under the Securities and Exchange Act of 1934, as amended, by the Securities and Exchange Commission (the "Commission"), the Authority will, in the Disclosure Agreement to be executed by the Authority on the date of settlement of the Bonds, agree to provide, or cause to be provided:

(i) to the Municipal Security Rulemaking Board's ("MSRB") Electronic Municipal Market Access System ("EMMA"), (a) a copy of its annual audited financial statements prepared in accordance with guidelines adopted by the Government Accounting Standards Board and American Institute of Certified Public Accountants' Audit Guide, Audits of State and Local Government; and (b) a copy of it Consulting Engineer's Annual Report and Fiscal Year Budget, collectively, the "Annual Information".

The annual information will be provided to the entity identified above not later than 270 days after the end of the fiscal year of the Authority;

(ii) in a timely manner, not in excess of (10) business days after the occurrence of any of the following events, to the MSRB via EMMA, notice of the occurrence of any of the following events with respect to the Bonds, regardless of materiality:

(1) principal and interest payment delinquencies;
(2) unscheduled draws on debt service reserves reflecting financial difficulties;
(3) unscheduled draws on credit enhancements reflecting financial difficulties;
(4) substitution of credit or liquidity providers, or their failure to perform;
(5) adverse tax opinions on the issuance by the Internal Revenue Services of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events effecting the tax status of the Bonds;
(6) tender offers;
(7) defeasances;
(8) rating changes; and
(9) bankruptcy, insolvency, receivership or similar event of the obligated person.

(iii) in a timely manner, not in excess of (10) business days after the occurrence of any of the following events, to the MSRB via EMMA, notice of the occurrence of any of the following events with respect to the Bonds, if such event is material:

(1) non-payment related defaults;
(2) modifications or rights of Bond holders;
(3) bond calls;
(4) release, substitution, or sale of property securing repayment of the Bonds;
(5) the consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, or other than pursuant to its terms;
(6) appointment of a successor or additional trustee or the change of name of a trustee.

(iv) in a timely manner, not in excess of ten (10) business days, to the MSRB via EMMA, notice of its failure to provide the Annual Information with respect to itself on or before the date specified in the Disclosure Certificate.

The obligations of the Authority described above will remain in effect only for such period as (i) the Bonds are outstanding in accordance with their terms, and (ii) the Authority remains an obligated person with respect to the Bonds within the meaning of the Rule. The Authority reserves the right to terminate its obligation to provide the

Annual Information and notices of material events, as set forth above, if and when the Authority is no longer an obligated person with respect to the Bonds within the meaning of the Rule. The Authority acknowledges that its undertaking pursuant to the Rule described under this caption is intended to be for the benefit of the holders of the Bonds (including holders of beneficial interests in the Bonds).

Each Bondholder (including beneficial owners) may enforce the Authority's continuing disclosure undertaking; provided that, the right to enforce the provisions of the undertaking will be limited to a right to obtain specific enforcement of the Authority's obligations under its continuing disclosure undertaking. Any failure by the Authority to comply with the provisions of said limited continuing disclosure undertaking would not constitute an Event of Default, as said term is defined in the Indenture, with respect to the Bonds.

The obligations of the Authority described above may be amended without the consent of the Bondholders, to the extent permitted by the Rule, as from time to time amended.

The Authority failed to file notices of certain insured rating changes during the past five fiscal years. On October 13, 2015, notices of relevant insured rating changes and failure to file material event notices with respect to relevant insured rating changes were filed on EMMA.

LEGAL MATTERS

Legal Investments

In the opinion of Bond Counsel, the Bonds are authorized investments for fiduciaries and personal representatives under the Pennsylvania Probate, Estates and Fiduciaries Code of the Commonwealth of Pennsylvania.

Negotiability of the Bonds

Under the Act, the Bonds have all the qualities of negotiable instruments under the Uniform Commercial Code of the Commonwealth of Pennsylvania relating to negotiable instruments.

Regarding the Obligation for the Bonds

Neither the credit nor the taxing power of the Commonwealth of Pennsylvania or of any political subdivision thereof, other than the Authority, is pledged for the interest thereon or the principal payable upon the maturity of any of the Bonds.

Absence of Material Litigation

There is no litigation of any nature pending or threatened against the Authority at the date of this Official Statement which, if decided adversely to the Authority, would have a material adverse effect on the financial condition of the Authority, or to restrain or enjoin the issuance, sale, execution or delivery of the Bonds, or in any way contesting or affecting the validity of the Bonds or any proceedings of the Authority taken with respect to the issuance or sale thereof, or the pledge or application of any moneys or the security provided for the payment of the Bonds, or the existence or powers of the Authority.

Legality

All legal matters incident to the authorization, issuance and sale of the Bonds will be approved by Dinsmore & Shohl LLP, Pittsburgh, Pennsylvania, Bond Counsel. Certain additional matters, as requested by Bond Counsel, will be passed upon for the Authority by Dillon McCandless King Coulter & Graham, LLP, Butler, Pennsylvania, Solicitor to the Authority.

TAX EXEMPTION

State Tax Matters

In the opinion of Bond Counsel, the Bonds, and the interest income therefrom, are free from taxation for purposes of personal income, corporate net income and personal property taxes within the Commonwealth of Pennsylvania.

The residence of a holder of a Bond in a state other than Pennsylvania, or being subject to tax in a state other than Pennsylvania, may result in income or other tax liabilities being imposed by such other state or its political subdivisions based on the interest or other income from the Bonds.

Federal Income Tax Matters – Series A Bonds

In the opinion of Bond Counsel, based upon an analysis of existing laws, regulations, rulings and court decisions, interest on the Series A Bonds (including, in the case of Series A Bonds sold at an original issue discount, the difference between the initial offering price and par) is excluded from gross income for Federal income tax purposes. Bond Counsel is also of the opinion that interest on the Series A Bonds is not a specific item of tax preference under Section 57 of the Internal Revenue Code of 1986, as amended (the "Code") for purposes of Federal individual or corporate alternative minimum taxes.

Original Issue Discount

The Series A Bonds that mature on January 1, 2024 through and including January 1, 2029 (collectively, the "Tax-Exempt Discount Bonds") are being offered and sold to the public at an original issue discount ("OID") from the amounts payable at their maturity. OID is the excess of the stated redemption price of a bond at maturity (par) over the price to the public at which a substantial amount of bonds of the same maturity are sold pursuant to the initial offering. Under the Code, OID on each Tax-Exempt Discount Bond will accrue over its term and the amount of accretion will be based on the yield to maturity, compounded semi-annually. The amount of OID that accrues during each semi-annual period will do so ratably within that period on a daily basis. With respect to an initial purchaser of a Tax-Exempt Discount Bond at its initial offering price, the portion of OID that accrues during the period that such purchaser owns such Bond is added to the purchaser's tax basis for purposes of determining gain or loss at the maturity, redemption, sale, or other disposition of that Tax-Exempt Discount Bond and thus, in practical effect, is treated as interest, which is excludable from gross income for federal income tax purposes.

Holders of Tax-Exempt Discount Bonds should consult their own tax advisors as to the effect of OID with respect to their federal tax liability.

Original Issue Premium

The Series A Bonds that mature on January 1, 2019 through and including January 1, 2023, and on January 1, 2032 (collectively, the "Tax-Exempt Premium Bonds") are being sold at an original issue premium ("OIP"). An amount equal to the excess of the issue price of a Tax-Exempt Premium Bond over its stated redemption price at maturity constitutes OIP on such Tax-Exempt Premium Bond. An initial purchaser of a Tax-Exempt Premium Bond must amortize any OIP over such Tax-Exempt Premium Bond's term using constant yield principles, based on the purchaser's yield to maturity (or, in the case of Tax-Exempt Premium Bonds callable prior to their maturity, by amortizing the OIP to the call date, based on the purchaser's yield to the call date and giving effect to any call premium). As OIP is amortized, the amount of the amortization offsets a corresponding amount of interest for the period and the purchaser's basis in such Tax-Exempt Premium Bond is reduced by a corresponding amount resulting in an increase in the gain (or decrease in the loss) to be recognized for federal income tax purposes upon a sale or disposition of such Tax-Exempt Premium Bond prior to its maturity. Even though the purchaser's basis may be reduced, no federal income tax deduction is allowed. Purchasers of the Tax-Exempt Premium Bonds should consult with their tax advisors with respect to the determination and treatment of OIP for federal income tax purposes and with respect to the state and local tax consequences of owning a Tax-Exempt Premium Bond.

Interest Expense Deductions for Financial Institutions

Under Section 265 of the Code, financial institutions are denied any deduction for interest expenses that are allocable, by a formula, to tax-exempt obligations acquired after August 7, 1986. An exception, which permits a deduction for 80% of such interest expenses, is provided in respect of certain tax-exempt obligations issued by a qualified issuer that specifically designates such obligations as "qualified tax-exempt obligations" under Section 265 of the Code.

The Authority is a qualified issuer and the Authority has designated the Series A Bonds as "qualified tax-exempt obligations" for the purposes and effect contemplated by Section 265 of the Code.

Financial institutions intending to purchase Series A Bonds should consult their own tax advisors to determine the effect of the interest expense deduction on their federal tax liability.

Continuing Compliance

The Code imposes various terms, restrictions, conditions and requirements relating to the exclusion from gross income for Federal income tax purposes of interest on obligations such as the Series A Bonds. The Authority has covenanted to comply with all such requirements, including non-arbitrage requirements under Section 148 of the Code, that are necessary to ensure that interest on the Series A Bonds will not be includable in gross income for Federal income tax purposes. Failure to comply with these covenants could result in interest on the Series A Bonds being includable in gross income for Federal income tax purposes and such inclusion could be required retroactively to the date of issuance of the Series A Bonds. The opinion of Bond Counsel assumes compliance with the aforesaid covenants. Moreover, Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the Series A Bonds may adversely affect the tax-exempt status of the interest on the Series A Bonds.

Certain requirements and procedures contained or referred to in the Resolution and other relevant documents may be changed and certain actions (including, without limitation, defeasance of the Series A Bonds) may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents. Such changes or actions could constitute an exchange or other tax event with respect to the Series A Bonds, which could result in gain or loss to the holder of a Bond, and a consequent tax liability.

Pursuant to its continuing disclosure obligations made pursuant to SEC Rule 15c2-12 (see "CONTINUING DISCLOSURE UNDERTAKING" herein), the Authority may be required to provide notice of such changes or actions, as Material Events under said Rule. However, holders of the Series A Bonds should consult their own tax advisors as to the effect of such changes or actions with respect to their federal tax liability.

Collateral Tax Liabilities

Although Bond Counsel has rendered an opinion that interest on the Series A Bonds is excludable from gross income for Federal and Pennsylvania income tax purposes, the ownership or disposition of, or the accrual or receipt of interest on, the Series A Bonds may result in other collateral effects on a Bondholder's Federal, state or local tax liabilities. The nature and extent of these other tax consequences may depend upon the particular tax status of the Bondholder or the Bondholder's other items of income or deduction. Bond Counsel expresses no opinions regarding any tax consequences other than what is set forth in its opinion; each Bondholder or potential Bondholder is urged to consult with its own tax advisors with respect to the effects of purchasing, holding or disposing of the Series A Bonds on its tax liabilities.

For example, corporations are required to include interest on the Series A Bonds in determining "adjusted current earnings" under Section 56(c) of the Code, which may increase the amount of any alternative minimum tax owed. Other tax consequences for certain taxpayers include, without limitation, increasing the federal tax liability of certain foreign corporations subject to the branch profits tax imposed by Section 884 of the Code, increasing the federal tax liability of certain insurance companies under Section 832 of the Code, increasing the federal tax liability of certain S corporations subject to Sections 1362 and 1375 of the Code, increasing the federal tax liability of certain individual recipients of social security or railroad retirement benefits under Section 86 of the Code, limiting the use

of the Earned Income Credit under Section 32 of the Code, limiting the use of the refundable credit for coverage under a qualified health plan under Section 36B of the Code, and denying an interest expense deduction to certain financial institutions under Section 265 of the Code (unless, and in the circumstance when, the Series A Bonds have been designated by the issuer as "qualified tax-exempt obligations").

Change in Law; Adverse Determinations

From time to time, certain legislative proposals may be introduced, or are pending, in the Congress of the United States or the various state legislatures, including some that carry retroactive effective dates, that, if, enacted, could alter or amend the federal and state tax matters described above or affect the market value of the Series A Bonds. No prediction can be made whether or in what form any such proposal or proposals might be enacted into law or whether, if enacted, the same would apply to bonds issued prior to enactment. Prospective purchasers of the Series A Bonds should consult their own tax advisors regarding any pending or proposed federal tax legislation. Bond Counsel expresses no opinion regarding any pending or proposed federal tax legislation.

The Internal Revenue Service (the "Service") regularly audits tax-exempt obligations to determine whether, in the view of the Service, interest on such tax-exempt obligations is includible in the gross income of the owners thereof for federal income tax purposes. No prediction can be made whether or not the Service will commence an audit of the Bonds. If an audit is commenced, under current procedures, the Service may treat the Authority as a taxpayer and the Bondholders may have no right to participate in such procedure. The commencement of an audit could adversely affect the market value and liquidity of the Bonds until such time as the audit is concluded, regardless of the ultimate outcome.

Payments of interest on, and proceeds of the sale, redemption or maturity of, tax-exempt obligations, such as the Series A Bonds, are in certain cases required to be reported to the Service. Additionally, backup withholding may apply to any such payments to any Bondholder who fails to provide an accurate Form W-9 Request for Taxpayer Identification Number and Certification, or to any Bondholder who is notified by the Service of a failure to report any interest or dividends required to be shown on federal income tax returns.

Federal Income Tax Matters – Series B Bonds

General

The following is a summary of the principal federal income tax consequences relating to the acquisition, ownership and disposition of the Series B Bonds for certain U.S. Holders (as defined below). It does not provide a complete analysis of all potential tax considerations relating to the acquisition, ownership and disposition of the Series B Bonds. This summary is based on the tax laws of the United States, including the current provisions of the Code, its legislative history, current final, temporary and proposed Treasury regulations thereunder, published rulings and pronouncements of the IRS and court decisions, all as currently in effect and all of which are subject to change at any time, possibly with retroactive effect, so as to result in federal income tax consequences different from those described below. There can be no assurance that the IRS will not take a contrary view or that a court would not sustain a contrary view, and no ruling from the IRS has been, or is expected to be, sought on the issues discussed herein. Legislative, judicial or administrative changes or interpretations may occur that could alter or modify the statements and conclusions set forth herein. Any such changes or interpretations may or may not be retroactive and could affect the tax consequences discussed below.

EACH PROSPECTIVE PURCHASER SHOULD SEEK ADVICE BASED ON THE PROSPECTIVE PURCHASER'S PARTICULAR CIRCUMSTANCES FROM AN INDEPENDENT TAX ADVISOR.

THIS SUMMARY DOES NOT ADDRESS FEDERAL GIFT, GENERATION SKIPPING OR ESTATE TAX CONSEQUENCES OR ALTERNATIVE MINIMUM, FOREIGN, STATE, LOCAL OR OTHER TAX CONSEQUENCES, NOR DOES THIS SUMMARY ADDRESS FEDERAL INCOME TAX CONSEQUENCES FOR BONDHOLDERS OTHER THAN U.S. HOLDERS (AS DEFINED BELOW). EACH PROSPECTIVE PURCHASER CONSIDERING THE PURCHASE OF SERIES B BONDS SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING THESE MATTERS AND CONCERNING THE TAX TREATMENT OF SERIES B BONDS UNDER STATE AND LOCAL TAX LAWS AND REGULATIONS.

The following summary deals only with Series B Bonds held as capital assets within the meaning of Section 1221 of the Code (generally assets that are held for investment rather than as inventory or as property used in a trade or business) and not with special classes of holders, such as dealers in securities or currencies, financial institutions, insurance companies, S corporations, grantor trusts, certain former citizens or residents of the United States, traders in securities that elect to use a mark-to-market method of accounting for their securities holdings, dealers, persons holding Series B Bonds as part of a hedging transaction, straddle, conversion transaction, synthetic security transaction or other risk reduction or integrated transaction, persons whose functional currency is not the U.S. dollar, persons who acquire the Series B Bonds in connection with their employment or other performance of services, tax-exempt persons, mutual funds, small business investment companies, real estate mortgage investment conduits or real estate investment trusts.

If a partnership (or other entity or arrangement treated as a partnership for federal income tax purposes) acquires Series B Bonds, the federal income tax treatment of a partner generally will depend on the status of the partner and the activities of the partnership. A partnership holding Series B Bonds, and partners in such a partnership, should consult its and their own tax advisors with regard to the federal income tax consequences of the acquisition, ownership, and disposition of the Series B Bonds by the partnership.

The federal income tax discussion that appears below is included in this Official Statement for the general information of a prospective purchaser. Some or all of the discussion may not apply to a particular purchaser depending upon the particular situation of that purchaser. Each prospective purchaser should consult its own tax advisor concerning the tax consequences to such purchaser of owning and disposing of the Series B Bonds, including the tax consequences under state, local and other tax laws and the possible effects of changes in federal or other tax laws.

As used in this Official Statement, the term "U.S. Holder" means a beneficial owner of a Series B Bond that is, for federal income tax purposes (a) a citizen or resident of the United States for federal income tax purposes; (b) a corporation (or other entity treated as a corporation for federal income tax purposes) created or organized in or under the laws of the United States, any of the states thereof or the District of Columbia; (c) an estate, the income of which is includible in gross income for federal income tax purposes regardless of its source; (d) a trust that is subject to the supervision of a court within the United States and one or more United States persons as described in Section 7701(a)(30) of the Code has the authority to control all of the substantial decisions with respect to such trust; or (e) certain trusts with a valid election in effect under applicable Treasury regulations to be treated as a United States person within the meaning of the Code.

BECAUSE INDIVIDUAL CIRCUMSTANCES MAY DIFFER, PROSPECTIVE PURCHASERS AND BENEFICIAL OWNERS OF THE SERIES B BONDS ARE STRONGLY URGED TO CONSULT WITH THEIR OWN TAX ADVISORS WITH RESPECT TO THEIR PARTICULAR TAX SITUATIONS AND AS TO ANY FEDERAL, FOREIGN, STATE, LOCAL OR OTHER TAX CONSIDERATIONS (INCLUDING ANY POSSIBLE CHANGES IN TAX LAW) AFFECTING THE ACQUISITION, OWNERSHIP AND DISPOSITION OF THE SERIES B BONDS.

Tax Status of the Series B Bonds

The Series B Bonds are taxable Series B Bonds for federal income tax purposes. As such, interest on the Series B Bonds is not excludible from the gross income of Bondholders under Section 103 of the Code and will be fully subject to federal income taxation.

Interest

Interest on the Series B Bonds will be taxable to a Bondholder as ordinary interest income. A Bondholder using the accrual method of accounting for federal income tax purposes generally must include such interest in income as the interest accrues, while a Bondholder using the cash receipts and disbursements method of accounting generally must include such interest in income when payments are actually or constructively received. There is an exception if the Bondholder makes a constant yield election ("Constant Yield Election") and for original issue discount.

Constant Yield Election

Under applicable regulations, a Bondholder may elect to include in gross income all income that accrues on a Series B Bond (including stated interest, acquisition discount, market discount, de minimis market discount and unstated interest, as adjusted by any amortizable bond premium or acquisition premium) in accordance with the constant yield method. Bondholders should consult their own tax advisors about how this election would apply to them.

Market Discount

A Series B Bond purchased by a Bondholder after its original issue at a price lower than the Series B Bond's stated principal amount will be considered to bear "market discount" in an amount equal to such difference except if the difference is less than a specific de minimis amount. The market discount is de minimis if it is less than the product of 0.25% of the Series B Bond's stated principal amount, multiplied by the remaining number of years to maturity for such Series B Bond at the time of purchase.

In general, any partial payment of principal or any gain recognized on the maturity or disposition of a Series B Bond having market discount will be treated as ordinary income to the extent that the gain does not exceed the "accrued market discount" on such Series B Bond. Generally, the accrued market discount will be the total market discount on a Series B Bond multiplied by a fraction, the numerator of which is the number of days the Bondholder held the Series B Bond and the denominator of which is the number of days from the date the Bondholder acquired the Series B Bond until its maturity date. A Bondholder may elect, however, to determine accrued market discount under the constant-yield method.

Bondholders who acquire Series B Bonds at a market discount may be required to defer, until the maturity date of such Series B Bonds or the earlier disposition in a taxable transaction, the deduction of a portion of the amount of interest that the Bondholder paid or accrued during the taxable year on indebtedness incurred or continued to purchase or carry a Series B Bond in excess of the aggregate amount of interest (including original issue discount) includible in such Bondholder's gross income for the taxable year with respect to such Series B Bond. The amount of such net direct interest expense deferred in a taxable year will not exceed the amount of market discount accrued on the Series B Bond for the days during the taxable year on which the Bondholder held the Series B Bond and, in general, would be deductible when such market discount is includible in income. The amount of any remaining deferred deduction is to be taken into account in the taxable year in which the Series B Bond matures or is disposed of in a taxable transaction. In the case of a disposition in which gain or loss is not recognized in whole or in part, any remaining deferred deduction will be allowed to the extent gain is recognized on the disposition. This deferral rule does not apply if the Bondholder elects to include such market discount in income currently as described above.

If the Series B Bond is disposed of in a nontaxable transaction (other than as provided in Code Section 1276(c) and (d)), accrued market discount will be includible as ordinary income to the Bondholder as if the holder had sold the Series B Bond at its then fair market value.

Alternatively, a Bondholder may elect to recognize market discount as ordinary income currently as it accrues (on either a ratable or constant-yield basis), in lieu of treating a portion of any gain realized on a sale of the Series B Bond as ordinary income. The adjusted basis of a Series B Bond subject to this election will be increased to reflect market discount included in income, thereby reducing any gain or increasing any loss on a sale or taxable disposition. Also, if a Bondholder elects to include market discount on a current basis, the interest deduction deferral rule described above do not apply. If a Bondholder does make such election, it will apply to all market discount debt instruments that a Bondholder acquires on or after the first day of the first taxable year to which the election applies. The election may not be revoked without the consent of the IRS.

Acquisition Premium; Amortizable Bond Premium

A Bondholder that purchases a Series B Bond for an amount that is greater than its adjusted issue price but equal to or less than the sum of all amounts payable on the Series B Bond after the purchase date other than payments of interest at the stated rate of interest ("Qualified Stated Interest") will be considered to have purchased

the Series B Bond at an acquisition premium. Under the acquisition premium rules, the amount of original issue discount that the holder must include in its gross income for the Series B Bond for any taxable year will be reduced (but not below zero) by the portion of acquisition premium properly allocable to that year.

If a Bondholder purchases a Series B Bond for an amount in excess of the sum of all amounts payable on the Series B Bond after the acquisition date (other than payments of Qualified Stated Interest), the Bondholder will be considered to have purchased the Series B Bond with amortizable bond premium equal in amount to that excess and may elect to amortize this premium over the remaining term of the Series B Bond, based on the Bondholder's yield to maturity for the Series B Bond as determined under the amortizable bond premium rules. If the Series B Bond is redeemable prior to maturity, the amount of amortizable bond premium is determined with reference either to the amount payable on maturity or, if it results in a smaller premium attributable to the earlier redemption period, with reference to the amount payable on the earlier redemption date. A Bondholder may generally use the amortizable bond premium allocable to an accrual period to offset Qualified Stated Interest required to be included in the Bondholder's income for the Series B Bond in that accrual period. Under applicable regulations, if the amortizable bond premium allocable to an accrual period exceeds the amount of Qualified Stated Interest allocable to the accrual period, the excess would be allowed as a deduction for the accrual period, but only to the extent of the Bondholder's prior interest inclusions on the Series B Bond. Any excess is generally carried forward and allocable to the next accrual period. A Bondholder who elects to amortize bond premium must reduce his, her or its tax basis in the Series B Bond by the amount of the premium amortized during the holding period of the Bondholder, as further described below under "–Sale, Exchange, Retirement or Other Taxable Disposition of Series B Bonds." An election to amortize bond premium applies to all taxable debt obligations held by the Bondholder on or after the beginning of the first taxable year to which the election applies and may be revoked only with the consent of the IRS. Applicable regulations provide limited automatic consent for a Bondholder to change its method of accounting for bond premium to the constant yield method if the change is made for the first taxable year (by a statement on the relevant return) for which the Bondholder must account for a bond under those regulations. If a Bondholder does not elect to amortize bond premium, the amount of premium will be included in its tax basis in the Series B Bond; therefore, such premium generally would produce a capital loss, which capital loss may be subject to limitations on deductibility.

Sale, Exchange, Retirement, or Other Taxable Disposition of Series B Bonds

Upon the sale, exchange, redemption, retirement or other taxable disposition of a Series B Bond, a Bondholder generally will recognize gain or loss equal to the difference between (i) the amount of cash proceeds and the fair market value of any property received for the Series B Bond (which excludes payments for accrued interest not previously reported in income), and (ii) the Bondholder's adjusted basis in the Series B Bond or applicable portion of the adjusted basis. The Bondholder's adjusted basis generally will equal the cost of the Series B Bond to the Bondholder, increased by any original issue discount and market discount previously included in the Bondholder's ordinary income for the Series B Bond and reduced by any principal payments on the Series B Bond previously received by the holder and by any amortizable bond premium used to offset Qualified Stated Interest and certain other amortizable bond premium allowed as a deduction under the regulations described above under the section entitled "–Acquisition Premium; Amortizable Bond Premium." Except as discussed above under the section entitled "–Market Discount" for Series B Bonds with market discount, or to the extent cash received is attributable to accrued Qualified Stated Interest, any gain or loss recognized upon a sale, exchange, redemption, retirement, or other disposition of a Series B Bond will be capital gain or loss and will be long-term capital gain or loss if the Bondholder's holding period in the Series B Bond exceeds one year on the date of the disposition. The deductibility of capital losses is subject to limitations. Prospective investors should consult their tax advisors regarding the treatment of capital gains and losses as it applies to them.

Defeasance or Material Modification

The legal defeasance or other significant modification of Series B Bonds may result in a deemed disposition of such Series B Bonds and a deemed reissuance of a "new" Series B Bond to the Bondholder for federal income tax purposes, in which event a Bondholder will recognize taxable gain or loss equal to the difference between the amount realized from the deemed exchange and the Bondholder's adjusted tax basis in the Series B Bond. The "new" Series B Bond deemed reissued in such a defeasance or significant modification may be treated as issued with original issue discount in an amount equal to the excess, if any, of the stated principal amount of the

"new" Series B Bond over its deemed issue price. Prospective investors should consult their tax advisors regarding the tax consequences of a defeasance or material modification of the Series B Bonds.

Medicare Tax

The income of a Bondholder that is an individual, certain trusts or an estate from a Series B Bond is potentially subject to the 3.8% Medicare tax under Code Section 1411. Bondholders are urged to consult with their tax advisors regarding the applicability of the Medicare tax to income and gains in respect of their investment in the Series B Bonds.

Backup Withholding and Information Reporting

A backup withholding tax, currently at a 28% rate, and information reporting requirements generally apply to specified payments of principal, premium and interest (including original issue discount in some instances) made to, and to the proceeds of sale before maturity by, Bondholders (other than certain exempt recipients, such as organizations exempt from taxation under Section 501(a) of the Code) who fail to provide and certify certain identifying information (e.g., the holder's taxpayer identification number) in the required manner. Under current Treasury regulations, backup withholding will not apply to payments made on a Series B Bond or proceeds from the sale of a Series B Bond if the Bondholder:

(a) provides its U.S. taxpayer identification number (typically on IRS Form W-9 or a successor form), certifies that it is a U.S. person, and certifies that (1) it is exempt from backup withholding, (2) it has not been notified by the IRS that it is subject to backup withholding or (3) it has been notified by the IRS that it is no longer subject to backup withholding; or

(b) establishes an exemption from backup withholding.

Any amounts withheld from a payment to a Bondholder under the backup withholding rules will be refunded or credited against that Bondholder's federal income tax liability. The amount of any "reportable payments" for each calendar year and the amount of tax withheld, if any, with respect to those payments will be reported to the Bondholders of the Series B Bonds and to the IRS.

THE FOREGOING IS NOT INTENDED AS AN EXHAUSTIVE LIST OF THE PROVISIONS OF FEDERAL, STATE AND LOCAL TAX LAWS WHICH MAY HAVE AN EFFECT ON INDIVIDUALS AND CORPORATIONS HOLDING THE BONDS OR RECEIVING INTEREST THEREON. PROSPECTIVE PURCHASERS SHOULD CONSULT WITH THEIR OWN TAX ADVISORS REGARDING THE EFFECT ON THEIR FEDERAL, STATE OR LOCAL TAX LIABILITY AND GENERAL FINANCIAL AFFAIRS OF HOLDING THE BONDS OR RECEIVING INTEREST THEREON.

RATINGS

S&P Global Ratings ("S&P") is expected to assign its credit rating of "AA" (Stable Outlook) to the Bonds, with the understanding that, upon delivery of the Bonds, a Municipal Bond Insurance Policy will be issued by MAC. S&P has assigned its underlying rating of "A" (Stable Outlook) to the Bonds.

Such ratings reflect only the view of such organization. Any desired explanation of the significance of such ratings should be obtained from the rating agency furnishing the same, at the following address: S&P Global Ratings, 55 Water Street, 38th Floor, New York, NY 10041. There is no assurance that these credit ratings will be maintained for any given period of time, or that they may not be lowered or withdrawn entirely by the rating agency if, in its judgment, circumstances so warrant. Any such downward change in or withdrawal of such credit ratings may have an adverse effect on the market price of the Bonds.

UNDERWRITING

PNC Capital Markets LLC (the "Underwriter") has agreed, subject to certain conditions, to purchase: (i) the Series A Bonds from the Authority at an aggregate price of $9,957,390.95 (consisting of an aggregate principal amount of $9,995,000.00, less an underwriter's discount of $28,485.75, less a net original issue discount of $9,123.30); and (ii) the Series B Bonds from the Authority at an aggregate price of $1,321,223.75 (consisting of an aggregate principal amount of $1,325,000.00, less an underwriter's discount of $3,776.25). The Underwriter's obligations to purchase the Bonds are subject to certain conditions precedent, however, the Underwriter is obligated to purchase all such Bonds if any such Bonds are purchased. The Bonds may be offered and sold to certain dealers (including dealers depositing such Bonds into investment trusts) at prices lower than such public offering prices, and such public offering prices may be changed, from time to time, by the Underwriter.

FINANCIAL ADVISOR

The Authority has retained Susquehanna Group Advisors, Inc., Harrisburg, Pennsylvania as financial advisor (the "Financial Advisor") in connection with the preparation, authorization and issuance of the Bonds. The Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information contained in this Official Statement. Susquehanna Group Advisors is an independent advisory firm and is not engaged in the business of underwriting, trading, or distributing municipal securities or other public securities.

MISCELLANEOUS MATTERS

All summaries of the provisions of the Act, the Bonds, the Indenture, the Resolution, the Disclosure Certificate, and other documents hereinabove and hereinafter set forth are made subject to all detailed provisions thereof, to which reference is hereby made for further information, and do not purport to be complete statements of any or all such provisions.

All estimates and assumptions herein have been made on the best information available and are believed to be reliable, but no representations whatsoever are made that such estimates or assumptions are correct or will be realized. So far as any statements herein involve matters of opinion, whether or not expressly so stated, they are intended merely as such and not as representations of fact.

Appendices A, B, C and D, attached hereto, are expressly incorporated herein as a part hereof.

This Official Statement, issued by the Authority, has been duly approved and executed by the Authority and has been authorized for distribution in connection with the underwriting and offering of the Bonds.

BUTLER AREA SEWER AUTHORITY
(Butler County, Pennsylvania)

By: /s/ Gerald S. Patterson, Jr
Board Chairman

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APPENDIX A

Demographic and Economic Information
Relating to the Area Served by the Authority

(Butler County, Pennsylvania)

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DESCRIPTION OF THE AREA SERVED
BY THE BUTLER AREA SEWER AUTHORITY

General

The System primarily serves the City of Butler, Butler Township, Center Township, areas in the East Butler Borough, and limited areas in Summit, Connoquenessing and Oakland Townships all of which are in Butler County.

Transportation

Several major highways traverse Butler County (the "County"). Interstate 80 runs east and west along the northern border of the County, and interstate 79 runs north and south through the western section. The Pennsylvania Turnpike, Interstate 76, runs east and west along the southern border of the County. The Allegheny Valley Expressway, Pennsylvania Route 28, runs through the southeastern corner of the County. Direct access to New Castle, Pennsylvania and Youngstown, Ohio is provided by U.S. Route 422, and Pennsylvania Route 8 traverses the County running north and south. Several major roads, which connect with the interstate highway system, run in all directions from the City of Butler.

Railroads which serve the area include CSX Transportation, Canadian National, Genesee & Wyoming, and Norfolk Southern.

Commercial air service is provided by the Pittsburgh International Airport, which is less than one hour from the service area. Smaller craft are handled by several airports within the County. Principal among these is the Pittsburgh-Butler Regional Airport, which is located approximately six miles from the City of Butler and is operated by the Butler County Airport Authority. The Pittsburgh-Butler Regional Airport features a 4,801 foot asphalt surfaced runway.

Motor freight trucking service providers include; MHF Inc. M/K Express Co., LLC, John D. Clark Trucking, Hindman Trucking, Jack Blair Trucking and Krebs Trucking. Express services are available from numerous providers as well.

Access to the nation's largest inland waterway is available via the Allegheny River at Freeport, located just outside the southeastern corner of the County. Bus services are provided by the Butler Transit Authority. Charter bus service providers include Butler Motor Transit Company, Coach USA and Campbell Bus Lines.

Public Utilities

Electric service is provided to the City of Butler, Butler Township, and other areas located within the System by West Penn Power, and by PennPower, a FirstEnergy Company. Natural Gas is supplied by Peoples TWP Inc. Water service is provided by Pennsylvania American Water. Sewer service is provided by the Authority. Telephone service is available through traditional providers such as CenturyLink as well as through alternative sources such as Armstrong Cable and multiple wireless providers including Verizon, AT&T, and Sprint.

Communications

Three radio stations and one newspaper serve the County. The *Butler Eagle* is a daily newspaper with a circulation of more than 28,100.

Health Care and Emergency Services

Butler Health System, including Butler Memorial Hospital and other outpatient facilities, are located throughout the County and Western Pennsylvania. Butler Health System currently has approximately 2,000 employees. Butler Memorial Hospital, located in Butler, is an acute-care, not-for-profit general hospital with a current capacity of 300 beds. The Veterans Administration Hospital is also located in Butler Township, and currently has 623 employees. The Veterans Administration provides outpatient services that generate approximately 125,000 visits per year. The facility also provides 60 nursing home care beds, 10 compensated work therapy beds,

and 56 domiciliary beds. Most VA services were relocated to a new facility in Center Township in September 2017. In addition, a satellite hospital of UPMC Passavant, located in the southwestern corner of the County, a 35-bed hospital serves the residents of Cranberry Township and its neighboring communities.

Several long term care facilities licensed by the Commonwealth of Pennsylvania are located in and around the service area.

In addition, area residents have easy access to the hospitals and health care agencies located in the Greater Pittsburgh metropolitan and surrounding areas.

Parks and Recreation

The County is noted for its beautiful scenery and excellent outdoor recreation facilities. Moraine State Park, located a short distance west of the service area, offers camping, hiking, boating, fishing, bicycling, skiing, and many other sports on a 15,000-acre site. Located within the Park is the 3,200-acre Lake Arthur, which includes 40 miles of shore line and areas preserved for waterfowl refuges. The Park attracts visitors from Allegheny County and surrounding counties in Western Pennsylvania. In addition, the City of Butler and Butler County operate various amenities including public parks, a swimming pool, and playgrounds. The County has a number of golf courses, many of which are open to the public. Many sports-minded tourists are attracted to the abundance of outdoor activities and events popular in this area.

Public Education

The Butler Area School District includes the following municipal units: the City of Butler, the Townships of Butler, Center, Clearfield, Connoquenessing, Oakland, and Summit and the Boroughs of Connoquenessing and East Butler. Within Pennsylvania, school districts are classified according to population as first, second, third, and fourth class, with the first having the largest population. The Butler Area School District is classified as a school district of the second class.

Higher Education

Slippery Rock University, located in the northwestern section of the County on 660-acres, is a member of the Pennsylvania State System of Higher Education and offers a variety of undergraduate and graduate programs to approximately 8,500 students. The University has 381 full-time faculty and 61 part-time faculty members.

The Butler County Community College main campus, which opened in 1966, is located in Butler Township on 323 wooded acres and currently enrolls approximately 4,200 credit students. The College offers 76 associate degree, career, and transfer programs in business, humanities and social sciences, nursing and allied health, and science and technology. To better serve the community, the College offers non-credit classes for professional and recreational purposes, summer programs for children, training for business and industry, emergency medical services and public safety, and free classes for senior citizens.

The Regional Learning Alliance (RLA), which is located in Cranberry Township, is a 501(c)(3) nonprofit organization that acts as the region's Learning Center, capitalizing on the resources of a 11 member alliance of educational institutions. Members of the RLA include: Carlow University, DeVry University, Duquense University, Gannon University, Geneva College, La Roche College, Penn State University, Pittsburgh Technical Institute, Robert Morris University, Slippery Rock University, and the University of Pittsburgh.

The University of Pittsburgh, Carnegie-Mellon University, Duquense University, Chatham College, Slippery Rock University, Grove City College, Point Park University, Robert Morris University, Butler County Community College, La Roche College, and Community College of Allegheny County are located within one hour from Butler County.

Financial Institutions

There are numerous financial institutions located throughout the County. Headquartered in the County are NexTier Bank and Mars National Bank. The County is also served by branch offices of major Pittsburgh commercial banks including Citizens Bank, PNC Bank, and First Commonwealth Bank.

DEMOGRAPHIC CHARACTERISTICS

Population and Density

	2010	2000	1990	1980	1970
Butler County	183,862	174,083	152,013	147,912	127,941
Pennsylvania	12,702,379	12,281,054	11,881,643	11,863,895	11,793,909

Source: U.S. Census Bureau

Age Composition (2016)

	0-17 Years	18-64 Years	65+ Years	Persons Per Household
Butler County	20.3%	61.7%	18.0%	2.42
Pennsylvania	20.9	61.7	17.4	2.49

Source: U.S. Census Bureau

Income (2016)

	Per Capita Income	Median Household Income	Persons Below Poverty Level
Butler County	$ 32,301	$ 60,934	9.5%
Pennsylvania	29,291	53,599	13.2%

Source: U.S. Census Bureau

Housing Characteristics

	Housing Units (2016)	Homeownership Rate (2016)	Median Value of Owner-Occupied Housing Units
Butler County	81,554	76.8%	$ 178,100
Pennsylvania	5,612,002	69.2%	166,000

Source: U.S. Census Bureau

ECONOMY OF THE AREA

Real Property Assessment Data for Butler County

Year	Market Value	Assessed Value	Ratio
2009	$10,459,928,230	$1,609,992,804	15.39%
2010	10,898,114,542	1,629,407,564	14.95%
2011	11,169,581,480	1,669,292,537	14.94%
2012	11,634,063,306	1,677,467,020	14.42%
2013	11,837,083,626	1,700,924,919	14.37%
2014	12,827,455,786	1,724,861,456	13.45%
2015	13,125,229,682	1,755,616,120	13.38%
2016	14,101,549,441	1,779,257,228	12.62%

Source: Pennsylvania State Tax Equalization Board

Assessment By Land Use for Butler County

	2012	2013	2014	2015	2016
Residential	$1,192,874,618	$1,208,433,012	$1,224,698,121	$1,244,253,627	$1,262,371,922
Lots	17,236,752	17,103,751	17,227,864	16,926,242	17,076,797
Industrial	30,535,294	30,816,804	30,807,240	30,543,457	30,270,297
Commercial	277,825,316	283,869,999	290,360,500	301,185,220	305,743,868
Agriculture	127,102,917	128,445,537	129,382,518	130,271,963	131,166,444
Land	13,672,130	13,625,446	13,687,341	13,639,345	13,623,521
Oil/Gas/Minerals	792,767	896,147	1,019,865	1,087,857	1,237,938
Trailers	16,896,948	17,196,705	17,140,489	17,171,391	17,226,733
Seasonal	530,278	537,518	537,518	537,018	539,708
Total	$1,677,467,020	$1,700,924,919	$1,724,861,456	$1,755,616,120	$1,779,257,228

Source: Pennsylvania State Tax Equalization Board

Property Tax Levies and Collections for Butler County

Year	Total Adjusted Tax Levy for Year	Collected in Year of Levy	Percent Collection Current Year	Total Taxes Collected	Total Percent Collected
2008	$ 35,907,974	$ 34,648,173	96.49%	$ 35,881,171	99.93%
2009	38,097,366	36,722,850	96.39%	38,065,610	99.92%
2010	38,554,586	37,400,349	97.11%	38,516,759	99.90%
2011	39,274,633	38,125,369	97.07%	39,232,965	99.89%
2012	39,780,254	38,636,151	97.12%	39,731,656	99.88%
2013	41,919,403	40,827,137	97.39%	41,856,572	98.85%
2014	42,566,127	41,447,122	97.37%	42,476,459	99.79%
2015	43,121,399	42,052,177	97.48%	42,643,079	98.89%
2016	49,024,522	47,864,484	97.59%	47,864,484	97.63%

Source: County's 2016 Comprehensive Annual Financial Report

Largest Taxpayers

The ten largest taxpayers in the county and their 2016 assessed valuations are listed below:

Owner	Type of Business	2016 Assessed Value
Clearview Mall	Shopping Mall	$ 4,284,720
Oxford Development Co.	Developer/Commercial Real Estate Provider	4,101,020
Aldi Inc.	Commercial Buildings	3,461,260
Northwestern Mutual	Strip Mall	3,294,580
AK Steel	Steel Manufacturing Plant	2,915,733
OCG Slippery Rock LP	Apartments/Commercial Center/Garage	2,856,500
Campus Crest S.R. LLC	Real Estate	2,754,110
Buncher Company	Real Estate	2,737,500
Gumberg Associates	Giant Eagle and other businesses	2,524,250
UPMC Presby Shadyshide	Healthcare	2,268,670
	Total:	$ 31,198,343

Source: Butler County Assessment Office

Employment

Business and industry have been attracted to the County due to the relatively low taxes and the availability of a variety of modes of transportation, most notably highway and railroad, allowing for easy access to major market areas.

The area continues to see development through the efforts of the Butler County Community Development Corporation located in the City of Butler which focuses on the development of local business parks. In addition, the area continues to realize benefits from the recently developed Cranberry Woods Business Park, located in the southwestern portion of the County of Butler. Businesses located in this park contribute to the below noted top ten largest employers and are expected to continue to do so. In addition, the Butler Commons retail plaza opened in Butler Township, and with its opening has brought new retailers to the area.

Largest Employers

The ten largest employers located within the County during 2016 include:

Employer [1]
U.S. Government
Westinghouse Electric Co.
Butler Health System
AK Steel Corp.
Walmart Associates Inc.
Butler Area School District
Seneca Valley School District
Slippery Rock University
Kawneer Commerical Windows LLC
County of Butler

[1] Due to confidentiality restrictions, the number of employees is not provided.
Source: PA Department of Labor & Industry – Center for Workforce Information & Analysis

Distribution of Employment

The industry employment distribution for the County as June 2016 is detailed below:

Industry Sector	Employees
Health Care and Social Assistance	13,241
Manufacturing	12,247
Retail Trade	11,003
Accommodation and Food Services	7,283
Education Services	5,481
Wholesale Trade	4,378
Construction	4,313
Professional and Technical Services	3,851
Transportation and Warehousing	3,800
Administrative and Waste Services	3,788

Source: PA Department of Labor & Industry

Recent Trends in Employment and Unemployment

	2012	2013	2014	2015	2016	2017
Butler County						
Civilian Labor Force	98,600	97,200	97,600	98,500	98,300	97,800
Employment	92,100	91,800	93,000	93,800	93,200	93,000
Unemployment	6,500	5,400	4,600	4,700	5,100	4,800
Unemployment Rate	6.6%	5.5%	4.7%	4.8%	5.2%	4.9%
Pennsylvania						
Civilian Labor Force	6,482,000	6,394,000	6,384,000	6,425,000	6,454,000	6,476,000
Employment	5,979,000	5,976,000	6,041,000	6,087,000	6,103,000	6,153,000
Unemployment	503,000	418,000	343,000	338,000	352,000	323,000
Unemployment Rate	7.8%	6.5%	5.4%	5.3%	5.4%	5.0%

** Seasonally adjusted. Figures are as of December of each year, except 2017 which are as of May.*
Source: Pennsylvania Department of Labor & Industry.

Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2018 and 2017 with
Independent Auditor's Report

MaherDuessel

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2018 AND 2017

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MaherDuessel

Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2018 and 2017, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the financial statements, the Authority adopted Governmental Accounting Standards Board (GASB) Statement No. 75, *"Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,"* which requires the Authority to record its net OPEB liability and related items on their financial statements. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements

are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
September 28, 2018

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2018 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements.

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2018.

- The Authority adopted Governmental Accounting Standards Board (GASB) Statement No. 75, *"Accounting for Financial Reporting for Postemployment Benefits Other Than Pensions,"* during the year. Among other things, this standard requires new footnote disclosures and required supplementary information be presented for postemployment benefits other than pensions (OPEB), a new bi-annual actuarial valuation dated August 1, 2017, recording of the net OPEB liability of $4,524,282, and a restatement to beginning net position from $37,122,788 to $34,873,450.

- Three of the Authority's four PennVest notes were paid in full during the year with proceeds, in the amount of $11,320,000, from the issuance of the 2017 Series A and Series B Sewer Revenue Bonds (2017 Bonds). Over the life of the 2017 Bonds, the Authority will realize savings of approximately $336,000, or the net present value savings of approximately $283,000.

- Major capital projects, financed with 2016 bond proceeds, continued during the year and were recorded as construction in progress. The *Negley Avenue Pump Station Replacement Project*, *Waste Water Treatment Plant (WWTP) Headworks Improvement Project*, and the *WWTP Sludge Dewatering Improvement Project* incurred costs of $987,725, $2,234,635, and $225,014, respectively.

- Neither the adoption of the 2018-2019 nor the 2017-2018 fiscal year Authority budgets resulted in any sewer service charge rate increases to Authority customers. The most recent rate increase became effective with the adoption of the 2016-2017 Authority budget, whereas the Board increased rates by $3.00 (9.1%) per month per equivalent dwelling unit (EDU) effective July 1, 2016.

- The Authority experienced a Net Loss or a decrease in Net Position of $502,837 (1.4%) in the fiscal year ended July 31, 2018. The loss continues to be driven by high depreciation expenses totaling $3,293,913 for the fiscal year ended July 31, 2018.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses for the current fiscal year and past fiscal year. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position.

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2018	Balance at July 31, 2017	Net Change
Assets:			
Current Assets	$ 22,745,088	$ 25,021,485	$ (2,276,397)
Other Assets	65,618	131,235	(65,617)
Capital Assets	65,745,046	65,265,282	479,764
Total Assets	88,555,752	90,418,002	(1,862,250)
Deferred Outflows of Resources:			
Deferred charge on refunding	1,234,161	1,327,290	(93,129)
Total Deferred Outflows of Resources	1,234,161	1,327,290	(93,129)
Liabilities and Net Position:			
Current Liabilities	3,888,202	3,333,593	554,609
Non-Current Liabilities	51,531,098	51,288,911	242,187
Total Liabilities	55,419,300	54,622,504	796,796
Total Net Position	$ 34,370,613	$ 37,122,788	$ (2,752,175)

Assets and Deferred Outflows of Resources

The Authority's Current Assets decreased by $2,276,397 (9.1%) during the period. There was a net increase to cash and cash equivalents ($362,712) that was offset by a net decrease ($2,532,230) to investments in trusted accounts, primarily due to reimbursements for eligible capital expenditures from the 2017 bond proceeds held in trust to an unrestricted Authority fund. The Authority also has focused much attention on collecting outstanding utility billing account balances over the past few years, which has resulted in a decrease to accounts receivable of $113,979 during the period.

Capital Assets increased by $479,764 (.7%). The Authority had additions to capital assets during the year that exceeded the amount of depreciation for the period of $3,293,913 and therefore resulted in an increase in Capital Assets for the period. Additional information can be reviewed in the Capital Improvements section of the MD&A and in the Notes to the Financial Statements.

Overall, total assets decreased by $1,862,250 (2.1%).

The Deferred Charge on Refunding was established from the Sewer Revenue Bonds, Series of 2013 and 2015 that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the life of the bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities and Net Position

The Authority had an increase in Current Liabilities as of July 31, 2018 of $554,609 (16.6%). This was due to an increase in vouchers payable of $500,056. This increase correlates to the additional construction projects at the end of the current fiscal year compared to the prior fiscal year. Additional information on capital projects can be seen in the Capital Improvements section of the MD&A below. In addition, as the Authority refinanced three PennVest notes during the year with the 2017 bonds, a shift in debt service payments is reflected in the statements as an increase in current maturities of bonds payable and a decrease in the current maturities of notes payable, overall a net increase of $92,492. Additional information on debt is available in the Debt section of the MD&A and in the Notes to the Financial Statements.

Non-Current Liabilities had a net increase of $242,187 (.4%). The Authority continued to make required debt service payments on both bonds and notes over the period. Additionally, the Authority entered into a sewer revenue bond in 2017 and paid off three notes payable, therefore reflecting an increase to the bonds payable and a decrease to the notes payable. These transactions resulted in a net decrease of $2,180,908. More discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. With the adoption of GASB No. 75, the new accounting standard requires the recognition of the OPEB liability instead of the previous requirement to present the OPEB obligation. This accounting change resulted in the recognition of an additional liability of $2,432,777 from the previous accounting standard that was utilized in the prior period.

Overall, Total Liabilities increased by $796,796 (1.5%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position.

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2018	Year Ended July 31, 2017	Net Change
Revenues:			
Sewer Charges	$ 10,271,600	$ 9,949,061	$ 322,539
Other Operating Fees and Charges	144,851	140,030	4,821
Non-Operating Revenues	382,514	270,106	112,408
Total Revenues	10,798,965	10,359,197	439,768
Expenses:			
Operating Expenses, Net of Depreciation	6,558,515	6,243,862	314,653
Depreciation	3,293,913	3,317,568	(23,655)
Non-Operating Expenses	1,644,530	1,525,915	118,615
Total Expenses	11,496,958	11,087,345	409,613
Capital Contributions:			
Tap-In Fees	195,156	149,934	45,222
Developer Contribution Revenue	-	27,500	(27,500)
Total Capital Contributions	195,156	177,434	17,722
Net Income (Loss)	(502,837)	(550,714)	47,877
Net Position:			
Beginning of Year	-	37,673,502	(37,673,502)
Beginning of Year, as restated	34,873,450	-	34,873,450
End of Year	$ 34,370,613	$ 37,122,788	$ (2,752,175)

Revenues

Total Revenues increased from the prior year amount by $439,768 (4.2%). Sewer charges increased during the period by $322,539, this was due to an increase in the number of equivalent dwelling units (EDU) that were billed during the current period. Although the large majority of the Authority's customer base is billed on a flat rate, many customers are billed based on the amount of water usage which can vary from period to period. Residential properties are billed on a flat rate, whereas commercial and industrial waste users are billed on consumption. Each EDU that is billed is equivalent to 4,000 gallons of water consumed per month. Another contributing factor for the revenue increase, in the amount of $93,747, is due to increases in interest and dividends earned during the period.

Expenses

Total Expenses increased by $409,613 (3.7%). Operating Expenses, Net of Depreciation increased by $314,653 (5.0%). The Authority completed additional major maintenance during the current fiscal year, resulting in a net increase of $114,947; one major project was the *Upper Sullivan Run Sewer Rehabilitation Project* for a total contract price of $207,033. The Authority also incurred increased costs for salaries and wages (approximately $84,100), electricity (approximately $28,600), chemical costs including odor control (approximately $21,000), hospitalization (approximately $30,500), and pension contributions (approximately $20,900). The Authority experienced fluctuations with numerous operating costs between the periods, but the above costs are the more significant of those changes.

Depreciation expense decreased by $23,655 (.7%). The change in depreciation is minimal in the current year, due to relatively minor capital additions having long service lives as well as reductions in depreciation expenses for assets that became fully depreciated in the prior period.

Non-Operating Expenses increased by $118,615 (7.8%). Due to the 2017 Bond issue that was completed in the fiscal year and as no such bond issues were incurred in the prior fiscal year, Bond issuance costs increased by $158,390, while interest costs decreased by $40,404 reflecting the ongoing payment of principal on outstanding obligations.

Capital Contributions

Total Capital Contributions increased by $17,722 (10.0%). The demand for access to the sewer system increased during the year resulting in additional Tap-In-Fees of $45,222. This was offset by the lack of any Developer Contribution Revenue, or a reduction of $27,500. Revenues generated from Tap-In Fees directly correlate to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2018, the Authority experienced a Net Loss of $502,837, compared to the July 31, 2017 Net Loss of $550,714.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its ongoing capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

During the fiscal year, the Authority began construction on both the *Negley Avenue Pump Station Replacement Project* and the *WWTP Headworks Improvements Project*, the total contract costs for these projects is $941,771 and $2,230,137, respectively as of July 31, 2018. Construction is expected to be completed during the early part of the 2018-2019 fiscal year for both projects. A third major project, *WWTP Sludge Dewatering Improvements Project*, has completed the design, bidding, and award phases during the year and preliminary construction has begun as of year-end. The total contract cost as of July 31, 2018 for the general and electrical contracts is $3,664,864. Funding for these projects is from the 2016 Bond proceeds.

Other capital projects and purchases incurred during the fiscal year included: a Ford service body truck for the sewer crew ($41,996), pumps and valves at the Benbrook Pump Station ($58,796), an automatic transfer switch replacement ($10,600) and new flow meter ($13,674) at the Deshon Pump Station, and North Traveling Bridge Improvements ($33,091). These purchases were capitalized, and depreciation began during the fiscal year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2018 that includes the following major projects: *Negley Avenue Pump Station Replacement* ($1,081,085), *WWTP Headworks Improvements* ($2,431,731), and *WWTP Sludge Dewatering Improvement Project*s ($607,528). Funding for these projects will come primarily from the 2016 bond proceeds and Authority reserves, as applicable. Other projects held as Construction in Progress includes: *Rocklick Pump Station Replacement Project* design phase*, Primary Tank 1 and 2 Improvements, South Traveling Bridge Improvements, Grit Building Scrubber Pump,* and the *Center Avenue Pump and Valve Replacement Program.*

Depreciation had a minor decrease from the prior fiscal year given the relatively minimal capital additions as well as reductions in depreciation expenses for assets that became fully depreciated in the prior period.

DEBT

In December 2010, the Authority established a new Trust Indenture and issued new Sewer Revenue Bonds in the amount of $20,200,000. Proceeds from this obligation were used to fund the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the projects required under the Consent Order and Agreement (CO&A). At the end of the fiscal year, and after the 2013 and 2015 advanced refunding of the debt, as described below and in the Notes, the Authority had outstanding bond debt for this issue of $215,000. Principal and interest payments will vary from year-to-year with the final payment due in 2019.

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,775,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,675,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the *Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,300,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In October 2017, the Authority issued new Sewer Revenue Bonds in the amount of $11,320,000. Proceeds from this obligation were used to pay for costs of the bond issuance, purchase a surety policy for deposit to the Debt Service Reserve Fund, and to refund various loans of the Authority. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $10,725,000. Principal and interest payments will vary from year-to-year with the final payment due in 2032.

In 2006, the Authority executed a loan agreement to borrow up to $7,029,130 from PennVest to fund the *Deshon Area Sewer Rehabilitation Project* and awarded construction contracts for this work. During 2008, the project was completed and the loan agreement was modified to reflect the actual total principal drawn for construction in the amount of $5,646,138. This loan was paid-in-full during the year with the 2017 Bond proceeds.

During 2009, the Authority executed a loan agreement to borrow up to $6,077,095 from PennVest to fund the *Northwest Area Sewer Rehabilitation Project* and construction began on the project. This project incurred various delays, but was completed during the fiscal year ended July 31, 2014. This loan was paid-in-full during the year with the 2017 Bond proceeds.

In February 2011, the Authority closed on two loans from PennVest in the amounts of $5,137,285 and $13,087,500 to partially fund the *Deshon Act 537* and *Butler City Act 537 Wet Weather Flow*

Equalization Tanks, Diversion Structures, and Pumping Station Facilities Projects required by the CO&A, respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. The PennVest loan, with the original balance of $5,137,285, was paid-in-full during the year with the 2017 Bond proceeds. Amortization payments of principal and interest continued during the fiscal year, leaving an outstanding balance as of July 31, 2018 of $9,652,588 on the remaining loan. The final payment on this loan is scheduled for January 2032.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure in fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind. The Authority evaluates capital projects on an ongoing basis by using input from the management team to establish priorities as well as the budget process and the Consulting Engineer's Annual Report as tools to assist in this on-going valuation.

Three major projects are in process as of the July 31, 2018 and completion of those projects is expected in the next fiscal year. These projects will be funded primarily from the 2016 bond proceeds with any additional funding requirements, although unanticipated, coming from the Authority's capital reserve funds. These projects include the *Negley Avenue Pump Station Replacement Project*, *WWTP Headworks Improvements Project*, and *WWTP Sludge Dewatering Improvements Project*.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2018 AND 2017

	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$ 7,215,921	$ 6,853,209
Investments:		
Trusteed accounts	9,735,505	12,267,735
Other	2,931,000	2,956,000
Accounts receivable	1,980,962	2,094,941
Unbilled sewer receivable	881,700	849,600
Total current assets	22,745,088	25,021,485
Non-current assets:		
Unamortized bond insurance, net of accumulated amortization of $191,382 and $125,765	65,618	131,235
Capital assets, not being depreciated	5,120,163	1,562,578
Capital assets, net of accumulated depreciation	60,624,883	63,702,704
Total capital assets	65,745,046	65,265,282
Total non-current assets	65,810,664	65,396,517
Total Assets	88,555,752	90,418,002
Deferred Outflows of Resources		
Deferred charge on refunding	1,234,161	1,327,290
Liabilities		
Current liabilities:		
Vouchers payable	630,703	130,647
Accrued expenses	945,966	983,905
Current maturities of bonds payable	1,710,000	915,000
Current portion of notes payable	601,533	1,304,041
Total current liabilities	3,888,202	3,333,593
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	37,955,761	28,944,926
Notes payable	9,051,055	20,242,798
OPEB liability	4,524,282	-
OPEB obligation	-	2,101,187
Total non-current liabilities	51,531,098	51,288,911
Total Liabilities	55,419,300	54,622,504
Net Position		
Net investment in capital assets	22,641,176	23,890,555
Restricted	4,820,805	3,694,222
Unrestricted	6,908,632	9,538,011
Total Net Position	$ 34,370,613	$ 37,122,788

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2018 AND 2017

	2018	2017
Operating Revenues:		
Sewer charges - non-industrial waste	$ 9,926,794	$ 9,612,881
Sewer charges - industrial waste	344,806	336,180
Other operating fees and charges	144,851	140,030
Total operating revenues	10,416,451	10,089,091
Operating Expenses:		
Operations and maintenance	5,443,823	5,223,505
Administration	1,114,692	1,020,357
Depreciation	3,293,913	3,317,568
Total operating expenses	9,852,428	9,561,430
Operating Income (Loss)	564,023	527,661
Non-Operating Revenues (Expenses):		
Interest income	385,688	291,941
Interest expense	(1,415,565)	(1,455,969)
Bond issuance costs	(158,390)	-
Unrealized gain (loss) on investments	(3,174)	(21,835)
Amortization	(70,575)	(69,946)
Total non-operating revenues (expenses)	(1,262,016)	(1,255,809)
Income (Loss) Before Capital Contributions	(697,993)	(728,148)
Capital Contributions:		
Tap-in fees	195,156	149,934
Developer contribution revenue	-	27,500
Total capital contributions	195,156	177,434
Net Income (Loss)	(502,837)	(550,714)
Net Position:		
Beginning of year	-	37,673,502
Beginning of year, as restated	34,873,450	-
End of year	$ 34,370,613	$ 37,122,788

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2018 AND 2017

	2018	2017
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 10,498,330	$ 10,278,252
Operations and maintenance	(4,807,949)	(5,312,614)
Administrative expenses	(1,114,692)	(1,020,357)
Net cash provided by (used in) operating activities	4,575,689	3,945,281
Cash Flows From Capital and Related Financing Activities:		
Tap-in fees	195,156	149,934
Proceeds from bonds payable	11,320,000	-
Principal paid on capital debt	(13,404,251)	(2,219,231)
Interest paid on capital debt	(1,489,949)	(1,362,842)
Payments related to the acquisition, construction, or improvement of capital assets	(3,773,677)	(866,993)
Net cash provided by (used in) capital and related financing activities	(7,152,721)	(4,299,132)
Cash Flows From Investing Activities:		
Interest and dividends	385,688	291,941
Proceeds from sale (purchase) of long-term investments	2,554,056	964,930
Net cash provided by (used in) investing activities	2,939,744	1,256,871
Net Increase (Decrease) in Cash and Cash Equivalents	362,712	903,020
Cash and Cash Equivalents:		
Beginning of year	6,853,209	5,950,189
End of year	$ 7,215,921	$ 6,853,209
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ 564,023	$ 527,661
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,293,913	3,317,568
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	81,879	189,161
Vouchers payable and accrued expenses	462,117	(278,123)
OPEB liability	173,757	-
OPEB obligation	-	189,014
Total adjustments	4,011,666	3,417,620
Net cash provided by (used in) operating activities	$ 4,575,689	$ 3,945,281
Non-Cash Items:		
Developer contributions	$ -	$ 27,500

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

1. Organization

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. Summary of Significant Accounting Policies

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City does appoint a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements, and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally government securities and money market funds, are carried at fair value.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2018 and 2017. No provision is made for uncollectible accounts as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represents an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost.

Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized.

Compensated Absences

The Authority provides paid vacation, personal, and sick leave benefits to all eligible employees. Vacation days can be accumulated by eligible employees, not to exceed 24 days. Personal days are granted annually to eligible full-time employees; however they may not be carried over from calendar year to calendar year. Sick leave can be accumulated by employees, not to exceed 130 days. The Authority's policy at the time of separation of employment is to pay unused vacation, personal, and sick leave, on a pro-rata basis, at the time of separation. The balance of compensated absences at July 31, 2018 and 2017, was $859,548 and $907,581, respectively, and is recorded in accrued expenses on the statements of net position.

Bond Discounts, Bond Premiums, and Bond Insurance Costs

Bond discounts, bond premiums, and bond insurance costs are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. The unamortized balance of bond insurance costs is recorded as an asset. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows of Resources and Deferred Inflows of Resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position will sometimes report a separate section for deferred inflows of resources. This represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority does not have any items that qualify for reporting in this category.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the

portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted."

Adopted Pronouncement

The requirements of the following GASB Statements were adopted for the financial statements:

GASB Statement No. 75, "*Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.*" This statement improves accounting and financial reporting by state and local governments for other postemployment benefits (OPEB) (see Note 7). As a result of this implementation, net position as of August 1, 2017 was restated with a decrease of $2,249,338 to record the Authority's total OPEB liability. Restatement as of August 1, 2016 was not practical, as an actuarial valuation was not performed as of that date and, therefore, the related total OPEB liability could not be determined.

GASB Statement No. 85, "*Omnibus 2017.*" This statement addresses practice issues that have been identified during the implementation and application of certain GASB Statements. This statement addresses a variety of topics including issues related to blending component units, goodwill, fair value and other postemployment benefits. All applicable provisions were adopted and incorporated into these financial statements.

GASB Statement No. 86, "*Certain Debt Extinguishment Issues.*" This statement improves reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources – resources other than the proceeds of refunding debt – are placed in an irrevocable trust for the sole purpose of extinguishing debt. All applicable provisions were adopted with no significant impact to the financial statements.

Pending Pronouncements

The GASB has issued several statements that will become effective in future years, including Statement Nos. 83 (Certain Asset Retirement Obligations), 84 (Fiduciary Activities), 87 (Leases), 88 (Certain Debt Disclosures), 89 (Interest Cost), and 90 (Majority Equity Interests). Management has not yet determined the impact of these statements on the Authority's financial statements.

3. Deposits and Investments

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2018 and 2017 that were in violation of these policies.

The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

As of July 31, 2018 and 2017, the Authority held certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are fully covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $2,931,000 and $2,956,000 for 2018 and 2017, respectively.

As of July 31, 2018, $6,875,181 of the Authority's bank balance of $7,125,181 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These

deposits have carrying amounts of $7,085,362 as of July 31, 2018 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2018, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2017, $6,536,977 of the Authority's bank balance of $6,786,977 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,782,281 as of July 31, 2017 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2017, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $130,559 and $70,928 at July 31, 2018 and 2017, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2018 and 2017:

	2018			2017		
		Maturity in years			Maturity in years	
Investment Type	Fair Value	Less than 1 year	1-5 years	Fair Value	Less than 1 year	1-5 years
Money market funds	$ 7,961,871	$ 7,961,871	$ -	$ 10,490,929	$ 10,490,929	$ -
U.S. Treasuries	1,773,634	1,773,634	-	1,776,806	-	1,776,806
Total Investments	$ 9,735,505	$ 9,735,505	$ -	$ 12,267,735	$ 10,490,929	$ 1,776,806

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The Authority has the following recurring fair value measurements as of July 31, 2018:

- U.S. Treasury securities of $1,773,634 are valued using quoted market prices (Level 1 inputs).

The Authority has the following recurring fair value measurements as of July 31, 2017:

- U.S. Treasury securities of $1,776,806 are valued using quoted market prices (Level 1 inputs).

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

4. Capital Assets

A summary of changes in capital assets for the years ended July 31, 2018 and 2017 follows:

	Balance at August 1, 2017	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2018
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	741,153	3,590,676	(33,091)	4,298,738
Capital assets, not being depreciated	$ 1,562,578	$ 3,590,676	$ (33,091)	$ 5,120,163
Vehicles	$ 836,280	$ 41,996	$ -	$ 878,276
Sewer system	58,955,538	8,160	-	58,963,698
Pump stations	37,570,737	98,817	(13,600)	37,655,954
Plant	30,609,469	67,119	(36,400)	30,640,188
Capital assets, being depreciated	127,972,024	216,092	(50,000)	128,138,116
Less accumulated depreciation	(64,269,320)	(3,293,913)	50,000	(67,513,233)
Capital assets, net of accumulated depreciation	$ 63,702,704	$ (3,077,821)	$ -	$ 60,624,883

	Balance at August 1, 2016	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2017
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	345,685	614,513	(219,045)	741,153
Capital assets, not being depreciated	$ 1,167,110	$ 614,513	$ (219,045)	$ 1,562,578
Vehicles	$ 854,219	$ 31,358	$ (49,297)	$ 836,280
Sewer system	58,856,682	98,856	-	58,955,538
Pump stations	37,544,976	25,761	-	37,570,737
Plant	30,266,419	343,050	-	30,609,469
Capital assets, being depreciated	127,522,296	499,025	(49,297)	127,972,024
Less accumulated depreciation	(61,001,049)	(3,317,568)	49,297	(64,269,320)
Capital assets, net of accumulated depreciation	$ 66,521,247	$ (2,818,543)	$ -	$ 63,702,704

The $3,590,676 and $614,513 of additions to construction in progress at July 31, 2018 and 2017, respectively, relates to recent Authority projects, which include the Negley Avenue Pump Station Replacement Project, Grit Building MCC Replacement Project, Headworks Improvement Project, Sludge Dewatering Improvement Project, Primary Tank 1 and 2

Improvements, the South Traveling Bridge Improvements, Center Avenue Pump Station Improvement, Rocklick Pump Station Replacement Project, and the North Traveling Bridge Improvements.

5. Debt

Bonds Payable

During 2010, the Authority issued Sewer Revenue Bonds, Series of 2010 (2010 Bonds), in the amount of $20,200,000 to finance various projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay costs related to issuance of the bonds. A portion of these bonds was defeased during the year ended July 31, 2013; and $9,345,000 was refunded during the year ended July 31, 2016. The balance of the 2010 Bonds will mature through 2019 and interest rates from 2017 to 2019 will range from 2.6% to 3.15%.

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. As a result, $8,315,000 of the 2010 Bonds were considered defeased and the liability for these bonds has been removed from the statement of net position. In July 2016, the defeased bonds were called and satisfied. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds.

During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041.

During October 2017, the Authority issued Sewer Revenue Bonds, Series A and Series B of 2017 (2017 Bonds), in the amount of $9,995,000 and $1,325,000, respectively, a total of $11,320,000 to refund certain PennVest notes payable, purchase a surety policy for deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. For Series A, the interest rates vary between 2.00% and 3.00% and mature from 2019 to 2032. For Series B, the interest rates vary between 1.50% and 1.80% and mature from 2018 to 2019.

Annual maturities of the bonds payable at July 31, 2018 are as follows:

Year Ending July 31,	Principal	Interest	Total
2019	$ 1,710,000	$ 1,136,452	$ 2,846,452
2020	1,765,000	1,832,759	3,597,759
2021	1,795,000	1,805,809	3,600,809
2022	1,845,000	1,783,009	3,628,009
2023	1,885,000	1,760,853	3,645,853
2024-2028	10,260,000	8,338,159	18,598,159
2029-2033	12,965,000	4,765,613	17,730,613
2034-2038	5,825,000	636,816	6,461,816
2039-2041	1,640,000	112,710	1,752,710
Total Payments	39,690,000		
Less Unamortized Bond Discount/Premium	24,239		
	$ 39,665,761	$ 22,172,180	$ 61,862,180

Notes Payable - PennVest

During 2006, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,646,138 were used to fund the Deshon Area Sewer Rehabilitation Project. The interest rate for the first sixty months was 1.387% and was 2.774% for the remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

During 2009, the Authority entered into a loan agreement with PennVest. The loan proceeds of $6,077,095 were used to fund the Northwest Area Sewer Rehabilitation Project. The interest rate for the first sixty months was 2.270% and was 3.046% for the

remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. Principal payments of $593,748 and $600,354 were made for the years ended July 31, 2018 and 2017, respectively. The interest rate for the first sixty months was 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,137,285 were used to fund the Deshon Act 537 Project. The interest rate for the first sixty months was 2.414% and was 3.117% for the remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

Principal and interest payable in future years on all of the PennVest notes are as follows:

Fiscal Years	Principal	Interest	Total
2019	$ 601,533	$ 173,583	$ 775,116
2020	612,762	162,354	775,116
2021	624,201	150,915	775,116
2022	635,854	139,262	775,116
2023	647,724	127,392	775,116
2024-2028	3,424,571	451,011	3,875,582
2029-2033	3,105,943	123,706	3,229,649
	$ 9,652,588	$ 1,328,223	$ 10,980,811

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2018:

	Balance at August 1, 2017	Issuance	Payments	Balance at July 31, 2018	Due within one year
Sewer Revenue Bonds (2010)	$ 680,000	$ -	$ (465,000)	$ 215,000	$ 215,000
Sewer Revenue Bonds (2013)	9,855,000	-	(80,000)	9,775,000	80,000
Sewer Revenue Bonds (2015)	9,745,000	-	(70,000)	9,675,000	320,000
Sewer Revenue Bonds (2016)	9,600,000	-	(300,000)	9,300,000	310,000
Sewer Revenue Bonds (2017)	-	11,320,000	(595,000)	10,725,000	785,000
PennVest Note (2006)	3,286,157	-	(3,286,157)	-	-
PennVest Note (2009)	3,928,695	-	(3,928,695)	-	-
PennVest Note (2011)	10,246,336	-	(593,748)	9,652,588	601,533
PennVest Note (2011)	4,085,651	-	(4,085,651)	-	-
Payable, end of year	$ 51,426,839	$ 11,320,000	$ (13,404,251)	$ 49,342,588	$ 2,311,533

Amounts above and below do not reflect an original issue discount in the amount of $141,138 and $142,847, as of July 31, 2018 and 2017, respectively, for the 2013 Bonds and 2017 Bonds. The discount is amortized using the straight-line method over the life of the 2013 Bonds and 2017 Bonds.

Amounts above and below do not reflect an original issue premium in the amount of $116,899 and $122,773, as of July 31, 2018 and 2017, respectively, for the 2015 Bonds and 2016 Bonds. The premium is amortized using the straight-line method over the life of the 2015 Bonds and 2016 Bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2017:

	Balance at August 1, 2016	Issuance	Payments	Balance at July 31, 2017	Due within one year
Sewer Revenue Bonds (2010)	$ 1,160,000	$ -	$ (480,000)	$ 680,000	$ 465,000
Sewer Revenue Bonds (2013)	9,930,000	-	(75,000)	9,855,000	80,000
Sewer Revenue Bonds (2015)	9,810,000	-	(65,000)	9,745,000	70,000
Sewer Revenue Bonds (2016)	9,895,000	-	(295,000)	9,600,000	300,000
PennVest Note (2006)	3,547,313	-	(261,156)	3,286,157	268,493
PennVest Note (2009)	4,149,517	-	(220,822)	3,928,695	225,249
PennVest Note (2011)	10,846,690	-	(600,354)	10,246,336	593,748
PennVest Note (2011)	4,307,552	-	(221,901)	4,085,651	216,551
Payable, end of year	$ 53,646,072	$ -	$ (2,219,233)	$ 51,426,839	$ 2,219,041

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. Pension Plan

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2018, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year and participants are required to contribute 4.5% beginning January 1, 2017, up from 4.0% in 2016, and 5.0% beginning January 1, 2018 of eligible compensation to their participant account. During 2017, employer contributions were 7.0%, up from 6.5% in 2016, of eligible compensation until January 1, 2018 when employer contributions increased to 7.5% of eligible compensation. Employee and

employer contributions to the Plan were $129,189 and $197,414, respectively, for the year ended July 31, 2018. Employee and employer contributions to the Plan were $110,918 and $176,536, respectively, for the year ended July 31, 2017.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements of the 457(b) Plan are consistent with the eligibility requirements of the Plan noted above. As of July 31, 2018, all but three of the Authority's non-temporary employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $67,990 and $57,904 for the years ended July 31, 2018 and 2017, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2018, all of the Authority's non-temporary employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2018 and 2017 were $20,850 and $13,688, respectively.

7. Postemployment Benefits Other Than Pension Benefits (OPEBs)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. The OPEB plan is a single-employer defined benefit OPEB plan administered by the Authority. No assets are accumulated in a trust to pay related benefits.

If an employee was hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If an employee was hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employees and their spouses and eligible dependents.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

Benefits Provided

For those eligible employees retiring between ages 62 and 65, the Authority pays up to 97% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). No dental or vision benefits are provided. Upon Medicare eligibility, the retiree must convert to a Medicare Supplement Plan. The Authority pays the full cost of the designated retiree's Medicare Supplement premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated retiree's Medicare Supplement premium, provided that Medicare eligibility is sustained.

For spouses and eligible dependent(s) who are under age 65, the Authority will pay up to 97% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Supplement premium, provided that Medicare eligibility is sustained. All Authority-paid benefits to the spouse cease upon the death of the retiring employee. All Authority-paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the spouse's eligibility for Medicare, or the retiree's death.

For pre-age 65 coverage, a PPO $500/$1000 Deductible Plan administered by Municipal Benefits Services is available. For post-age 65 coverage, a Medicare Supplement is available, where Highmark bills the Authority through the retiree.

Contributions

The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months as described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2018 AND 2017

Employees Covered by Benefit Terms

As of August 1, 2017, the date of the most recent actuarial valuation, the following employees were covered by the benefit terms:

Current retired participants receiving OPEB benefits	10
Active participants	32
	42

Total OPEB Liability

The Authority's total OPEB liability of $4,524,282 was measured as of August 1, 2017 and was determined by an actuarial valuation as of that date.

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of August 1, 2017 using the following actuarial assumptions, applied to all periods including the measurement:

Inflation	2.75%
Salary increases	2.75%
Discount rate	3.50% per year
Healthcare cost trend rates	4.50% for 2017; 5.0% per year thereafter
Retirees' share of benefit-related costs	The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

The discount rate was based on the index rate for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Mortality rates were based on the RP-2014 Mortality Table with 50% of Blue Collar Adjustment.

The actuarial assumptions used in the August 1, 2017 valuation were based on the results of an actuarial experience study as of August 1, 2017.

Changes in the Total OPEB Liability

	Total OPEB Liability
Balance at July 31, 2017	$ 4,350,525
Changes for the year:	
Service cost	124,577
Interest	154,796
Changes of benefit terms	-
Differences between expected and actual experience	-
Benefit payments	(105,616)
Net changes	173,757
Balance at July 31, 2018	$ 4,524,282

There were no changes of benefit terms.

There were no changes of actuarial assumptions.

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate as of July 31, 2018:

	1% Decrease (2.50%)	Discount Rate (3.50%)	1% Increase (4.50%)
Total OPEB liability	$ 5,285,290	$ 4,524,282	$ 3,901,706

Sensitivity of the total OPEB liability to changes in the healthcare cost trend rates: The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates as of July 31, 2018:

	1% Decrease (3.50%)	Discount Rate (4.50%)	1% Increase (5.50%)
Total OPEB liability	$ 3,794,586	$ 4,524,282	$ 5,453,314

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended July 31, 2018, the Authority recognized OPEB expense of $279,373. At July 31, 2018, the Authority did not have any deferred outflows of resources nor deferred inflows of resources related to OPEB.

8. Commitments and Contingencies

As of July 31, 2018, the Authority has entered into construction contracts that have not been completed as of the end of the fiscal year. Amounts remaining on contracts for construction services not performed as of July 31, 2018 total approximately $3,581,000. Work is scheduled to be completed on these projects during the upcoming fiscal year.

REQUIRED SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF CHANGES IN THE AUTHORITY'S TOTAL OPEB LIABILITY AND RELATED RATIOS

YEAR ENDED JULY 31
LAST 10 FISCAL YEARS*

	2018
Total OPEB Liability:	
Service cost	$ 124,577
Interest	154,796
Changes of benefit terms	-
Differences between expected and actual experiences	-
Changes of assumptions	-
Benefit payments	(105,616)
Net change in Total OPEB Liability	173,757
Total OPEB Liability - Beginning	4,350,525
Total OPEB Liability - Ending	$ 4,524,282
Covered Employee Payroll	$ 2,237,929
Total OPEB Liability as a percentage of Covered Employee Payroll	202.16%

* Until a full 10-year trend is compiled, the required information for the plan is presented for those years for which information is available.

See accompanying notes to required supplementary information.

BUTLER AREA SEWER AUTHORITY

NOTES TO REQUIRED
SUPPLEMENTARY INFORMATION

YEARS ENDED JULY 31, 2018 AND 2017

Accumulated Assets

No assets are accumulated in a trust to pay related benefits.

Benefit Changes

There were no changes of benefit terms.

Changes of Assumptions

There were no changes of assumptions.

SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2018

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,722,287	$ -	$ -	$ 4,493,634	$ -	$ -	$ 7,215,921
Investments:							
Trusteed accounts	-	3,394	2,253,919	-	2,563,492	4,914,700	9,735,505
Other	2,437,000	-	-	494,000	-	-	2,931,000
Accounts receivable	1,980,962	-	-	-	-	-	1,980,962
Unbilled sewer receivable	881,700	-	-	-	-	-	881,700
Total current assets	8,021,949	3,394	2,253,919	4,987,634	2,563,492	4,914,700	22,745,088
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization of $191,382	65,618	-	-	-	-	-	65,618
Capital assets, not being depreciated	5,120,163	-	-	-	-	-	5,120,163
Capital assets, net of accumulated depreciation	60,624,883	-	-	-	-	-	60,624,883
Total capital assets	65,745,046	-	-	-	-	-	65,745,046
Total non-current assets	65,810,664	-	-	-	-	-	65,810,664
Total Assets	73,832,613	3,394	2,253,919	4,987,634	2,563,492	4,914,700	88,555,752
Deferred Outflows of Resources							
Deferred charge on refunding	1,234,161	-	-	-	-	-	1,234,161
Liabilities							
Current liabilities:							
Vouchers payable	630,703	-	-	-	-	-	630,703
Accrued expenses	945,966	-	-	-	-	-	945,966
Current maturities of bonds payable	1,710,000	-	-	-	-	-	1,710,000
Current portion of notes payable	601,533	-	-	-	-	-	601,533
Total current liabilities	3,888,202	-	-	-	-	-	3,888,202
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	37,955,761	-	-	-	-	-	37,955,761
Notes payable	9,051,055	-	-	-	-	-	9,051,055
OPEB liability	4,524,282	-	-	-	-	-	4,524,282
Total non-current liabilities	51,531,098	-	-	-	-	-	51,531,098
Total Liabilities	55,419,300	-	-	-	-	-	55,419,300
Net Position							
Net investment in capital assets	22,641,176	-	-	-	-	-	22,641,176
Restricted	(4,914,700)	3,394	2,253,919	-	2,563,492	4,914,700	4,820,805
Unrestricted	1,920,998	-	-	4,987,634	-	-	6,908,632
Total Net Position	$ 19,647,474	$ 3,394	$ 2,253,919	$ 4,987,634	$ 2,563,492	$ 4,914,700	$ 34,370,613

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2017

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,668,469	$ -	$ -	$ 4,184,740	$ -	$ -	$ 6,853,209
Investments:							
Trusteed accounts	-	1,673	2,219,107	-	1,473,442	8,573,513	12,267,735
Other	2,462,000	-	-	494,000	-	-	2,956,000
Accounts receivable	2,094,941	-	-	-	-	-	2,094,941
Unbilled sewer receivable	849,600	-	-	-	-	-	849,600
Total current assets	8,075,010	1,673	2,219,107	4,678,740	1,473,442	8,573,513	25,021,485
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization of $125,765	131,235	-	-	-	-	-	131,235
Capital assets not being depreciated:	1,562,578	-	-	-	-	-	1,562,578
Capital assets, net of accumulated depreciation	63,702,704	-	-	-	-	-	63,702,704
Total capital assets	65,265,282	-	-	-	-	-	65,265,282
Total non-current assets	65,396,517	-	-	-	-	-	65,396,517
Total Assets	73,471,527	1,673	2,219,107	4,678,740	1,473,442	8,573,513	90,418,002
Deferred Outflows of Resources							
Deferred charge on refunding	1,327,290	-	-	-	-	-	1,327,290
Liabilities							
Current liabilities:							
Vouchers payable	130,647	-	-	-	-	-	130,647
Accrued expenses	983,905	-	-	-	-	-	983,905
Current maturities of bonds payable	915,000	-	-	-	-	-	915,000
Current portion of notes payable	1,304,041	-	-	-	-	-	1,304,041
Total current liabilities	3,333,593	-	-	-	-	-	3,333,593
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	28,944,926	-	-	-	-	-	28,944,926
Notes payable	20,242,798	-	-	-	-	-	20,242,798
OPEB obligation	2,101,187	-	-	-	-	-	2,101,187
Total non-current liabilities	51,288,911	-	-	-	-	-	51,288,911
Total Liabilities	54,622,504	-	-	-	-	-	54,622,504
Net Position							
Net investment in capital assets	23,890,555	-	-	-	-	-	23,890,555
Restricted	(8,573,513)	1,673	2,219,107	-	1,473,442	8,573,513	3,694,222
Unrestricted	4,859,271	-	-	4,678,740	-	-	9,538,011
Total Net Position	$ 20,176,313	$ 1,673	$ 2,219,107	$ 4,678,740	$ 1,473,442	$ 8,573,513	$ 37,122,788

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2018

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,926,794	$ -	$ -	$ -	$ -	$ -	$ 9,926,794
Sewer charges - industrial waste	344,806	-	-	-	-	-	344,806
Other operating fees and charges	144,851	-	-	-	-	-	144,851
Total operating revenues	10,416,451	-	-	-	-	-	10,416,451
Operating Expenses:							
Operations and maintenance	5,443,823	-	-	-	-	-	5,443,823
Administration	1,114,692	-	-	-	-	-	1,114,692
Depreciation	3,293,913	-	-	-	-	-	3,293,913
Total operating expenses	9,852,428	-	-	-	-	-	9,852,428
Operating Income (Loss)	564,023	-	-	-	-	-	564,023
Non-Operating Revenues (Expenses):							
Interest income	222,574	3,460	37,986	18,774	17,746	85,148	385,688
Interest expense	(1,415,565)	-	-	-	-	-	(1,415,565)
Bond issuance costs	(158,390)	-	-	-	-	-	(158,390)
Unrealized gain (loss) on investments	-	-	(3,174)	-	-	-	(3,174)
Amortization	(70,575)	-	-	-	-	-	(70,575)
Total non-operating revenues (expenses)	(1,421,956)	3,460	34,812	18,774	17,746	85,148	(1,262,016)
Income (Loss) Before Capital Contributions and Transfers	(857,933)	3,460	34,812	18,774	17,746	85,148	(697,993)
Capital Contributions:							
Tap-in fees	195,156	-	-	-	-	-	195,156
Developer contribution revenue	-	-	-	-	-	-	-
Total capital contributions	195,156	-	-	-	-	-	195,156
Net Income (Loss) Before Transfers	(662,777)	3,460	34,812	18,774	17,746	85,148	(502,837)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,548,301	-	-	1,072,304	-	3,620,605
Debt Service Fund	2,550,040	-	-	-	-	-	2,550,040
Capital Improvement and Redemption Fund	3,453,841	-	-	-	-	-	3,453,841
Bond Redemption and Improvement Fund	-	-	-	-	-	-	-
Construction Fund	-	-	-	3,743,961	-	-	3,743,961
Transfers out to:							
Revenue Fund	-	(2,550,040)	-	(3,453,841)	-	-	(6,003,881)
Debt Service Fund	(2,548,301)	-	-	-	-	-	(2,548,301)
Capital Improvement and Redemption Fund	-	-	-	-	-	(3,743,961)	(3,743,961)
Bond Redemption and Improvement Fund	(1,072,304)	-	-	-	-	-	(1,072,304)
Net Income (Loss)	1,720,499	1,721	34,812	308,894	1,090,050	(3,658,813)	(502,837)
Net Position:							
Beginning of year, as restated	17,926,975	1,673	2,219,107	4,678,740	1,473,442	8,573,513	34,873,450
End of year	$ 19,647,474	$ 3,394	$ 2,253,919	$ 4,987,634	$ 2,563,492	$ 4,914,700	$ 34,370,613

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2017

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,612,881	$ -	$ -	$ -	$ -	$ -	$ 9,612,881
Sewer charges - industrial waste	336,180	-	-	-	-	-	336,180
Other operating fees and charges	140,030	-	-	-	-	-	140,030
Total operating revenues	10,089,091	-	-	-	-	-	10,089,091
Operating Expenses:							
Operations and maintenance	5,223,505	-	-	-	-	-	5,223,505
Administration	1,020,357	-	-	-	-	-	1,020,357
Depreciation	3,317,568	-	-	-	-	-	3,317,568
Total operating expenses	9,561,430	-	-	-	-	-	9,561,430
Operating Income (Loss)	527,661	-	-	-	-	-	527,661
Non-Operating Revenues (Expenses):							
Interest income	205,243	1,581	33,515	8,125	5,396	38,081	291,941
Interest expense	(1,455,969)	-	-	-	-	-	(1,455,969)
Bond issuance costs	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	-	-	(21,835)	-	-	-	(21,835)
Amortization	(69,946)	-	-	-	-	-	(69,946)
Total non-operating revenues (expenses)	(1,320,672)	1,581	11,680	8,125	5,396	38,081	(1,255,809)
Income (Loss) Before Capital Contributions and Transfers	(793,011)	1,581	11,680	8,125	5,396	38,081	(728,148)
Capital Contributions:							
Tap-in fees	149,934	-	-	-	-	-	149,934
Developer contribution revenue	27,500	-	-	-	-	-	27,500
Total capital contributions	177,434	-	-	-	-	-	177,434
Net Income (Loss) Before Transfers	(615,577)	1,581	11,680	8,125	5,396	38,081	(550,714)
Transfers:							
Transfers in from:							
Revenue Fund	-	1,811,334	-	-	344,780	-	2,156,114
Debt Service Fund	1,811,334	-	-	-	-	-	1,811,334
Capital Improvement and Redemption Fund	1,081,946	-	-	-	-	-	1,081,946
Bond Redemption and Improvement Fund	-	-	-	324,619	-	-	324,619
Construction Fund	-	-	-	1,051,664	-	-	1,051,664
Transfers out to:					-		
Revenue Fund	-	(1,811,334)	-	(1,081,946)	-	-	(2,893,280)
Debt Service Fund	(1,811,334)	-	-	-	-	-	(1,811,334)
Capital Improvement and Redemption Fund	-	-	-	-	(324,619)	(1,051,664)	(1,376,283)
Bond Redemption and Improvement Fund	(344,780)	-	-	-	-	-	(344,780)
Net Income (Loss)	121,589	1,581	11,680	302,462	25,557	(1,013,583)	(550,714)
Net Position:							
Beginning of year	20,054,724	92	2,207,427	4,376,278	1,447,885	9,587,096	37,673,502
End of year	$ 20,176,313	$ 1,673	$ 2,219,107	$ 4,678,740	$ 1,473,442	$ 8,573,513	$ 37,122,788

Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2019 and 2018
with Independent Auditor's Report

MaherDuessel

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2019 AND 2018

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MaherDuessel

Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2019 and 2018, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2019 and 2018, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements

themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
September 30, 2019

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2019 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements.

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2019.

- Three major multi-year capital projects, financed with 2016 bond proceeds, were completed and added to depreciable capital assets during the year. The *Negley Avenue Pump Station Replacement Project*, *Waste Water Treatment Plant (WWTP) Headworks Improvement Project*, and the *WWTP Sludge Dewatering Improvement Project* at total costs of $1,154,657, $2,444,983, and $4,208,735, respectively.

- Developer sewer contributions accepted by the Authority during the year totaled $289,994. These sewer contributions were added to depreciable capital assets during the year.

- The Sewer Revenue Bonds, Series of 2010, matured and have therefore been paid in full as of July 31, 2019. The Authority issued no new debt during the period; however, a balance of $748,602 of 2016 bond proceeds remained in the Construction Fund as of July 31, 2019.

- The Authority proposed a Corrective Action Plan (CAP), which was approved by the Pennsylvania Department of Environmental Protection (DEP) on March 26, 2019. The CAP addresses wet weather hydraulic overloading of specific pump stations (*Fisher Heights Pump Station)* and pump station systems *(Brewster and Brewster Booster Pump Station System as well as Greenwood, Benbrook, and Bryson Pump Station System)* within the service area. The CAP outlines steps necessary for the Authority to collect and analyze data as well as propose, design, and construct any necessary improvements within the designated area of the sewer collection system in accordance with the proposed timeline.

- The Authority continues to focus on collecting delinquent sewer service accounts receivable balances. This is demonstrated by the decrease in overall accounts receivable from the July 31, 2018 balance of $1,980,962 to the July 31, 2019 balance of $1,965,646. Although only a slight decrease between the years, this reflects that payments collected actually exceeded the total revenues billed during the period. Given that the Authority's fiscal year end falls during a quarterly billing cycle, it is important to note that these receivable balances include not only past due accounts receivable, but also include current bills that are due after the July 31, 2019 year end.

- During the year ended July 31, 2019, the Authority Board adopted a balanced budget for the 2019-2020 fiscal year which includes a rate increase of $2.00 (5.6%) per month per equivalent dwelling unit (EDU) effective January 1, 2020. The last rate increase became effective with the adoption of the 2016-2017 Authority budget, whereas the Board increased rates by $3.00 (9.1%) per month per EDU effective July 1, 2016.

- The Authority experienced a Net Loss or a decrease in Net Position of $628,176 (1.8%) in the fiscal year ended July 31, 2019. The loss continues to be driven by high depreciation expenses totaling $3,476,093 for the fiscal year ended July 31, 2019.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses for the current fiscal year and past fiscal year. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position.

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2019	Balance at July 31, 2018	Net Change
Assets:			
Current Assets	$ 19,147,312	$ 22,745,088	$ (3,597,776)
Other Assets	-	65,618	(65,618)
Capital Assets	66,573,014	65,745,046	827,968
Total Assets	85,720,326	88,555,752	(2,835,426)
Deferred Outflows of Resources:			
Deferred charge on refunding	1,141,032	1,234,161	(93,129)
Total Deferred Outflows of Resources	1,141,032	1,234,161	(93,129)
Liabilities and Net Position:			
Current Liabilities	3,776,065	3,888,202	(112,137)
Non-Current Liabilities	49,342,856	51,531,098	(2,188,242)
Total Liabilities	53,118,921	55,419,300	(2,300,379)
Total Net Position	$ 33,742,437	$ 34,370,613	$ (628,176)

Assets and Deferred Outflows of Resources

The Authority's Current Assets decreased by $3,597,776 (15.8%) during the period. There were net decreases to both cash and cash equivalents ($173,502) and to investments ($3,404,858) in trusted accounts. Trusteed account investments decreased during the period as costs were incurred to complete major capital improvement projects, such as the WWTP Sludge Dewatering Project, from the Construction Fund's 2016 Sewer Revenue Bond proceeds.

Capital Assets increased by $827,968 (1.3%). The Authority had additions to capital assets during the year that exceeded the amount of depreciation for the period of $3,476,093 and therefore resulted in an increase in Capital Assets for the period. Additional information can be reviewed in the Capital Improvements section of the MD&A and in the Notes to the Financial Statements.

Overall, total assets decreased by $2,835,426 (3.2%).

The Deferred Charge on Refunding was established from the Sewer Revenue Bonds, Series of 2013 and 2015 that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the life of the bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities and Net Position

The Authority had a decrease in Current Liabilities as of July 31, 2019 of $112,137 (2.9%). This was due primarily to a decrease in vouchers payable ($166,663) and an increase in current maturities of bond and notes payable ($66,229). Vouchers payable decreased as there were fewer active construction projects at the end of the current fiscal year compared to the prior fiscal year. Additional information on capital projects can be seen in the Capital Improvements section of the MD&A below. The Authority issued no new or refinanced debt during the year; the change in current maturities of debt service is based on the

amortization of existing debt which naturally fluctuates slightly from year to year. Additional information on debt is available in the Debt section of the MD&A and in the Notes to the Financial Statements.

Non-Current Liabilities had a net decrease of $2,188,242 (4.2%). The Authority continued to make required debt service payments on both bonds and notes over the period. The Authority issued no new or refinanced debt during the year; the decrease in non-current maturities of debt service ($2,372,804) is based on the amortization of existing debt. More discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. In addition, the OPEB liability increased by $184,562 from the prior period. More discussion can be reviewed in the Postemployment Benefits Other Than Pension Benefits (OPEBs) section of the Notes to Financial Statements.

Overall, Total Liabilities decreased by $2,300,379 (4.15%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position.

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2019	Year Ended July 31, 2018	Net Change
Revenues:			
Sewer Charges	$ 10,176,980	$ 10,271,600	$ (94,620)
Other Operating Fees and Charges	128,446	144,851	(16,405)
Non-Operating Revenues	446,465	382,514	63,951
Total Revenues	10,751,891	10,798,965	(47,074)
Expenses:			
Operating Expenses, Net of Depreciation	6,889,717	6,558,515	331,202
Depreciation	3,476,093	3,293,913	182,180
Non-Operating Expenses	1,429,657	1,644,530	(214,873)
Total Expenses	11,795,467	11,496,958	298,509
Capital Contributions:			
Tap-In Fees	125,406	195,156	(69,750)
Developer Contribution Revenue	289,994	-	289,994
Total Capital Contributions	415,400	195,156	220,244
Net Income (Loss)	(628,176)	(502,837)	(125,339)
Net Position:			
Beginning of Year	34,370,613	34,873,450	(502,837)
End of Year	$ 33,742,437	$ 34,370,613	$ (628,176)

Revenues

Total Revenues decreased from the prior year amount by $47,074 (.4%). Sewer charges decreased during the period by $94,620 (0.9%). Although the large majority of the Authority's customer base is billed on a flat rate, many customers are billed based on the amount of water usage which can vary from period to period. Residential properties are billed on a flat rate, whereas commercial and industrial waste users are billed on consumption. Each EDU that is billed is equivalent to 4,000 gallons of water consumed per month. Another key contributing factor for the revenue decrease, in the amount of $34,700, is due to decreased industrial waste suspended solids surcharge fees during the period.

Expenses

Total Expenses increased by $298,509 (2.6%). Operating Expenses, Net of Depreciation increased by $331,202 (5.0%). During demolition of the old sludge dewatering process equipment through the installation of the new equipment the Authority was taken offline for a portion of the construction period. All sludge was required to be hauled and processed at another local waste water treatment plant. The total increased cost for hauling and processing, net of landfill savings, was $391,465. Savings were incurred during the year for major maintenance ($118,899), worker's compensation ($30,394), and lime ($39,658), while increased costs were noted for plant maintenance and repairs ($23,730), polymer ($30,708), and hospitalization ($34,066) costs. The Authority experienced fluctuations with numerous operating costs between the periods, but the above costs are the more significant of those changes.

Depreciation expense increased by $182,180 (5.5%) during the year ended July 31, 2019. The Authority completed several multi-year major improvement projects that were recorded as depreciable capital assets during the year ended July 31, 2019. Due to the large influx of depreciable assets during the current period, depreciable costs increased.

Non-Operating Expenses decreased by $214,873 (13.1%). Due to the 2017 Bond issue that was completed in the prior fiscal year and as no such bond issues were incurred in this fiscal year, Bond issuance costs decreased by $158,390. As principal payments are made against the Authority's outstanding debt, interest costs continue to naturally decrease ($67,402) from year to year as the debt approaches maturity.

Capital Contributions

Total Capital Contributions increased by $220,244 (112.86%). The demand for access to the sewer system decreased during the year resulting in fewer Tap-In Fees of $69,750. This was offset by the addition of Developer Contribution Revenue, or an increase of $289,994. Revenues generated from Tap-In Fees and Developer Contribution Revenue directly correlate to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2019, the Authority experienced a Net Loss of $628,176, compared to the July 31, 2018 Net Loss of $502,837.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its ongoing capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

Three major multi-year capital projects, financed with 2016 bond proceeds, were completed and added to depreciable capital assets during the year. The *Negley Avenue Pump Station Replacement Project*, *Waste*

Water Treatment Plant (WWTP) Headworks Improvement Project, and the *WWTP Sludge Dewatering Improvement Project* at total costs of $1,154,657, $2,444,983, and $4,208,735, respectively.

The *Negley Avenue Pump Station Replacement Project* consisted of the construction of a completely new pump station, with an emergency generator, to replace and abandon the outdated Negley Avenue Pump Station. The new pump station is located on adjacent property that the Authority owns near the Central Storage Tank facilities. The project also includes the rerouting and replacement of several gravity sewers to the new wet well and the extension and replacement of the existing force main pipe.

The *WWTP Headworks Improvements* includes: (1) replacement of the two mechanically-cleaned bar screens, (2) complete replacement of the two grit collection/grit washer systems, including the two aeration blowers, (3) replacement of the two wooden inlet slide gates for Primary Tank No. 1, (4) replacement of the four fiberglass inlet stop plates for Primary Tank No. 2, (5) replacement of all six aluminum isolation slide plates for the bar screens and grit systems, (6) installation of a new conveyor system to convey screenings and grit to the Grit Garage, (7) installation of new catwalk platforms to access upper levels of bar screens and grit systems, and (8) the replacement of aluminum grating covers for the inlet channel of Primary Tank Nos. 1 and 2 as part of the project.

Prior to the *WWTP Sludge Dewatering Improvements*, the Authority's sludge stabilization and dewatering facilities at the Treatment Plant were over 35 years old. The major project improvements include: (1) installation of two rotary press dewatering units with polymer feed systems to replace the existing plate and frame presses, (2) modifications to the existing lime feed system to convert from pre-lime sludge stabilization to post-lime sludge stabilization. (3) installation of two new pug mill mixers for post-lime stabilization, (4) installation of new conveyor system to discharge dewatered, stabilized sludge into roll-off drop boxes on lower level of building, (5) construction of a new control room/laboratory in Solids Building, (6) installation of a second double-disc sludge pump to transfer thickened sludge from the gravity thickener to the rotary presses, (7) piping modifications and installation of two new sludge grinders on the suction lines of the sludge transfer pumps, (8) modifications to the thickener distribution box to direct the thickener feed sludge directly to sludge transfer pumps to allow bypassing of the gravity thickener, and (9) two motor control centers for the project and other power circuit revisions.

Other capital projects and purchases made during the fiscal year included: a Toyota forklift ($31,137), two turbo compressors for secondary tank airlift blowers ($62,790), installation of an office fire alarm system ($22,625), south traveling bridge improvements ($22,940), and a new pump and valve at Deshon Pump Station ($25,745). Developer Contributions for sewer extensions of $289,994 were accepted by the Authority during the year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2019 that includes the following projects: (1) *Rocklick Pump Station Replacement Project* design and permitting phase*, (2) Primary Tank 1 and 2 Improvements,* and *(3)* the *Center Avenue Pump and Valve Replacement Program.* Funding for these projects will come primarily from the 2016 bond proceeds and Authority reserves, as applicable.

Depreciation had a minor decrease from the prior fiscal year given the relatively minimal capital additions as well as reductions in depreciation expenses for assets that became fully depreciated in the prior period.

DEBT

In December 2010, the Authority established a new Trust Indenture and issued new Sewer Revenue Bonds in the amount of $20,200,000. Proceeds from this obligation were used to fund the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the projects required under the Consent Order and Agreement (CO&A). At

the end of the fiscal year, and after the 2013 and 2015 advanced refunding of the debt, as described below and in the Notes. This loan was paid-in-full during the year.

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,695,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $9,355,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the *Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $8,990,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In October 2017, the Authority issued new Sewer Revenue Bonds in the amount of $11,320,000. Proceeds from this obligation were used to pay for costs of the bond issuance, purchase a surety policy for deposit to the Debt Service Reserve Fund, and to refund various loans of the Authority. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,940,000. Principal and interest payments will vary from year-to-year with the final payment due in 2032.

In February 2011, the Authority closed on a loan from PennVest in the amounts of $13,087,500 to partially fund the *Butler City Act 537 Wet Weather Flow Equalization Tanks, Diversion Structures, and Pumping Station Facilities Projects* required by the CO&A, respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the fiscal year, leaving an outstanding balance as of July 31, 2019 of $9,051,055 on the remaining loan. The final payment on this loan is scheduled for January 2032.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure in fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind. The Authority evaluates capital projects on an ongoing basis by using input from the management team to establish priorities as well as the budget process and the Consulting Engineer's Annual Report as tools to assist in this on-going valuation.

DEP Chapter 94 Corrective Action Plan to Address Pump Station Overflows

At the request of the Authority, a meeting of Authority representatives and representatives from the Pennsylvania Department of Environmental Protection (DEP) was held on November 14, 2018. The purpose of the meeting was to discuss recurring wet weather sanitary sewer overflows (SSOs) during the 2018 record rainfall year associated with several of BASA's sewage pump stations and the corrective actions necessary to reduce the overloaded conditions and/or to provide the additional capacities, if necessary, to address the hydraulic overload conditions and eliminate these SSOs.

In response to this meeting, the Authority prepared and submitted a Corrective Action Plan (CAP) to address wet weather hydraulic overloading of specific pump stations within the Authority's sewer system. The CAP primarily focuses on three pump stations that have experienced recurring wet weather SSO events during 2018: the Fisher Heights Pump Station, the Brewster Booster Pump Station, and the Bryson Pump Station. The Fisher Heights Pump Station is not significantly affected by pumped flows from any upstream pump station. However, the Brewster Booster and Bryson Pump Stations are significantly affected hydraulically by pumped flows from other upstream pump stations. Therefore, the CAP must consider the hydraulic interconnection of the upstream pump stations when identifying the cause of the SSOs and assessing corrective actions and any capital improvements to these two pump stations.

The CAP was subdivided into separate sections to address the following pump stations and pump station systems (listed by the pump station flow sequence):

1. The Fisher Heights Pump Station;

2. The Brewster and Brewster Booster Pump Station system, which also receives flow from the upstream Fisher Heights Pump Station; and

3. The Greenwood, Benbrook and Bryson Pump Station system.

Although many of the CAP tasks are similar for each of these systems, the tasks were outlined for each specific system for scheduling and progress reporting purposes.

The DEP reviewed the Authority's draft CAP and requested a few minor revisions. The revised CAP dated March 11, 2019 was formally approved by the DEP in a letter dated March 26, 2019.

As of July 31, 2019, the Authority has successfully completed the initial tasks of the CAP in accordance with the CAP schedule. The wet well overflow pipes and flow meters have been installed at the Fisher Heights, Brewster, and Greenwood Pump Stations and the Authority is in the flow monitoring period to determine the magnitude of the wet weather SSOs that must be handled at these pump stations. The Authority also completed the installation of the suction and discharge pressure gauges that are necessary to complete the pump tests at each of these pump stations. The type of corrective action as well as any associated costs are unknown at this time. The funding source(s) for this project will be determined once estimated costs have been established.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2019 AND 2018

	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	$ 7,042,419	$ 7,215,921
Investments:		
Trusteed accounts	6,330,647	9,735,505
Other	2,912,000	2,931,000
Accounts receivable	1,965,646	1,980,962
Unbilled sewer receivable	896,600	881,700
Total current assets	19,147,312	22,745,088
Non-current assets:		
Unamortized bond insurance, net of accumulated amortization of $0 and $191,382, respectively	-	65,618
Capital assets, not being depreciated	1,104,902	5,120,163
Capital assets, net of accumulated depreciation	65,468,112	60,624,883
Total capital assets	66,573,014	65,745,046
Total non-current assets	66,573,014	65,810,664
Total Assets	85,720,326	88,555,752
Deferred Outflows of Resources		
Deferred charge on refunding	1,141,032	1,234,161
Liabilities		
Current liabilities:		
Vouchers payable	464,040	630,703
Accrued expenses	934,263	945,966
Current maturities of bonds payable	1,765,000	1,710,000
Current portion of notes payable	612,762	601,533
Total current liabilities	3,776,065	3,888,202
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	36,195,719	37,955,761
Notes payable	8,438,293	9,051,055
OPEB liability	4,708,844	4,524,282
Total non-current liabilities	49,342,856	51,531,098
Total Liabilities	53,118,921	55,419,300
Net Position		
Net investment in capital assets	21,450,874	22,641,176
Restricted	5,582,045	4,820,805
Unrestricted	6,709,518	6,908,632
Total Net Position	$ 33,742,437	$ 34,370,613

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2019 AND 2018

	2019	2018
Operating Revenues:		
Sewer charges - non-industrial waste	$ 9,867,981	$ 9,926,794
Sewer charges - industrial waste	308,999	344,806
Other operating fees and charges	128,446	144,851
Total operating revenues	10,305,426	10,416,451
Operating Expenses:		
Operations and maintenance	5,863,067	5,443,823
Administration	1,026,650	1,114,692
Depreciation	3,476,093	3,293,913
Total operating expenses	10,365,810	9,852,428
Operating Income (Loss)	(60,384)	564,023
Non-Operating Revenues (Expenses):		
Interest income	437,487	385,688
Interest expense	(1,348,163)	(1,415,565)
Bond issuance costs	-	(158,390)
Unrealized gain (loss) on investments	8,978	(3,174)
Loss on disposal of capital assets	(10,918)	-
Amortization	(70,576)	(70,575)
Total non-operating revenues (expenses)	(983,192)	(1,262,016)
Income (Loss) Before Capital Contributions	(1,043,576)	(697,993)
Capital Contributions:		
Tap-in fees	125,406	195,156
Developer contribution revenue	289,994	-
Total capital contributions	415,400	195,156
Net Income (Loss)	(628,176)	(502,837)
Net Position:		
Beginning of year	34,370,613	34,873,450
End of year	$ 33,742,437	$ 34,370,613

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2019 AND 2018

	2019	2018
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 10,305,842	$ 10,498,330
Operations and maintenance	(5,856,871)	(4,807,949)
Administrative expenses	(1,026,650)	(1,114,692)
Net cash provided by (used in) operating activities	3,422,321	4,575,689
Cash Flows From Capital and Related Financing Activities:		
Tap-in fees	125,406	195,156
Proceeds from bonds payable	-	11,320,000
Principal paid on capital debt	(2,311,533)	(13,404,251)
Interest paid on capital debt	(1,255,034)	(1,489,949)
Payments related to the acquisition, construction, or improvement of capital assets	(4,024,985)	(3,773,677)
Net cash provided by (used in) capital and related financing activities	(7,466,146)	(7,152,721)
Cash Flows From Investing Activities:		
Interest and dividends	437,487	385,688
Proceeds from sale (purchase) of long-term investments	3,432,836	2,554,056
Net cash provided by (used in) investing activities	3,870,323	2,939,744
Net Increase (Decrease) in Cash and Cash Equivalents	(173,502)	362,712
Cash and Cash Equivalents:		
Beginning of year	7,215,921	6,853,209
End of year	$ 7,042,419	$ 7,215,921
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ (60,384)	$ 564,023
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,476,093	3,293,913
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	416	81,879
Vouchers payable and accrued expenses	(178,366)	462,117
OPEB liability	184,562	173,757
Total adjustments	3,482,705	4,011,666
Net cash provided by (used in) operating activities	$ 3,422,321	$ 4,575,689
Non-Cash Items:		
Developer contributions	$ 289,994	$ -

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

1. Organization

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. Summary of Significant Accounting Policies

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City does appoint a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements, and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally government securities and money market funds, are carried at fair value.

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2019 and 2018. No provision is made for uncollectible accounts as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represents an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost.

Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized.

Compensated Absences

The Authority provides paid vacation, personal, and sick leave benefits to all eligible employees. Vacation days can be accumulated by eligible employees, not to exceed 24 days. Personal days are granted annually to eligible full-time employees; however, they may not be carried over from calendar year to calendar year. Sick leave can be accumulated by employees, not to exceed 130 days. The Authority's policy at the time of separation of employment is to pay unused vacation, personal, and sick leave, on a pro-rata basis, at the time of separation. The balance of compensated absences at July 31, 2019 and 2018, was $836,548 and $859,548, respectively, and is recorded in accrued expenses on the statements of net position.

Bond Discounts, Bond Premiums, and Bond Insurance Costs

Bond discounts, bond premiums, and bond insurance costs are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. The unamortized balance of bond insurance costs is recorded as an asset. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows of Resources and Deferred Inflows of Resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position will sometimes report a separate section for deferred inflows of resources. This represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority does not have any items that qualify for reporting in this category.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the

portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted."

Adopted Pronouncement

The requirements of the following GASB Statement were adopted for the financial statements:

GASB Statement No. 88, "*Certain Debt Disclosures.*" This statement improves reporting by providing users of financial statements with essential information about resources to liquidate debt and the risks associated with changes in terms associated with debt. All applicable provisions were adopted.

Pending Pronouncements

The GASB has issued several statements that will become effective in future years, including Statement Nos. 83 (Certain Asset Retirement Obligations), 84 (Fiduciary Activities), 87 (Leases), 89 (Interest Cost), 90 (Majority Equity Interests), and 91 (Conduit Debt Obligations). Management has not yet determined the impact of these statements on the Authority's financial statements.

3. Deposits and Investments

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of

Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2019 and 2018 that were in violation of these policies.

The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

As of July 31, 2019 and 2018, the Authority held certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are fully covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $2,912,000 and $2,931,000 for 2019 and 2018, respectively.

As of July 31, 2019, $6,597,335 of the Authority's bank balance of $6,847,335 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,831,152 as of July 31, 2019 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2019, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2018, $6,875,181 of the Authority's bank balance of $7,125,181 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $7,085,362 as of July 31, 2018 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2018, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $211,267 and $130,559 at July 31, 2019 and 2018, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2019 and 2018:

	2019		2018	
		Maturity in years		Maturity in years
Investment Type	Fair Value	Less than 1 year	Fair Value	Less than 1 year
Money market funds	$ 6,330,647	$ 6,330,647	$ 7,961,871	$ 7,961,871
U.S. Treasuries	-	-	1,773,634	1,773,634
Total Investments	$ 6,330,647	$ 6,330,647	$ 9,735,505	$ 9,735,505

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical

assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The Authority has the following recurring fair value measurements as of July 31, 2019 and 2018:

- U.S. Treasury securities of $0 and $1,773,634 are valued using quoted market prices (Level 1 inputs), respectively.

4. Capital Assets

A summary of changes in capital assets for the years ended July 31, 2019 and 2018 follows:

	Balance at August 1, 2018	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2019
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	4,298,738	126,068	(4,141,329)	283,477
Capital assets, not being depreciated	$ 5,120,163	$ 126,068	$ (4,141,329)	$ 1,104,902
Vehicles	$ 878,276	$ -	$ -	$ 878,276
Sewer system	58,963,698	802,588	-	59,766,286
Pump stations	37,655,954	695,268	(87,344)	38,263,878
Plant	30,640,188	6,832,384	(871,980)	36,600,592
Capital assets, being depreciated	128,138,116	8,330,240	(959,324)	135,509,032
Less: accumulated depreciation	(67,513,233)	(3,476,093)	948,406	(70,040,920)
Capital assets, net of accumulated depreciation	$ 60,624,883	$ 4,854,147	$ (10,918)	$ 65,468,112

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

	Balance at August 1, 2017	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2018
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	741,153	3,590,676	(33,091)	4,298,738
Capital assets, not being depreciated	$ 1,562,578	$ 3,590,676	$ (33,091)	$ 5,120,163
Vehicles	$ 836,280	$ 41,996	$ -	$ 878,276
Sewer system	58,955,538	8,160	-	58,963,698
Pump stations	37,570,737	98,817	(13,600)	37,655,954
Plant	30,609,469	67,119	(36,400)	30,640,188
Capital assets, being depreciated	127,972,024	216,092	(50,000)	128,138,116
Less: accumulated depreciation	(64,269,320)	(3,293,913)	50,000	(67,513,233)
Capital assets, net of accumulated depreciation	$ 63,702,704	$ (3,077,821)	$ -	$ 60,624,883

The $126,068 and $3,590,676 of additions to construction in progress at July 31, 2019 and 2018, respectively, relates to recent Authority projects, which include the Negley Avenue Pump Station Replacement Project, Grit Building MCC Replacement Project, Headworks Improvement Project, Sludge Dewatering Improvement Project, Primary Tank 1 and 2 Improvements, the South Traveling Bridge Improvements, Center Avenue Pump Station Improvement, Rocklick Pump Station Replacement Project, and the North Traveling Bridge Improvements.

5. Debt

Bonds Payable

During 2010, the Authority issued Sewer Revenue Bonds, Series of 2010 (2010 Bonds), in the amount of $20,200,000 to finance various projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay costs related to issuance of the bonds. A portion of these bonds was defeased during the year ended July 31, 2013; and $9,345,000 was refunded during the year ended July 31, 2016. The 2010 Bonds matured in 2019.

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. As a result, $8,315,000 of the 2010 Bonds were considered defeased and the liability for these bonds has been removed from the statement of net position. In July 2016,

the defeased bonds were called and satisfied. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds.

During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041.

During October 2017, the Authority issued Sewer Revenue Bonds, Series A and Series B of 2017 (2017 Bonds), in the amount of $9,995,000 and $1,325,000, respectively, a total of $11,320,000 to refund certain PennVest notes payable, purchase a surety policy for deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. For Series A, the interest rates vary between 2.00% and 3.00% and mature from 2019 to 2032. For Series B, the interest rates vary between 1.50% and 1.80% and mature from 2018 to 2019.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

Annual maturities of the bonds payable at July 31, 2019 are as follows:

Year Ending July 31,	Principal	Interest	Total
2020	$ 1,765,000	$ 1,832,759	$ 3,597,759
2021	1,795,000	1,805,809	3,600,809
2022	1,845,000	1,783,009	3,628,009
2023	1,885,000	1,760,853	3,645,853
2024	1,920,000	1,737,688	3,657,688
2025-2029	10,600,000	7,847,189	18,447,189
2030-2034	14,580,000	3,772,725	18,352,725
2035-2039	2,480,000	438,746	2,918,746
2040-2041	1,110,000	56,950	1,166,950
Total Payments	37,980,000		
Less: Unamortized Bond Discount/Premium	19,281		
	$ 37,960,719	$ 21,035,728	$ 59,015,728

Notes Payable - PennVest

During 2006, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,646,138 were used to fund the Deshon Area Sewer Rehabilitation Project. The interest rate for the first sixty months was 1.387% and was 2.774% for the remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

During 2009, the Authority entered into a loan agreement with PennVest. The loan proceeds of $6,077,095 were used to fund the Northwest Area Sewer Rehabilitation Project. The interest rate for the first sixty months was 2.270% and was 3.046% for the remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. This direct borrowing is secured by a parity first lien on the Authority's sewer revenues and contain provisions that in the event of default, (1) the outstanding principal balance and any accrued and unpaid interest to be immediately due and payable in full, and (2) PennVest may exercise any and all rights in the security interest in the Project collateral. Principal

payments of $601,533 and $593,748 were made for the years ended July 31, 2019 and 2018, respectively. The interest rate for the first sixty months was 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $5,137,285 were used to fund the Deshon Act 537 Project. The interest rate for the first sixty months was 2.414% and was 3.117% for the remainder of the loan. The loan was paid with the issuance of the October 2017 bonds as of July 31, 2018.

Principal and interest payable in future years on all of the PennVest notes are as follows:

Fiscal Years	Principal	Interest	Total
2020	$ 612,762	$ 162,354	$ 775,116
2021	624,201	150,915	775,116
2022	635,854	139,262	775,116
2023	647,724	127,392	775,116
2024	659,815	115,301	775,116
2025-2029	3,488,500	387,080	3,875,580
2030-2033	2,382,199	72,335	2,454,534
	$ 9,051,055	$ 1,154,639	$ 10,205,694

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2019:

	Balance at August 1, 2018	Issuance	Payments	Balance at July 31, 2019	Due within one year
Sewer Revenue Bonds (2010)	$ 215,000	$ -	$ (215,000)	$ -	$ -
Sewer Revenue Bonds (2013)	9,775,000	-	(80,000)	9,695,000	85,000
Sewer Revenue Bonds (2015)	9,675,000	-	(320,000)	9,355,000	555,000
Sewer Revenue Bonds (2016)	9,300,000	-	(310,000)	8,990,000	325,000
Sewer Revenue Bonds (2017)	10,725,000	-	(785,000)	9,940,000	800,000
Notes from direct borrowings:					
PennVest Note (2011)	9,652,588	-	(601,533)	9,051,055	612,762
Payable, end of year	$ 49,342,588	$ -	$ (2,311,533)	$ 47,031,055	$ 2,377,762

Amounts above and below do not reflect an original issue discount in the amount of $130,306 and $141,138, as of July 31, 2019 and 2018, respectively, for the 2013 Bonds and 2017 Bonds. The discount is amortized using the straight-line method over the life of the 2013 Bonds and 2017 Bonds.

Amounts above and below do not reflect an original issue premium in the amount of $111,025 and $116,899, as of July 31, 2019 and 2018, respectively, for the 2015 Bonds and 2016 Bonds. The premium is amortized using the straight-line method over the life of the 2015 Bonds and 2016 Bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2018:

	Balance at August 1, 2017	Issuance	Payments	Balance at July 31, 2018	Due within one year
Sewer Revenue Bonds (2010)	$ 680,000	$ -	$ (465,000)	$ 215,000	$ 215,000
Sewer Revenue Bonds (2013)	9,855,000	-	(80,000)	9,775,000	80,000
Sewer Revenue Bonds (2015)	9,745,000	-	(70,000)	9,675,000	320,000
Sewer Revenue Bonds (2016)	9,600,000	-	(300,000)	9,300,000	310,000
Sewer Revenue Bonds (2017)	-	11,320,000	(595,000)	10,725,000	785,000
Notes from direct borrowings:					
PennVest Note (2006)	3,286,157	-	(3,286,157)	-	-
PennVest Note (2009)	3,928,695	-	(3,928,695)	-	-
PennVest Note (2011)	10,246,336	-	(593,748)	9,652,588	601,533
PennVest Note (2011)	4,085,651	-	(4,085,651)	-	-
Payable, end of year	$ 51,426,839	$ 11,320,000	$ (13,404,251)	$ 49,342,588	$ 2,311,533

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. Pension Plan

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2019, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year and participants are required to contribute 4.5% beginning January 1, 2017, up from 4.0% in 2016, and 5.0% beginning January 1, 2018 of eligible compensation to their participant account. During 2017, employer contributions were 7.0%, up from 6.5% in 2016, of eligible compensation until January 1, 2018 when

employer contributions increased to 7.5% of eligible compensation. Employee and employer contributions to the Plan were $130,339 and $196,101, respectively, for the year ended July 31, 2019. Employee and employer contributions to the Plan were $129,189 and $197,414, respectively, for the year ended July 31, 2018.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements of the 457(b) Plan prior to November 1, 2018, are consistent with the eligibility requirements of the Plan noted above. Effective November 1, 2018, contributions to the 457(b) Plan continue to be on a voluntary basis, but may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2019, all but one of the Authority's non-temporary employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $84,590 and $67,990 for the years ended July 31, 2019 and 2018, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2019, all of the Authority's non-temporary employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2019 and 2018 were $9,602 and $20,850, respectively.

7. Postemployment Benefits Other Than Pension Benefits (OPEBs)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. The OPEB plan is a single-employer defined benefit OPEB plan administered by the Authority. No assets are accumulated in a trust to pay related benefits.

If an employee was hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If an employee was hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employees and their spouses and eligible dependents.

Benefits Provided

For those eligible employees retiring between ages 62 and 65, the Authority pays up to 97% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). No dental or vision benefits are provided. Upon Medicare eligibility, the retiree must convert to a Medicare Supplement Plan. The Authority pays the full cost of the designated retiree's Medicare Supplement premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated retiree's Medicare Supplement premium, provided that Medicare eligibility is sustained.

For spouses and eligible dependent(s) who are under age 65, the Authority will pay up to 97% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Supplement premium, provided that Medicare eligibility is sustained. All Authority-paid benefits to the spouse cease upon the death of the retiring employee. All Authority-paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the spouse's eligibility for Medicare, or the retiree's death.

For pre-age 65 coverage, a PPO $500/$1000 Deductible Plan administered by Municipal Benefits Services is available. For post-age 65 coverage, a Medicare Supplement is available, where Highmark bills the Authority through the retiree.

Contributions

The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months as

described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

Employees Covered by Benefit Terms

As of August 1, 2017, the date of the most recent actuarial valuation, the following employees were covered by the benefit terms:

Current retired participants receiving OPEB benefits	10
Active participants	32
	42

Total OPEB Liability

The Authority's total OPEB liability of $4,708,844 was measured as of August 1, 2017 and was determined by an actuarial valuation as of that date.

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of August 1, 2017 using the following actuarial assumptions, applied to all periods including the measurement:

Inflation	2.75%
Salary increases	2.75%
Discount rate	3.50% per year
Healthcare cost trend rates	4.50% for 2017; 5.0% per year thereafter
Retirees' share of benefit-related costs	The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2019 AND 2018

The discount rate was based on the index rate for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Mortality rates were based on the RP-2014 Mortality Table with 50% of Blue-Collar Adjustment.

The actuarial assumptions used in the August 1, 2017 valuation were based on the results of an actuarial experience study as of August 1, 2017.

Changes in the Total OPEB Liability

	Total OPEB Liability
Balance at July 31, 2018	$ 4,524,282
Changes for the year:	
Service cost	128,003
Interest	161,018
Changes of benefit terms	-
Differences between expected and actual experience	-
Benefit payments	(104,459)
Net changes	184,562
Balance at July 31, 2019	$ 4,708,844

There were no changes of benefit terms.

There were no changes of actuarial assumptions.

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate as of July 31, 2019:

	1% Decrease (2.50%)	Discount Rate (3.50%)	1% Increase (4.50%)
Total OPEB liability	$ 5,486,841	$ 4,708,844	$ 4,071,356

Sensitivity of the total OPEB liability to changes in the healthcare cost trend rates: The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates as of July 31, 2019:

	1% Decrease (3.50%)	Discount Rate (4.50%)	1% Increase (5.50%)
Total OPEB liability	$ 3,929,775	$ 4,708,844	$ 5,701,913

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended July 31, 2019, the Authority recognized OPEB expense of $289,021. At July 31, 2019, the Authority did not have any deferred outflows of resources nor deferred inflows of resources related to OPEB.

8. Environmental and Other Contingent Liabilities

On March 11, 2019, the Authority submitted a voluntary Corrective Action Plan (CAP) with the Pennsylvania Department of Environmental Protection (DEP) to address the hydraulic overloads that have been identified in portions of the Authority's sewer conveyance system, which was approved by the DEP on March 26, 2019. The CAP includes various tasks related to the Fisher Heights Pump Station, Brewster & Brewster Booster Pump Station System, and

Greenwood, Benbrook, and Bryson Pump Station System with work to be completed through June 2024. The Authority is currently collecting pump station and system data to analyze and plan for necessary improvements required to address the sanitary sewer overflow issues and/or provide additional capacity within this service area. The Authority will determine how this project will be funded once the preliminary analysis and design cost estimates have been made. No total cost estimate is available as of July 31, 2019.

9. Commitments and Contingencies

As of July 31, 2019, the Authority has entered into a construction contract that has not been completed as of the end of the fiscal year. Amounts remaining on the contract for construction services not performed as of July 31, 2019 total approximately $80,000. Work is scheduled to be completed on this project during the upcoming fiscal year.

REQUIRED SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF CHANGES IN THE AUTHORITY'S
TOTAL OPEB LIABILITY AND RELATED RATIOS

YEAR ENDED JULY 31
LAST 10 FISCAL YEARS*

	2019	2018
Total OPEB Liability:		
Service cost	$ 128,003	$ 124,577
Interest	161,018	154,796
Changes of benefit terms	-	-
Differences between expected and actual experiences	-	-
Changes of assumptions	-	-
Benefit payments	(104,459)	(105,616)
Net change in Total OPEB Liability	184,562	173,757
Total OPEB Liability - Beginning	4,524,282	4,350,525
Total OPEB Liability - Ending	$ 4,708,844	$ 4,524,282
Covered Employee Payroll	$ 1,916,392	$ 2,237,929
Total OPEB Liability as a percentage of Covered Employee Payroll	245.71%	202.16%

* Until a full 10-year trend is compiled, the required information for the plan is presented for those years for which information is available.

See accompanying notes to required supplementary information.

BUTLER AREA SEWER AUTHORITY

NOTES TO REQUIRED
SUPPLEMENTARY INFORMATION

YEARS ENDED JULY 31, 2019 AND 2018

Accumulated Assets

No assets are accumulated in a trust to pay related benefits.

Benefit Changes

There were no changes of benefit terms.

Changes of Assumptions

There were no changes of assumptions.

SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2019

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,812,798	$ -	$ -	$ 4,229,621	$ -	$ -	$ 7,042,419
Investments:							
Trusteed accounts	-	7,636	2,306,701	-	3,267,708	748,602	6,330,647
Other	2,418,000	-	-	494,000	-	-	2,912,000
Accounts receivable	1,965,646	-	-	-	-	-	1,965,646
Unbilled sewer receivable	896,600	-	-	-	-	-	896,600
Total current assets	8,093,044	7,636	2,306,701	4,723,621	3,267,708	748,602	19,147,312
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization	-	-	-	-	-	-	-
Capital assets, not being depreciated	1,104,902	-	-	-	-	-	1,104,902
Capital assets, net of accumulated depreciation	65,468,112	-	-	-	-	-	65,468,112
Total capital assets	66,573,014	-	-	-	-	-	66,573,014
Total non-current assets	66,573,014	-	-	-	-	-	66,573,014
Total Assets	74,666,058	7,636	2,306,701	4,723,621	3,267,708	748,602	85,720,326
Deferred Outflows of Resources							
Deferred charge on refunding	1,141,032	-	-	-	-	-	1,141,032
Liabilities							
Current liabilities:							
Vouchers payable	464,040	-	-	-	-	-	464,040
Accrued expenses	934,263	-	-	-	-	-	934,263
Current maturities of bonds payable	1,765,000	-	-	-	-	-	1,765,000
Current portion of notes payable	612,762	-	-	-	-	-	612,762
Total current liabilities	3,776,065	-	-	-	-	-	3,776,065
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	36,195,719	-	-	-	-	-	36,195,719
Notes payable	8,438,293	-	-	-	-	-	8,438,293
OPEB liability	4,708,844	-	-	-	-	-	4,708,844
Total non-current liabilities	49,342,856	-	-	-	-	-	49,342,856
Total Liabilities	53,118,921	-	-	-	-	-	53,118,921
Net Position							
Net investment in capital assets	21,450,874	-	-	-	-	-	21,450,874
Restricted	(748,602)	7,636	2,306,701	-	3,267,708	748,602	5,582,045
Unrestricted	1,985,897	-	-	4,723,621	-	-	6,709,518
Total Net Position	$ 22,688,169	$ 7,636	$ 2,306,701	$ 4,723,621	$ 3,267,708	$ 748,602	$ 33,742,437

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2018

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,722,287	$ -	$ -	$ 4,493,634	$ -	$ -	$ 7,215,921
Investments:							
Trusteed accounts	-	3,394	2,253,919	-	2,563,492	4,914,700	9,735,505
Other	2,437,000	-	-	494,000	-	-	2,931,000
Accounts receivable	1,980,962	-	-	-	-	-	1,980,962
Unbilled sewer receivable	881,700	-	-	-	-	-	881,700
Total current assets	8,021,949	3,394	2,253,919	4,987,634	2,563,492	4,914,700	22,745,088
Non-current assets:							
Unamortized bond insurance, net of accumulated amortization of $191,382	65,618	-	-	-	-	-	65,618
Capital assets not being depreciated	5,120,163	-	-	-	-	-	5,120,163
Capital assets, net of accumulated depreciation	60,624,883	-	-	-	-	-	60,624,883
Total capital assets	65,745,046	-	-	-	-	-	65,745,046
Total non-current assets	65,810,664	-	-	-	-	-	65,810,664
Total Assets	73,832,613	3,394	2,253,919	4,987,634	2,563,492	4,914,700	88,555,752
Deferred Outflows of Resources							
Deferred charge on refunding	1,234,161	-	-	-	-	-	1,234,161
Liabilities							
Current liabilities:							
Vouchers payable	630,703	-	-	-	-	-	630,703
Accrued expenses	945,966	-	-	-	-	-	945,966
Current maturities of bonds payable	1,710,000	-	-	-	-	-	1,710,000
Current portion of notes payable	601,533	-	-	-	-	-	601,533
Total current liabilities	3,888,202	-	-	-	-	-	3,888,202
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	37,955,761	-	-	-	-	-	37,955,761
Notes payable	9,051,055	-	-	-	-	-	9,051,055
OPEB liability	4,524,282	-	-	-	-	-	4,524,282
Total non-current liabilities	51,531,098	-	-	-	-	-	51,531,098
Total Liabilities	55,419,300	-	-	-	-	-	55,419,300
Net Position							
Net investment in capital assets	22,641,176	-	-	-	-	-	22,641,176
Restricted	(4,914,700)	3,394	2,253,919	-	2,563,492	4,914,700	4,820,805
Unrestricted	1,920,998	-	-	4,987,634	-	-	6,908,632
Total Net Position	$ 19,647,474	$ 3,394	$ 2,253,919	$ 4,987,634	$ 2,563,492	$ 4,914,700	$ 34,370,613

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2019

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,867,981	$ -	$ -	$ -	$ -	$ -	$ 9,867,981
Sewer charges - industrial waste	308,999	-	-	-	-	-	308,999
Other operating fees and charges	128,446	-	-	-	-	-	128,446
Total operating revenues	10,305,426	-	-	-	-	-	10,305,426
Operating Expenses:							
Operations and maintenance	5,863,067	-	-	-	-	-	5,863,067
Administration	1,026,650	-	-	-	-	-	1,026,650
Depreciation	3,476,093	-	-	-	-	-	3,476,093
Total operating expenses	10,365,810	-	-	-	-	-	10,365,810
Operating Income (Loss)	(60,384)	-	-	-	-	-	(60,384)
Non-Operating Revenues (Expenses):							
Interest income	238,245	7,720	43,804	18,921	54,750	74,047	437,487
Interest expense	(1,348,163)	-	-	-	-	-	(1,348,163)
Bond issuance costs	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	-	-	8,978	-	-	-	8,978
Loss on disposal of capital assets	(10,918)	-	-	-	-	-	(10,918)
Amortization	(70,576)	-	-	-	-	-	(70,576)
Total non-operating revenues (expenses)	(1,191,412)	7,720	52,782	18,921	54,750	74,047	(983,192)
Income (Loss) Before Capital Contributions and Transfers	(1,251,796)	7,720	52,782	18,921	54,750	74,047	(1,043,576)
Capital Contributions:							
Tap-in fees	125,406	-	-	-	-	-	125,406
Developer contribution revenue	289,994	-	-	-	-	-	289,994
Total capital contributions	415,400	-	-	-	-	-	415,400
Net Income (Loss) Before Transfers	(836,396)	7,720	52,782	18,921	54,750	74,047	(628,176)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,787,973	-	-	649,466	-	3,437,439
Debt Service Fund	2,791,451	-	-	-	-	-	2,791,451
Capital Improvement and Redemption Fund	4,523,079	-	-	-	-	-	4,523,079
Bond Redemption and Improvement Fund	-	-	-	-	-	-	-
Construction Fund	-	-	-	4,240,145	-	-	4,240,145
Transfers out to:							
Revenue Fund	-	(2,791,451)	-	(4,523,079)	-	-	(7,314,530)
Debt Service Fund	(2,787,973)	-	-	-	-	-	(2,787,973)
Capital Improvement and Redemption Fund	-	-	-	-	-	(4,240,145)	(4,240,145)
Bond Redemption and Improvement Fund	(649,466)	-	-	-	-	-	(649,466)
Net Income (Loss)	3,040,695	4,242	52,782	(264,013)	704,216	(4,166,098)	(628,176)
Net Position:							
Beginning of year	19,647,474	3,394	2,253,919	4,987,634	2,563,492	4,914,700	34,370,613
End of year	$ 22,688,169	$ 7,636	$ 2,306,701	$ 4,723,621	$ 3,267,708	$ 748,602	$ 33,742,437

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2018

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,926,794	$ -	$ -	$ -	$ -	$ -	$ 9,926,794
Sewer charges - industrial waste	344,806	-	-	-	-	-	344,806
Other operating fees and charges	144,851	-	-	-	-	-	144,851
Total operating revenues	10,416,451	-	-	-	-	-	10,416,451
Operating Expenses:							
Operations and maintenance	5,443,823	-	-	-	-	-	5,443,823
Administration	1,114,692	-	-	-	-	-	1,114,692
Depreciation	3,293,913	-	-	-	-	-	3,293,913
Total operating expenses	9,852,428	-	-	-	-	-	9,852,428
Operating Income (Loss)	564,023	-	-	-	-	-	564,023
Non-Operating Revenues (Expenses):							
Interest income	222,574	3,460	37,986	18,774	17,746	85,148	385,688
Interest expense	(1,415,565)	-	-	-	-	-	(1,415,565)
Bond issuance costs	(158,390)	-	-	-	-	-	(158,390)
Unrealized gain (loss) on investments	-	-	(3,174)	-	-	-	(3,174)
Amortization	(70,575)	-	-	-	-	-	(70,575)
Total non-operating revenues (expenses)	(1,421,956)	3,460	34,812	18,774	17,746	85,148	(1,262,016)
Income (Loss) Before Capital Contributions and Transfers	(857,933)	3,460	34,812	18,774	17,746	85,148	(697,993)
Capital Contributions:							
Tap-in fees	195,156	-	-	-	-	-	195,156
Developer contribution revenue	-	-	-	-	-	-	-
Total capital contributions	195,156	-	-	-	-	-	195,156
Net Income (Loss) Before Transfers	(662,777)	3,460	34,812	18,774	17,746	85,148	(502,837)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,548,301	-	-	1,072,304	-	3,620,605
Debt Service Fund	2,550,040	-	-	-	-	-	2,550,040
Capital Improvement and Redemption Fund	3,453,841	-	-	-	-	-	3,453,841
Bond Redemption and Improvement Fund	-	-	-	-	-	-	-
Construction Fund	-	-	-	3,743,961	-	-	3,743,961
Transfers out to:							
Revenue Fund	-	(2,550,040)	-	(3,453,841)	-	-	(6,003,881)
Debt Service Fund	(2,548,301)	-	-	-	-	-	(2,548,301)
Capital Improvement and Redemption Fund	-	-	-	-	-	(3,743,961)	(3,743,961)
Bond Redemption and Improvement Fund	(1,072,304)	-	-	-	-	-	(1,072,304)
Net Income (Loss)	1,720,499	1,721	34,812	308,894	1,090,050	(3,658,813)	(502,837)
Net Position:							
Beginning of year	17,926,975	1,673	2,219,107	4,678,740	1,473,442	8,573,513	34,873,450
End of year	$ 19,647,474	$ 3,394	$ 2,253,919	$ 4,987,634	$ 2,563,492	$ 4,914,700	$ 34,370,613

Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2020 and 2019
with Independent Auditor's Report

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2020 AND 2019

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MaherDuessel

Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2020 and 2019, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements

themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
November 2, 2020

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2020 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2020.

- Authority operations were and continue to be impacted by the pandemic caused by the novel strain of the coronavirus during the current fiscal year. This impact has been negated to a large degree as sanitary sewer service is an essential need. Sewer charges did decrease, primarily during the mandated stay at home order, due to a reduction of water usage for many commercial properties that are invoiced on a metered water basis. However, because the majority of Authority customers are residential properties that are charged on a flat rate basis, this stabilized the Authority's revenues for the period. Due to the pandemic, the state of Pennsylvania has imposed a temporary water service termination moratorium, thus placing limitations on otherwise available collection methods. Although the ultimate impact of this pandemic is unknown, the Authority continues to monitor its cash flows taking into account the sewer charges billed, increases to sewer charges receivable, and expenses making any needed modifications on an ongoing basis.

- A rate increase of $2.00, or 5.6%, per month per equivalent dwelling unit (EDU) went into effect on January 1, 2020. This resulted in the base quarterly rate for a single EDU to increase from $108 to $114. As of December 31, 2019 the average annual EDUs for the Authority was 23,473. The last rate increase went into effect on July 1, 2016.

- The Authority issued Sewer Revenue Bonds in February of 2020 (2020 Bonds) to be used for the primary purpose of refunding the Sewer Revenue Bonds, Series 2013 as well as to pay for related costs and expenses of issuing the 2020 Bonds. This issuance resulted in a savings of $1,255,650, to be realized over the 15 year life of the 2020 Bonds. Subsequent to year end, in October of 2020, the Authority refunded the 2015 Sewer Revenue Bonds with a second Series A of 2020 Bond issue, resulting in a savings of $584,742, to be realized over the 11 year life of the Series A 2020 Bonds.

- During the year, the Authority and the bargaining unit, District Council 84, The American Federation of State, County, and Municipal Employees – AFL-CIO Butler Area Sewer Authority Employees, successfully completed negotiations. The new four year contract term runs from January 1, 2020 through December 31, 2023.

- The Authority proposed a Corrective Action Plan (CAP), which was approved by the Pennsylvania Department of Environmental Protection (DEP) on March 26, 2019. The CAP addresses wet weather hydraulic overloading of specific pump stations (*Fisher Heights Pump Station)* and pump station systems *(Brewster and Brewster Booster Pump Station System as well as*

Greenwood, Benbrook, and Bryson Pump Station System) within the service area. The CAP outlines steps necessary for the Authority to collect and analyze data as well as propose, design, and construct any necessary improvements within the designated area of the sewer collection system in accordance with the proposed timeline.

- The Authority experienced a Net Loss or a decrease in Net Position of $729,672 (2.2%) in the fiscal year ended July 31, 2020. The loss continues to be driven by high depreciation expenses totaling $3,695,178 for the fiscal year ended July 31, 2020.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows and inflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital, and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position.

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2020	Balance at July 31, 2019	Net Change
Assets:			
Current Assets	$ 19,414,574	$ 19,147,312	$ 267,262
Capital Assets	63,170,727	66,573,014	(3,402,287)
Total Assets	82,585,301	85,720,326	(3,135,025)
Deferred Outflows of Resources:			
Deferred charge on refunding	1,047,903	1,141,032	(93,129)
Total Deferred Outflows of Resources	1,047,903	1,141,032	(93,129)
Liabilities and Net Position:			
Current Liabilities	3,434,135	3,776,065	(341,930)
Non-Current Liabilities	46,672,218	49,342,856	(2,670,638)
Total Liabilities	50,106,353	53,118,921	(3,012,568)
Deferred Outflows of Resources:			
Deferred inflows of resources for OPEB	514,086	-	514,086
Total Deferred Inflows of Resources	514,086	-	514,086
Total Net Position	$ 33,012,765	$ 33,742,437	$ (729,672)

Assets and Deferred Outflows of Resources

The Authority's Current Assets increased by $267,262 (1.4%) during the period. There were net increases to cash and cash equivalents ($117,628), investments in trusteed accounts ($224,684), and accounts receivable ($128,150) as well as a decrease to investments in other ($213,000). Due to the dwindling rates of return on certificates of deposit, investment in other funds that matured were not reinvested and were held as cash and cash equivalents as of the year ended July 31, 2020. Proceeds from the 2016 Bond issue, held in the construction fund, were utilized during the year. However, in accordance with the Authority's trust indenture amounts representing annual excess funds were transferred from the revenue fund into the bond redemption and improvement fund resulting in an increase in overall trusteed account assets. Finally, due to the coronavirus, its economic impact, and restrictions placed on collection efforts the accounts receivable balance increased from the prior year.

Capital Assets decreased by $3,402,287 (5.1%). Although the Authority had additions to capital assets during the year, the amount of depreciation for the period of $3,695,178 far exceeded the capital asset additions and therefore resulted in a decrease in Capital Assets for the period. Additional information can be reviewed in the Capital Improvements section of the MD&A and in the Notes to the Financial Statements.

Overall, total assets decreased by $3,135,025 (3.7%).

The Deferred Charge on Refunding was established from the Sewer Revenue Bonds, Series of 2013 and 2015 that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the life of the bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities, Deferred Inflows of Resources, and Net Position

The Authority had a decrease in Current Liabilities as of July 31, 2020 of $341,930 (9.1%). This was due primarily to a decrease in vouchers payable ($390,540). Vouchers payable decreased as there were fewer active construction projects at the end of the current fiscal year compared to the prior fiscal year. Additional information on capital projects can be seen in the Capital Improvements section of the MD&A below. The change in current maturities of bonds payable is based on the amortization schedules of each respective bond issue, such payments of principal debt service naturally fluctuate from year to year. Additional information on debt is available in the Debt section of the MD&A and in the Notes to the Financial Statements.

Non-Current Liabilities had a net decrease of $2,670,638 (5.4%). The Authority continued to make required debt service payments on both bonds and notes over the period. The Authority issued Sewer Revenue Bonds in February of 2020 to be used for the primary purpose of refunding the Sewer Revenue Bonds, Series 2013, changes to the debt service amortization of these two bonds is reflected in the variance shown. More discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. In addition, the OPEB liability decreased by $539,320 from the prior period. More discussion can be reviewed in the Postemployment Benefits Other Than Pension Benefits (OPEBs) section of the Notes to Financial Statements.

Overall, Total Liabilities decreased by $3,012,568 (5.7%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position.

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2020	Year Ended July 31, 2019	Net Change
Revenues:			
Sewer Charges	$ 10,373,400	$ 10,176,980	$ 196,420
Other Operating Fees and Charges	203,150	128,446	74,704
Non-Operating Revenues	281,238	446,465	(165,227)
Total Revenues	10,857,788	10,751,891	105,897
Expenses:			
Operating Expenses, Net of Depreciation	6,478,400	6,889,717	(411,317)
Depreciation	3,695,178	3,476,093	219,085
Non-Operating Expenses	1,500,228	1,429,657	70,571
Total Expenses	11,673,806	11,795,467	(121,661)
Capital Contributions:			
Tap-In Fees	86,346	125,406	(39,060)
Developer Contribution Revenue	-	289,994	(289,994)
Total Capital Contributions	86,346	415,400	(329,054)
Net Income (Loss)	(729,672)	(628,176)	(101,496)
Net Position:			
Beginning of Year	33,742,437	34,370,613	(628,176)
End of Year	$ 33,012,765	$ 33,742,437	$ (729,672)

Revenues

Total Revenues increased from the prior year amount by $105,897 (1.0%). Sewer charges increased during the period by $196,420 (1.9%). A rate increase of $2.00 per month per EDU became effective as of January 1, 2020; this increase was slightly lower than anticipated due to reduced billing for commercial metered water customers during the stay at home order in response to the coronavirus pandemic. Although the large majority of the Authority's customer base is billed on a flat rate, many customers are billed based on the amount of water usage which can vary from period to period. Residential properties are billed on a flat rate, whereas commercial and industrial waste users are billed on consumption. Each EDU that is billed is equivalent to 4,000 gallons of water consumed per month.

An increase in other operating fees and charges of $74,704 (58.2%) is attributable to the sale of surplus assets no longer used in operations during the year ended July 31, 2020 compared to the preceding year and an increase in realty transfer inspection testing during the period.

Finally, non-operating revenues decreased by $165,227 (37.0%) due almost entirely from a decrease in interest income spurred by the economic conditions that were attributed to the coronavirus pandemic.

Expenses

Total Expenses decreased by $121,661 (1.0%). Operating Expenses, Net of Depreciation decreased by $411,317 (6.0%). Expenses for other postemployment benefits (OPEB) decreased by $202,587 from the

year ended July 31, 2019 to July 31, 2020. In addition, due to the unknown nature of the impact the coronavirus would have on the Authority's cash flow in late spring of 2020 and as a result of a modified employee work schedule, discretionary spending as well as capital project spending slowed during the initial onset of the pandemic.

Depreciation expense increased by $219,085 (6.3%) during the year ended July 31, 2020. The Authority completed several multi-year major improvement projects that were recorded as depreciable capital assets during the year ended July 31, 2019. During 2019 these new depreciable assets were depreciated on a half year basis. In 2020 those assets began being depreciating for the full year, thus resulting in increased depreciable expenses for the year ended July 31, 2020.

Non-Operating Expenses increased by $70,571 (4.9%). Issuance costs for the 2020 Bonds, in the amount of $244,628, was offset by a decrease in interest expense ($95,855) and amortization costs (70,649) for the year ended July 31, 2020.

Capital Contributions

Total Capital Contributions decreased by $329,054 (79.2%). The demand for access to the sewer system decreased during the year resulting in fewer Tap-In Fees of $39,060 as well as a decrease in Developer Contribution Revenue of $289,994. Revenues generated from Tap-In Fees and Developer Contribution Revenue directly correlate to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2020, the Authority experienced a Net Loss of $729,672, compared to the July 31, 2019 Net Loss of $628,176.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its ongoing capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

Capital projects and purchases made during the fiscal year included: waste water treatment plant (WWTP) primary tank numbers 1 and 2 improvements project ($198,385), trickling filter distribution valve actuator ($18,545), WWTP pump station pump controller ($20,735), SCADA system upgrades ($19,706), three new pump station pumps ($36,626), pump station wet well heater and blower ($10,733), and a Ford transit van ($42,113). There were no Developer Contributions for sewer extensions accepted by the Authority during the year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2020 that includes the following projects: (1) *Rocklick Pump Station Replacement Project* design and permitting phase*, (2) Center Avenue Pump and Valve Replacement Program, (3) WWTP Aeration Tank Gate Actuator Project, (4) WWTP Automatic Chlorine Feed Equipment, and (5) WWTP Sludge Thickener Upgrade Project.*

Depreciation expense increased by $219,085 (6.3%) during the year ended July 31, 2020.

DEBT

In December 2010, the Authority established a new Trust Indenture and issued new Sewer Revenue Bonds in the amount of $20,200,000. Proceeds from this obligation were used to fund the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the projects required under the Consent Order and Agreement (CO&A). A portion of this debt was advance refunded with the 2013 and 2015 bond issues, respectively, as described below and in the Notes. The 2010 Bonds were paid-in-full during the year ended July 31, 2019.

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, and after the 2020 advanced refunding of the debt, as described below and in the Notes, this loan was paid-in-full during the year ended July 31, 2020.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, the Authority had outstanding bond debt of $8,800,000 for this bond issue. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the *Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $8,665,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In October 2017, the Authority issued new Sewer Revenue Bonds in the amount of $11,320,000. Proceeds from this obligation were used to pay for costs of the bond issuance, purchase a surety policy for deposit to the Debt Service Reserve Fund, and to refund various PennVest loans of the Authority. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,140,000. Principal and interest payments will vary from year-to-year with the final payment due in 2032.

In 2020, the Authority issued new Sewer Revenue Bonds in the amount of $9,910,000. Proceeds from this obligation were used to pay for costs of the bond issuance and advance refund the 2013 Bonds in the amount of $9,695,000. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,835,000. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

In February 2011, the Authority closed on a loan from PennVest in the amounts of $13,087,500 to partially fund the *Butler City Act 537 Wet Weather Flow Equalization Tanks, Diversion Structures, and Pumping Station Facilities Projects* required by the CO&A, respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. Amortization payments of principal and interest

continued during the fiscal year, leaving an outstanding balance as of July 31, 2020 of $8,438,293 on the remaining loan. The final payment on this loan is scheduled for January 2032.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure in fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind. The Authority evaluates capital projects on an ongoing basis by using input from the management team to establish priorities as well as the budget process and the Consulting Engineer's Annual Report as tools to assist in this on-going valuation.

DEP Chapter 94 Corrective Action Plan to Address Pump Station Overflows

At the request of the Authority, a meeting of Authority representatives and representatives from the Pennsylvania Department of Environmental Protection (DEP) was held on November 14, 2018. The purpose of the meeting was to discuss recurring wet weather sanitary sewer overflows (SSOs) during the 2018 record rainfall year associated with several of BASA's sewage pump stations and the corrective actions necessary to reduce the overloaded conditions and/or to provide the additional capacities, if necessary, to address the hydraulic overload conditions and eliminate these SSOs.

In response to this meeting, the Authority prepared and submitted a Corrective Action Plan (CAP) to address wet weather hydraulic overloading of specific pump stations within the Authority's sewer system. The CAP primarily focuses on three pump stations that have experienced recurring wet weather SSO events during 2018: the Fisher Heights Pump Station, the Brewster Booster Pump Station, and the Bryson Pump Station. The Fisher Heights Pump Station is not significantly affected by pumped flows from any upstream pump station. However, the Brewster Booster and Bryson Pump Stations are significantly affected hydraulically by pumped flows from other upstream pump stations. Therefore, the CAP must consider the hydraulic interconnection of the upstream pump stations when identifying the cause of the SSOs and assessing corrective actions and any capital improvements to these two pump stations.

The CAP was subdivided into separate sections to address the following pump stations and pump station systems (listed by the pump station flow sequence):

1. The Fisher Heights Pump Station (project designation FBB);

2. The Brewster and Brewster Booster Pump Station system, which also receives flow from the upstream Fisher Heights Pump Station (project designation FBB); and

3. The Greenwood, Benbrook, and Bryson Pump Station system (project designation GBB).

Although many of the CAP tasks are similar for each of these systems, the tasks were outlined for each specific system for scheduling and progress reporting purposes.

The DEP reviewed the Authority's draft CAP and requested a few minor revisions. The revised CAP dated March 11, 2019 was formally approved by the DEP in a letter dated March 26, 2019.

In August 2019, the Authority hired Herbert Rowland and Grubic, Inc. (HRG) to provide engineering services to assist the Authority in completing the pump station assessments and preliminary design evaluation of alternative solutions for the approved CAP. As of July 31, 2020, HRG completed the draft FBB design evaluation report and completed the GBB base model. The type of corrective action, as well as any associated costs, is unknown at this time. The funding source(s) for this project will be determined once estimated costs have been established.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2020 AND 2019

	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	$ 7,160,047	$ 7,042,419
Investments:		
Trusteed accounts	6,555,331	6,330,647
Other	2,699,000	2,912,000
Accounts receivable	2,093,796	1,965,646
Unbilled sewer receivable	906,400	896,600
Total current assets	19,414,574	19,147,312
Non-current assets:		
Capital assets, not being depreciated	1,031,065	1,104,902
Capital assets, net of accumulated depreciation	62,139,662	65,468,112
Total capital assets	63,170,727	66,573,014
Total non-current assets	63,170,727	66,573,014
Total Assets	82,585,301	85,720,326
Deferred Outflows of Resources		
Deferred charge on refunding	1,047,903	1,141,032
Liabilities		
Current liabilities:		
Vouchers payable	73,500	464,040
Accrued expenses	931,434	934,263
Current maturities of bonds payable	1,805,000	1,765,000
Current portion of notes payable	624,201	612,762
Total current liabilities	3,434,135	3,776,065
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	34,688,602	36,195,719
Notes payable	7,814,092	8,438,293
OPEB liability	4,169,524	4,708,844
Total non-current liabilities	46,672,218	49,342,856
Total Liabilities	50,106,353	53,118,921
Deferred Inflows of Resources		
Deferred inflows of resources for OPEB	514,086	-
Net Position		
Net investment in capital assets	19,633,450	21,450,874
Restricted	6,208,616	5,582,045
Unrestricted	7,170,699	6,709,518
Total Net Position	$ 33,012,765	$ 33,742,437

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2020 AND 2019

	2020	2019
Operating Revenues:		
Sewer charges - non-industrial waste	$ 10,069,349	$ 9,867,981
Sewer charges - industrial waste	304,051	308,999
Other operating fees and charges	203,150	128,446
Total operating revenues	10,576,550	10,305,426
Operating Expenses:		
Operations and maintenance	5,372,404	5,863,067
Administration	1,105,996	1,026,650
Depreciation	3,695,178	3,476,093
Total operating expenses	10,173,578	10,365,810
Operating Income (Loss)	402,972	(60,384)
Non-Operating Revenues (Expenses):		
Interest income	281,165	437,487
Interest expense	(1,252,308)	(1,348,163)
Bond issuance costs	(244,628)	-
Unrealized gain (loss) on investments	-	8,978
Loss on disposal of capital assets	(3,292)	(10,918)
Amortization	73	(70,576)
Total non-operating revenues (expenses)	(1,218,990)	(983,192)
Income (Loss) Before Capital Contributions	(816,018)	(1,043,576)
Capital Contributions:		
Tap-in fees	86,346	125,406
Developer contribution revenue	-	289,994
Total capital contributions	86,346	415,400
Net Income (Loss)	(729,672)	(628,176)
Net Position:		
Beginning of year	33,742,437	34,370,613
End of year	$ 33,012,765	$ 33,742,437

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2020 AND 2019

	2020	2019
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 10,438,600	$ 10,305,842
Operations and maintenance	(5,791,007)	(5,856,871)
Administrative expenses	(1,105,996)	(1,026,650)
Net cash provided by (used in) operating activities	3,541,597	3,422,321
Cash Flows From Capital and Related Financing Activities:		
Tap-in fees	86,346	125,406
Proceeds from bonds payable	9,910,000	-
Principal paid on capital debt	(12,062,762)	(2,311,533)
Interest paid on capital debt	(1,330,851)	(1,255,034)
Payments related to the acquisition, construction, or improvement of capital assets	(296,183)	(4,024,985)
Net cash provided by (used in) capital and related financing activities	(3,693,450)	(7,466,146)
Cash Flows From Investing Activities:		
Interest and dividends	281,165	437,487
Proceeds from sale (purchase) of long-term investments	(11,684)	3,432,836
Net cash provided by (used in) investing activities	269,481	3,870,323
Net Increase (Decrease) in Cash and Cash Equivalents	117,628	(173,502)
Cash and Cash Equivalents:		
Beginning of year	7,042,419	7,215,921
End of year	$ 7,160,047	$ 7,042,419
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ 402,972	$ (60,384)
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,695,178	3,476,093
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	(137,950)	416
Vouchers payable and accrued expenses	(393,369)	(178,366)
OPEB liability	(539,320)	184,562
Deferred inflows of resources - OPEB	514,086	-
Total adjustments	3,138,625	3,482,705
Net cash provided by (used in) operating activities	$ 3,541,597	$ 3,422,321
Non-Cash Items:		
Developer contributions	$ -	$ 289,994

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

1. Organization

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. Summary of Significant Accounting Policies

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City does appoint a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements, and revenues and expenses during the reporting period. Actual results could differ from those estimates, particularly given the significant social and economic disruptions and uncertainties associated with the ongoing COVID-19 pandemic and the COVID-19 control responses, and such differences may be material.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally money market funds, are carried at fair value.

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2020 and 2019. No provision is made for uncollectible accounts, as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represents an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost.

Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized.

Compensated Absences

The Authority provides paid vacation, personal, and sick leave benefits to all eligible employees. Vacation days can be accumulated by eligible employees, not to exceed 24 days. Personal days are granted annually to eligible full-time employees; however, they may not be carried over from calendar year to calendar year. Sick leave can be accumulated by employees, not to exceed 130 days. The Authority's policy at the time of separation of employment is to pay unused vacation, personal, and sick leave at the time of separation.

The balance of compensated absences at July 31, 2020 and 2019, was $812,729 and $836,548, respectively, and is recorded in accrued expenses on the statements of net position.

Bond Discounts and Bond Premiums

Bond discounts and bond premiums are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows of Resources and Deferred Inflows of Resources

In addition to assets, the statements of net position reports a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position reports a separate section for deferred inflows of resources. This represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority has the following items that qualify for reporting in this category. In conjunction with other post-employment benefits (OPEB) accounting requirements, differences between expected and actual experience, and changes in assumption are recorded as deferred inflows of resources for OPEBs. These amounts are determined based on an actuarial valuation performed for the OPEB Plan. See Note 7 for additional information about the OPEB plan.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of “net investment in capital assets” or “restricted.”

Adopted Pronouncement

The requirements of the following GASB Statement were adopted for the financial statements:

GASB Statement No. 95, “*Postponement of the Effective Dates of Certain Authoritative Guidance*,” to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. The provisions of this statement have been adopted.

Pending Pronouncements

GASB has issued statements that will become effective in future years, including Statement Nos. 84 (Fiduciary Activities), 87 (Leases), 89 (Accounting for Interest Cost), 90 (Majority Equity Interests), 91 (Conduit Debt Obligations), 92 (Omnibus 2020), 93 (Interbank

Offered Rates), 94 (Public-Private and Public-Public Partnerships), 96 (Information Technology Arrangements), and 97 (Deferred Compensation Plans). Management has not yet determined the impact of these statements on the financial statements.

3. Deposits and Investments

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2020 and 2019 that were in violation of these policies.

The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

As of July 31, 2020 and 2019, the Authority held certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are fully covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $2,699,000 and $2,912,000 for 2020 and 2019, respectively.

As of July 31, 2020, $6,457,885 of the Authority's bank balance of $6,707,885 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,656,800 as of July 31, 2020 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2020, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2019, $6,597,335 of the Authority's bank balance of $6,847,335 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,831,152 as of July 31, 2019 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2019, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $503,247 and $211,267 at July 31, 2020 and 2019, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2020 and 2019:

	2020		2019	
		Maturity in years		Maturity in years
Investment Type	Fair Value	Less than 1 year	Fair Value	Less than 1 year
Money market funds	$ 6,555,331	$ 6,555,331	$ 6,330,647	$ 6,330,647
Total Investments	$ 6,555,331	$ 6,555,331	$ 6,330,647	$ 6,330,647

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs. The Authority has no assets as of July 31, 2020 and 2019 requiring such valuation.

4. Capital Assets

A summary of changes in capital assets for the years ended July 31, 2020 and 2019 are as follows:

	Balance at August 1, 2019	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2020
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	283,477	124,548	(198,385)	209,640
Capital assets, not being depreciated	$ 1,104,902	$ 124,548	$ (198,385)	$ 1,031,065
Vehicles	$ 878,276	$ 42,113	$ (56,053)	$ 864,336
Sewer system	59,766,286	6,907	(32,442)	59,740,751
Pump stations	38,263,878	60,115	-	38,323,993
Plant	36,600,592	260,885	(277,258)	36,584,219
Capital assets, being depreciated	135,509,032	370,020	(365,753)	135,513,299
Less: accumulated depreciation	(70,040,920)	(3,695,178)	362,461	(73,373,637)
Capital assets, net of accumulated depreciation	$ 65,468,112	$ (3,325,158)	$ (3,292)	$ 62,139,662

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

	Balance at August 1, 2018	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2019
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	4,298,738	126,068	(4,141,329)	283,477
Capital assets, not being depreciated	$ 5,120,163	$ 126,068	$ (4,141,329)	$ 1,104,902
Vehicles	$ 878,276	$ -	$ -	$ 878,276
Sewer system	58,963,698	802,588	-	59,766,286
Pump stations	37,655,954	695,268	(87,344)	38,263,878
Plant	30,640,188	6,832,384	(871,980)	36,600,592
Capital assets, being depreciated	128,138,116	8,330,240	(959,324)	135,509,032
Less: accumulated depreciation	(67,513,233)	(3,476,093)	948,406	(70,040,920)
Capital assets, net of accumulated depreciation	$ 60,624,883	$ 4,854,147	$ (10,918)	$ 65,468,112

5. Debt

Bonds Payable

During 2010, the Authority issued Sewer Revenue Bonds, Series of 2010 (2010 Bonds), in the amount of $20,200,000 to finance various projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay costs related to issuance of the bonds. A portion of these bonds was defeased during the year ended July 31, 2013; and $9,345,000 was refunded during the year ended July 31, 2016. The 2010 Bonds matured in 2019.

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. As a result, $8,315,000 of the 2010 Bonds were considered defeased and the liability for these bonds has been removed from the statement of net position. In July 2016, the defeased bonds were called and satisfied. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds. These Bonds were refunded during the year ended July 31, 2020.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and

pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds.

During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041.

During October 2017, the Authority issued Sewer Revenue Bonds, Series A and Series B of 2017 (2017 Bonds), in the amount of $9,995,000 and $1,325,000, respectively, a total of $11,320,000 to refund certain PennVest notes payable, purchase a surety policy for deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. For Series A, the interest rates vary between 2.00% and 3.00% and mature from 2019 to 2032. For Series B, the interest rates vary between 1.50% and 1.80% and mature from 2018 to 2019. The 2017 Series B Bonds matured in 2019.

During February 2020, the Authority issued Sewer Revenue Bonds, Series 2020 (2020 Bonds), in the amount of $9,910,000 to current refund $9,695,000 of the 2013 Bonds and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 5.00% and mature from 2020 to 2034.

In the event of default, the bondholder may demand immediate payment of all outstanding principal and accrued interest. All Bonds are secured by pledged revenues derived by the Authority from the operations of the Sewer System.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

Annual maturities of the bonds payable at July 31, 2020 are as follows:

Year Ending July 31,	Principal	Interest	Total
2021	$ 1,805,000	$ 896,358	$ 2,701,358
2022	1,860,000	850,658	2,710,658
2023	1,900,000	810,308	2,710,308
2024	1,940,000	769,008	2,709,008
2025	2,005,000	725,958	2,730,958
2026-2030	11,070,000	2,901,518	13,971,518
2031-2035	12,735,000	1,332,745	14,067,745
2036-2040	2,560,000	358,281	2,918,281
2041	565,000	19,210	584,210
Total Payments	36,440,000		
Less: Unamortized Bond Discount/Premium	(53,602)		
	$ 36,493,602	$ 8,664,044	$ 45,104,044

Notes Payable - PennVest

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. This direct borrowing is secured by a parity first lien on the Authority's sewer revenues and contains provisions that in the event of default, (1) the outstanding principal balance and any accrued and unpaid interest to be immediately due and payable in full, and (2) PennVest may exercise any and all rights in the security interest in the Project collateral. Principal payments of $612,762 and $601,533 were made for the years ended July 31, 2020 and 2019, respectively. The interest rate for the first sixty months was 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

Principal and interest payable in future years on all of the PennVest notes are as follows:

Fiscal Years	Principal	Interest	Total
2021	$ 624,201	$ 150,915	$ 775,116
2022	635,854	139,262	775,116
2023	647,724	127,392	775,116
2024	659,815	115,301	775,116
2025	672,133	102,983	775,116
2026-2030	3,553,623	321,958	3,875,581
2031-2033	1,644,943	34,474	1,679,417
	$ 8,438,293	$ 992,285	$ 9,430,578

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2020:

	Balance at August 1, 2019	Issuance	Payments	Balance at July 31, 2020	Due within one year
Sewer Revenue Bonds (2013)	$ 9,695,000	$ -	$ (9,695,000)	$ -	$ -
Sewer Revenue Bonds (2015)	9,355,000	-	(555,000)	8,800,000	565,000
Sewer Revenue Bonds (2016)	8,990,000	-	(325,000)	8,665,000	335,000
Sewer Revenue Bonds (2017)	9,940,000	-	(800,000)	9,140,000	815,000
Sewer Revenue Bonds (2020)	-	9,910,000	(75,000)	9,835,000	90,000
Notes from direct borrowings:					
PennVest Note (2011)	9,051,055	-	(612,762)	8,438,293	624,201
Payable, end of year	$ 47,031,055	$ 9,910,000	$ (12,062,762)	$ 44,878,293	$ 2,429,201

Amounts above and below do not reflect an original issue discount in the amount of $119,474 and $130,306, as of July 31, 2020 and 2019, respectively, for the 2013 Bonds and 2017 Bonds. The discount is amortized using the straight-line method over the life of the 2013 Bonds and 2017 Bonds.

Amounts above and below do not reflect an original issue premium in the amount of $173,076 and $111,025, as of July 31, 2020 and 2019, respectively, for the 2015 Bonds, 2016 Bonds, and 2020 Bonds. The premium is amortized using the straight-line method over the life of the 2015 Bonds, 2016 Bonds, and 2020 Bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2019:

	Balance at August 1, 2018	Issuance	Payments	Balance at July 31, 2019	Due within one year
Sewer Revenue Bonds (2010)	$ 215,000	$ -	$ (215,000)	$ -	$ -
Sewer Revenue Bonds (2013)	9,775,000	-	(80,000)	9,695,000	85,000
Sewer Revenue Bonds (2015)	9,675,000	-	(320,000)	9,355,000	555,000
Sewer Revenue Bonds (2016)	9,300,000	-	(310,000)	8,990,000	325,000
Sewer Revenue Bonds (2017)	10,725,000	-	(785,000)	9,940,000	800,000
Notes from direct borrowings:					
PennVest Note (2011)	9,652,588	-	(601,533)	9,051,055	612,762
Payable, end of year	$ 49,342,588	$ -	$ (2,311,533)	$ 47,031,055	$ 2,377,762

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. Pension Plan

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2020, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year. Beginning January 1, 2018, participants and employers are required to contribute 5% and 7.5%, respectively, of eligible compensation. Employee and employer contributions to the Plan were $134,944 and $204,194, respectively, for the year ended July 31, 2020. Employee and employer contributions to the Plan were $130,339 and $196,101, respectively, for the year ended July 31, 2019.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements of the 457(b) Plan prior to November 1, 2018, are consistent with the eligibility requirements of the Plan noted above. Effective November 1, 2018, contributions to the 457(b) Plan continue to be on a voluntary basis, but may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2020, all of the Authority's employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $102,440 and $84,590 for the years ended July 31, 2020 and 2019, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2020, all of the Authority's employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2020 and 2019 were $8,391 and $9,602, respectively.

7. Postemployment Benefits Other Than Pension Benefits (OPEBs)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. The OPEB plan is a single-employer defined benefit OPEB plan administered by the Authority. No assets are accumulated in a trust to pay related benefits.

If an employee was hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If an employee was hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employees, their spouses, and eligible dependents.

Benefits Provided

For those eligible employees retiring between ages 62 and 64, the Authority pays up to 97% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). No dental or vision benefits are provided. Upon Medicare eligibility, the retiree must convert to a Medicare Advantage Plan. The Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained.

For spouses and eligible dependent(s) who are under age 65, the Authority will pay up to 97% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement, or until the retiree reaches Medicare eligibility, whichever comes first. If the retiree becomes Medicare eligible prior to the expiration of the maximum 36-month period, the spouse will be placed in COBRA until the earlier of 36-month or reaching Medicare eligibility. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Advantage premium, provided that Medicare eligibility is sustained. All Authority-paid benefits to the spouse cease upon the death of the retiring employee. All Authority-paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the spouse's eligibility for Medicare, or the retiree's death.

For pre-age 65 coverage, a PPO $500/$1000 Deductible Plan administered by Municipal Benefits Services is available. For post-age 65 coverage, a Medicare Advantage Plan is available, where Highmark bills the Authority through the retiree.

Contributions

The Authority will pay costs up to 97% of the active employee group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months as described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

Employees Covered by Benefit Terms

As of August 1, 2019, the date of the most recent actuarial valuation, the following employees were covered by the benefit terms:

Current retired participants receiving OPEB benefits	10
Active participants eligible for future OPEB benefits	32
	42

Total OPEB Liability

The Authority's total OPEB liability of $4,169,524 was measured as of August 1, 2019 and was determined by an actuarial valuation as of that date.

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of August 1, 2019 using the following actuarial assumptions, applied to all periods including the measurement:

Inflation	2.75%
Discount rate	2.75% per year
Healthcare cost trend rates	0.00% for 2019; 5.0% per year thereafter
Retirees' share of benefit-related costs	The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

The discount rate was based on the index rate for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Mortality rates were based on the RP-2014 Mortality Table with 50% of Blue-Collar Adjustment.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2020 AND 2019

The actuarial assumptions used in the August 1, 2019 valuation were based on the results of an actuarial experience study as of August 1, 2019.

Changes in the Total OPEB Liability

	Total OPEB Liability
Balance at July 31, 2019	$ 4,708,844
Changes for the year:	
Service cost	108,136
Interest	113,534
Changes in assumptions or other input	(61,901)
Differences between expected and actual experience	(555,002)
Benefit payments	(144,087)
Net changes	(539,320)
Balance at July 31, 2020	$ 4,169,524

There were no changes of benefit terms.

The discount rate was reduced from 3.5% to 2.75% to more accurately reflect the high quality long-term municipal bond rate published by the Federal Reserve.

The withdrawal assumption was updated from Table T-2, *Actuary's Pension Handbook* to Table T-1, *Actuary's Pension Handbook*. The assumed coverage level for future retirees was changed from 20% individual, 80% husband/wife to 40% individual and 60% husband/wife with the spouse age difference increased from 2 years to 3 years.

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate as of July 31, 2020:

	1% Decrease (1.75%)	Discount Rate (2.75%)	1% Increase (3.75%)
Total OPEB liability	$ 4,857,637	$ 4,169,524	$ 3,606,797

Sensitivity of the Total OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates as of July 31, 2020:

	1% Decrease (1.75%)	Discount Rate (2.75%)	1% Increase (3.75%)
Total OPEB liability	$ 3,510,090	$ 4,169,524	$ 5,009,555

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended July 31, 2020, the Authority recognized OPEB expense of $118,853. At July 31, 2020, the Authority had the following deferred outflows of resources and deferred inflows or resources related to OPEB:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 462,502
Changes of assumptions	-	51,584
	$ -	$ 514,086

Amounts reported as deferred outflows of resources and deferred inflows or resources related to OPEBs will be recognized in OPEB expense as follows:

Year Ending July 31,	
2021	$ (102,817)
2022	(102,817)
2023	(102,817)
2024	(102,817)
2025	(102,818)
	$ (514,086)

8. Environmental and Other Contingent Liabilities

On March 11, 2019, the Authority submitted a voluntary Corrective Action Plan (CAP) with the Pennsylvania Department of Environmental Protection (DEP) to address the hydraulic overloads that have been identified in portions of the Authority's sewer conveyance system, which was approved by the DEP on March 26, 2019. The CAP includes various tasks related to the Fisher Heights Pump Station, Brewster & Brewster Booster Pump Station System, and Greenwood, Benbrook, and Bryson Pump Station System with work to be completed through June 2024. The Authority is currently collecting pump station and system data to analyze and plan for necessary improvements required to address the sanitary sewer overflow issues and/or provide additional capacity within this service area. The Authority

will determine how this project will be funded once the preliminary analysis and design cost estimates have been made. No total cost estimate is available as of July 31, 2020.

9. Commitments and Contingencies

As of July 31, 2020, the Authority has entered into a construction contract that has not been completed as of the end of the fiscal year. Amounts remaining on the contract for construction services not performed as of July 31, 2020 total approximately $160,000. Work is scheduled to be completed on this project during the upcoming fiscal year.

10. COVID-19

In early 2020, an outbreak of a novel strain of coronavirus was identified, and infections have been found in a number of countries around the world, including the United States. The coronavirus and its associated impacts on supply chains, travel, employee productivity, and other economic activities has had, and may continue to have, a material effect on financial markets and economic activity. The extent of the impact of the coronavirus on the Authority's operational and financial performance is currently uncertain and cannot be predicted.

11. Subsequent Event

In October 2020, the Authority issued Sewer Revenue Bonds, Series A of 2020 (Series A of 2020 Bonds), in the amount of $8,510,000 to current refund the 2015 Bonds and pay related costs and expenses of issuing the bonds. The interest rates vary between 1.00% and 5.00% and mature from 2021 to 2031.

REQUIRED SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF CHANGES IN THE AUTHORITY'S
TOTAL OPEB LIABILITY AND RELATED RATIOS

YEAR ENDED JULY 31
LAST 10 FISCAL YEARS*

	2020	2019	2018
Total OPEB Liability:			
Service cost	$ 108,136	$ 128,003	$ 124,577
Interest	113,534	161,018	154,796
Differences between expected and actual experiences	(555,002)	-	-
Changes of assumptions	(61,901)	-	-
Benefit payments	(144,087)	(104,459)	(105,616)
Net change in Total OPEB Liability	(539,320)	184,562	173,757
Total OPEB Liability - Beginning	4,708,844	4,524,282	4,350,525
Total OPEB Liability - Ending	$ 4,169,524	$ 4,708,844	$ 4,524,282
Covered Employee Payroll	$ 1,878,279	$ 1,916,392	$ 2,237,929
Total OPEB Liability as a percentage of Covered Employee Payroll	221.99%	245.71%	202.16%

* Until a full 10-year trend is compiled, the required information for the plan is presented for those years for which information is available.

See accompanying notes to required supplementary information.

BUTLER AREA SEWER AUTHORITY

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

YEARS ENDED JULY 31, 2020 AND 2019

Accumulated Assets

No assets are accumulated in a trust to pay related benefits.

Benefit Changes

There were no changes of benefit terms.

Changes of Assumptions

In the August 1, 2019 actuarial valuation, the discount rate was reduced from 3.5% to 2.75%; the withdrawal assumption was updated from Table T-2, Actuary's Pension Handbook, to Table T-1, Actuary's Pension Handbook; and the assumed coverage level for future retirees was changed from 20% individual, 80% husband/wife to 40% individual, and 60% husband/wife with the spouse age difference increased from 2 years to 3 years.

SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2020

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Capital Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 3,093,206	$ -	$ -	$ 4,066,841	$ -	$ -	$ 7,160,047
Investments:							
Trusteed accounts	-	256	2,335,731	-	3,872,629	346,715	6,555,331
Other	2,205,000	-	-	494,000	-	-	2,699,000
Accounts receivable	2,093,796	-	-	-	-	-	2,093,796
Unbilled sewer receivable	906,400	-	-	-	-	-	906,400
Total current assets	8,298,402	256	2,335,731	4,560,841	3,872,629	346,715	19,414,574
Non-current assets:							
Capital assets, not being depreciated	1,031,065	-	-	-	-	-	1,031,065
Capital assets, net of accumulated depreciation	62,139,662	-	-	-	-	-	62,139,662
Total capital assets	63,170,727	-	-	-	-	-	63,170,727
Total non-current assets	63,170,727	-	-	-	-	-	63,170,727
Total Assets	71,469,129	256	2,335,731	4,560,841	3,872,629	346,715	82,585,301
Deferred Outflows of Resources							
Deferred charge on refunding	1,047,903	-	-	-	-	-	1,047,903
Liabilities							
Current liabilities:							
Vouchers payable	73,500	-	-	-	-	-	73,500
Accrued expenses	931,434	-	-	-	-	-	931,434
Current maturities of bonds payable	1,805,000	-	-	-	-	-	1,805,000
Current portion of notes payable	624,201	-	-	-	-	-	624,201
Total current liabilities	3,434,135	-	-	-	-	-	3,434,135
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	34,688,602	-	-	-	-	-	34,688,602
Notes payable	7,814,092	-	-	-	-	-	7,814,092
OPEB liability	4,169,524	-	-	-	-	-	4,169,524
Total non-current liabilities	46,672,218	-	-	-	-	-	46,672,218
Total Liabilities	50,106,353	-	-	-	-	-	50,106,353
Deferred Inflows of Resources							
Deferred inflows of resources for OPEB	514,086	-	-	-	-	-	514,086
Net Position							
Net investment in capital assets	19,633,450	-	-	-	-	-	19,633,450
Restricted	(346,715)	256	2,335,731	-	3,872,629	346,715	6,208,616
Unrestricted	2,609,858	-	-	4,560,841	-	-	7,170,699
Total Net Position	$ 21,896,593	$ 256	$ 2,335,731	$ 4,560,841	$ 3,872,629	$ 346,715	$ 33,012,765

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2019

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 2,812,798	$ -	$ -	$ 4,229,621	$ -	$ -	$ 7,042,419
Investments:							
Trusteed accounts	-	7,636	2,306,701	-	3,267,708	748,602	6,330,647
Other	2,418,000	-	-	494,000	-	-	2,912,000
Accounts receivable	1,965,646	-	-	-	-	-	1,965,646
Unbilled sewer receivable	896,600	-	-	-	-	-	896,600
Total current assets	8,093,044	7,636	2,306,701	4,723,621	3,267,708	748,602	19,147,312
Non-current assets:							
Capital assets not being depreciated	1,104,902	-	-	-	-	-	1,104,902
Capital assets, net of accumulated depreciation	65,468,112	-	-	-	-	-	65,468,112
Total capital assets	66,573,014	-	-	-	-	-	66,573,014
Total non-current assets	66,573,014	-	-	-	-	-	66,573,014
Total Assets	74,666,058	7,636	2,306,701	4,723,621	3,267,708	748,602	85,720,326
Deferred Outflows of Resources							
Deferred charge on refunding	1,141,032	-	-	-	-	-	1,141,032
Liabilities							
Current liabilities:							
Vouchers payable	464,040	-	-	-	-	-	464,040
Accrued expenses	934,263	-	-	-	-	-	934,263
Current maturities of bonds payable	1,765,000	-	-	-	-	-	1,765,000
Current portion of notes payable	612,762	-	-	-	-	-	612,762
Total current liabilities	3,776,065	-	-	-	-	-	3,776,065
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	36,195,719	-	-	-	-	-	36,195,719
Notes payable	8,438,293	-	-	-	-	-	8,438,293
OPEB liability	4,708,844	-	-	-	-	-	4,708,844
Total non-current liabilities	49,342,856	-	-	-	-	-	49,342,856
Total Liabilities	53,118,921	-	-	-	-	-	53,118,921
Deferred Inflows of Resources							
Deferred inflows of resources for OPEB	-	-	-	-	-	-	-
Net Position							
Net investment in capital assets	21,450,874	-	-	-	-	-	21,450,874
Restricted	(748,602)	7,636	2,306,701	-	3,267,708	748,602	5,582,045
Unrestricted	1,985,897	-	-	4,723,621	-	-	6,709,518
Total Net Position	$ 22,688,169	$ 7,636	$ 2,306,701	$ 4,723,621	$ 3,267,708	$ 748,602	$ 33,742,437

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2020

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 10,069,349	$ -	$ -	$ -	$ -	$ -	$ 10,069,349
Sewer charges - industrial waste	304,051	-	-	-	-	-	304,051
Other operating fees and charges	203,150	-	-	-	-	-	203,150
Total operating revenues	10,576,550	-	-	-	-	-	10,576,550
Operating Expenses:							
Operations and maintenance	5,372,404	-	-	-	-	-	5,372,404
Administration	1,105,996	-	-	-	-	-	1,105,996
Depreciation	3,695,178	-	-	-	-	-	3,695,178
Total operating expenses	10,173,578	-	-	-	-	-	10,173,578
Operating Income (Loss)	402,972	-	-	-	-	-	402,972
Non-Operating Revenues (Expenses):							
Interest income	192,648	2,961	29,030	6,330	42,933	7,263	281,165
Interest expense	(1,252,308)	-	-	-	-	-	(1,252,308)
Bond issuance costs	(244,628)	-	-	-	-	-	(244,628)
Unrealized gain (loss) on investments	-	-	-	-	-	-	-
Loss on disposal of capital assets	(3,292)	-	-	-	-	-	(3,292)
Amortization	73	-	-	-	-	-	73
Total non-operating revenues (expenses)	(1,307,507)	2,961	29,030	6,330	42,933	7,263	(1,218,990)
Income (Loss) Before Capital Contributions and Transfers	(904,535)	2,961	29,030	6,330	42,933	7,263	(816,018)
Capital Contributions:							
Tap-in fees	86,346	-	-	-	-	-	86,346
Developer contribution revenue	-	-	-	-	-	-	-
Total capital contributions	86,346	-	-	-	-	-	86,346
Net Income (Loss) Before Transfers	(818,189)	2,961	29,030	6,330	42,933	7,263	(729,672)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,705,693	-	-	561,988	-	3,267,681
Debt Service Fund	2,716,034	-	-	-	-	-	2,716,034
Capital Improvement and Redemption Fund	578,260	-	-	-	-	-	578,260
Construction Fund	-	-	-	409,150	-	-	409,150
Transfers out to:							
Revenue Fund	-	(2,716,034)	-	(578,260)	-	-	(3,294,294)
Debt Service Fund	(2,705,693)	-	-	-	-	-	(2,705,693)
Capital Improvement and Redemption Fund	-	-	-	-	-	(409,150)	(409,150)
Bond Redemption and Improvement Fund	(561,988)	-	-	-	-	-	(561,988)
Net Income (Loss)	(791,576)	(7,380)	29,030	(162,780)	604,921	(401,887)	(729,672)
Net Position:							
Beginning of year	22,688,169	7,636	2,306,701	4,723,621	3,267,708	748,602	33,742,437
End of year	$ 21,896,593	$ 256	$ 2,335,731	$ 4,560,841	$ 3,872,629	$ 346,715	$ 33,012,765

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2019

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 9,867,981	$ -	$ -	$ -	$ -	$ -	$ 9,867,981
Sewer charges - industrial waste	308,999	-	-	-	-	-	308,999
Other operating fees and charges	128,446	-	-	-	-	-	128,446
Total operating revenues	10,305,426	-	-	-	-	-	10,305,426
Operating Expenses:							
Operations and maintenance	5,863,067	-	-	-	-	-	5,863,067
Administration	1,026,650	-	-	-	-	-	1,026,650
Depreciation	3,476,093	-	-	-	-	-	3,476,093
Total operating expenses	10,365,810	-	-	-	-	-	10,365,810
Operating Income (Loss)	(60,384)	-	-	-	-	-	(60,384)
Non-Operating Revenues (Expenses):							
Interest income	238,245	7,720	43,804	18,921	54,750	74,047	437,487
Interest expense	(1,348,163)	-	-	-	-	-	(1,348,163)
Bond issuance costs	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	-	-	8,978	-	-	-	8,978
Loss on disposal of capital assets	(10,918)	-	-	-	-	-	(10,918)
Amortization	(70,576)	-	-	-	-	-	(70,576)
Total non-operating revenues (expenses)	(1,191,412)	7,720	52,782	18,921	54,750	74,047	(983,192)
Income (Loss) Before Capital Contributions and Transfers	(1,251,796)	7,720	52,782	18,921	54,750	74,047	(1,043,576)
Capital Contributions:							
Tap-in fees	125,406	-	-	-	-	-	125,406
Developer contribution revenue	289,994	-	-	-	-	-	289,994
Total capital contributions	415,400	-	-	-	-	-	415,400
Net Income (Loss) Before Transfers	(836,396)	7,720	52,782	18,921	54,750	74,047	(628,176)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,787,973	-	-	649,466	-	3,437,439
Debt Service Fund	2,791,451	-	-	-	-	-	2,791,451
Capital Improvement and Redemption Fund	4,523,079	-	-	-	-	-	4,523,079
Construction Fund	-	-	-	4,240,145	-	-	4,240,145
Transfers out to:							
Revenue Fund	-	(2,791,451)	-	(4,523,079)	-	-	(7,314,530)
Debt Service Fund	(2,787,973)	-	-	-	-	-	(2,787,973)
Capital Improvement and Redemption Fund	-	-	-	-	-	(4,240,145)	(4,240,145)
Bond Redemption and Improvement Fund	(649,466)	-	-	-	-	-	(649,466)
Net Income (Loss)	3,040,695	4,242	52,782	(264,013)	704,216	(4,166,098)	(628,176)
Net Position:							
Beginning of year	19,647,474	3,394	2,253,919	4,987,634	2,563,492	4,914,700	34,370,613
End of year	$ 22,688,169	$ 7,636	$ 2,306,701	$ 4,723,621	$ 3,267,708	$ 748,602	$ 33,742,437

Butler Area Sewer Authority

Financial Statements and
Required Supplementary and
Supplementary Information

Years Ended July 31, 2021 and 2020
with Independent Auditor's Report

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BUTLER AREA SEWER AUTHORITY

YEARS ENDED JULY 31, 2021 AND 2020

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MaherDuessel

Independent Auditor's Report

Butler Area Sewer Authority Board
Butler Area Sewer Authority

We have audited the accompanying financial statements of the Butler Area Sewer Authority (Authority), as of and for the years ended July 31, 2021 and 2020, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of July 31, 2021 and 2020, and changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other postemployment benefit plan information as described in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements

themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Maher Duessel

Pittsburgh, Pennsylvania
November 1, 2021

BUTLER AREA SEWER AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the financial report presents the Management's Discussion and Analysis (MD&A) of the Butler Area Sewer Authority's (Authority) financial condition and performance for the fiscal year ending July 31, 2021 in compliance with Statement No. 34 of the Governmental Accounting Standards Board (GASB). This analysis is intended to be read and used in conjunction with the included Financial Statements

FINANCIAL HIGHLIGHTS

The following are key financial highlights during the fiscal year ended July 31, 2021:

- During the year, the Authority was contacted by two private sector wastewater providers for consideration of the sale of all Authority assets and therefore ultimately the dissolution of the wastewater Authority. No agreement has been entered, but the ultimate outcome of this inquiry is unknown as of the date of this report.

- Rates were not increased for sanitary sewer services during the year ended July 31, 2021. In addition, no proposed rate increases are to take effect relative to the adopted 2021-2022 fiscal budget. The most recent rate increase of $2.00, or 5.6%, per month per equivalent dwelling unit (EDU), went into effect on January 1, 2020. This resulted in the base quarterly rate for a single EDU to increase from $108 to $114.

- The Authority issued Sewer Revenue Bonds in October of 2020 (2020A Bonds) to be used for the primary purpose of refunding the 2015 Sewer Revenue Bonds, as well as to pay for related costs and expenses of issuing the 2020A Bonds. This issuance resulted in a savings of $584,741 to be realized over the 11-year life of the 2020A Bonds.

- The Authority issued Sewer Revenue Bonds in April of 2021 (2021 Bonds) to be used for the primary purpose of refunding the 2016 Sewer Revenue Bonds, as well as to pay for related costs and expenses of issuing the 2021 Bonds. This issuance resulted in a savings of $950,547 to be realized over the 21-year life of the 2021 Bonds.

- The Authority proposed a Corrective Action Plan (CAP) which was approved by the Pennsylvania Department of Environmental Protection (DEP) on March 26, 2019. The CAP addresses wet weather hydraulic overloading of two pump station systems, the *Fisher Heights, Brewster, and Brewster Booster Pump Station System (FBB) as well as the Greenwood, Benbrook, and Bryson Pump Station System (GBB)* within the service area. The CAP outlines steps necessary for the Authority to collect and analyze data as well as propose, design, and construct any necessary improvements within the designated area of the sewer collection system in accordance with the proposed timeline. As of July 31, 2021, the Authority has entered into the design phase for these project areas and continues to be on or ahead of the proposed CAP schedule. Once final cost estimates are established, a new bond issue will be sought to cover the CAP expenditures which are preliminarily estimated to be $12,000,000.

- The Authority experienced a Net Loss or a decrease in Net Position of $265,172 (.01%) in the fiscal year ended July 31, 2021. The loss continues to be driven by high depreciation expenses totaling $3,685,849 for the fiscal year ended July 31, 2021.

- The Authority continued to operate through the pandemic, caused by the novel strain of the coronavirus, by implementing guidelines offered by federal, state, and local agencies. Adverse impact to the Authority has been negated to a large degree as sanitary sewer service is an essential need and because many Authority customers are residential properties that are charged on a flat rate basis. This stabilized the Authority's revenues for the period. Collection efforts, including water shut offs, have also resumed during the year.

REQUIRED FINANCIAL STATEMENTS

The Financial Statements of the Authority are compiled using the Enterprise Fund method of accounting because the operations are financed and operated in a manner similar to private sector businesses, where the costs of providing services to the general public on a continuing basis are intended to be financed or recovered through user charges or sewer service fees. The Authority uses the accrual basis of accounting whereby revenues are recognized when earned and expenses are recognized when the liability is incurred. The financial statements offer short-term and long-term financial information about the Authority's activities.

The Statement of Net Position summarizes the Authority's assets, liabilities, and deferred outflows and inflows of resources and provides information about the nature and amounts of investments in resources or assets and the offsetting obligations or liabilities to Authority creditors. The overall financial condition of the Authority is reflected in this statement.

The Statement of Revenues, Expenses, and Changes in Net Position summarizes the revenues and expenses. This statement measures the success of the Authority's operations over the past fiscal year and can be used to determine whether the Authority has successfully recovered all its costs through its sewage disposal rates and other fees.

The third required financial statement is the Statement of Cash Flows. This statement provides information about the Authority's cash receipts and cash payments during the reporting period. The statement reports cash flows from operating activities, capital, and related financing activities, and investing activities, as well as net changes in cash during the reporting period.

The Notes to Financial Statements (Notes) provide required disclosures and other information essential to a full understanding of material data provided in the statements. The notes present information on the Authority's accounting policies, the basis of accounting, deposits and investments, capital assets, outstanding debt, pensions, other postemployment benefits (OPEBs) and other significant activities, such as material risks, obligations, commitments, contingencies, subsequent events, and future requirements, as applicable to the Authority.

FINANCIAL ANALYSIS

The following comparative condensed financial statements provide a comparison of key financial data and indicators for management for monitoring and planning purposes.

Table 1 presents a condensed summary of the Authority's Statements of Net Position:

Table 1
Condensed Statements of Net Position

	Balance at July 31, 2021	Balance at July 31, 2020	Net Change
Assets:			
Current Assets	$ 20,257,198	$ 19,414,574	$ 842,624
Capital Assets	60,440,332	63,170,727	(2,730,395)
Total Assets	80,697,530	82,585,301	(1,887,771)
Deferred Outflows of Resources:			
Deferred charge on refunding	954,774	1,047,903	(93,129)
Total Deferred Outflows of Resources	954,774	1,047,903	(93,129)
Liabilities and Net Position:			
Current Liabilities	3,530,349	3,434,135	96,214
Non-Current Liabilities	44,963,093	46,672,218	(1,709,125)
Total Liabilities	48,493,442	50,106,353	(1,612,911)
Deferred Outflows of Resources:			
Deferred inflows of resources for OPEB	411,269	514,086	(102,817)
Total Deferred Inflows of Resources	411,269	514,086	(102,817)
Total Net Position	$ 32,747,593	$ 33,012,765	$ (265,172)

Assets and Deferred Outflows of Resources

The Authority's Current Assets increased by $842,624 (4.3%) during the period. There were net increases to cash and cash equivalents ($2,522,140), investments in trusteed accounts ($935,324), and accounts receivable ($45,860) as well as a decrease to investments in other ($2,699,000). Due to the dwindling rates of return on certificates of deposit, investment in other funds that matured were not reinvested and were held instead as cash and cash equivalents as of the year ended July 31, 2021. The remaining proceeds ($346,835) from the 2016 Bond issue, held in the construction fund, were utilized during the year. However, in accordance with the Authority's trust indenture, amounts representing annual excess funds ($1,279,184) were transferred from the revenue fund into the bond redemption and improvement fund resulting in an increase in overall trusteed account assets. Finally, due to the coronavirus, its economic impact, and restrictions placed on collection efforts, the accounts receivable balance increased slightly from the prior year.

Capital Assets decreased by $2,730,395 (4.3%). Although the Authority had additions to capital assets during the year, the amount of depreciation for the period of $3,685,849 far exceeded the capital asset additions and therefore resulted in a decrease in Capital Assets for the period. Additional information can be reviewed in the Capital Improvements section of the MD&A and in the Notes to the Financial Statements.

Overall, total assets decreased by $1,887,771 (2.3%).

The Deferred Charge on Refunding was established from the 2013 and 2015 Sewer Revenue Bonds, that were issued to advance refund a portion of the 2010 Bond issue. The deferred charge is amortized over the shorter of the life of the new or original bonds. Additional information can be reviewed in the Debt section of the MD&A, as well as in the Notes to Financial Statements.

Liabilities, Deferred Inflows of Resources, and Net Position

The Authority had an increase in Current Liabilities as of July 31, 2021 of $96,214 (2.8%). This was due primarily to an increase in vouchers payable ($105,332). Vouchers payable fluctuates from year to year based on the timing of purchases, the need for materials/supplies, and due to the pricing and quantity of construction projects underway at year end. Additional information on capital projects can be seen in the Capital Improvements section of the MD&A below. The decrease ($45,000) in current maturities of bonds payable is based on the amortization schedules of each respective bond issue, such payments of principal debt service naturally fluctuate from year to year. In addition, the Authority refinanced the 2015 Bonds and 2016 Bonds with the 2020A Bonds and 2021 Bonds, respectively during the year ended July 31, 2021, resulting in an annual debt service savings. Additional information on debt is available in the Debt section of the MD&A and in the Notes to the Financial Statements.

Non-Current Liabilities had a net decrease of $1,709,125 (3.7%). The Authority continued to make required debt service payments on both bonds and notes over the period. The Authority issued two Sewer Revenue Bonds in October 2020 and April 2021 to be used for the primary purpose of refunding the two Sewer Revenue Bonds, Series 2015 and Series 2016; changes to the debt service amortization of these four bonds is reflected in the variance shown. More discussion can be reviewed in the Debt section of the MD&A or the Notes to Financial Statements. In addition, the OPEB liability increased by $94,544 from the prior period. More discussion can be reviewed in the Postemployment Benefits Other Than Pension Benefits (OPEBs) section of the Notes to Financial Statements.

Overall, Total Liabilities decreased by $1,612,911 (3.2%).

Table 2 presents a condensed summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position:

Table 2
Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Year Ended July 31, 2021	Year Ended July 31, 2020	Net Change
Revenues:			
Sewer Charges	$ 10,692,751	$ 10,373,400	$ 319,351
Other Operating Fees and Charges	144,273	203,150	(58,877)
Non-Operating Revenues	270,331	281,238	(10,907)
Total Revenues	11,107,355	10,857,788	249,567
Expenses:			
Operating Expenses, Net of Depreciation	6,140,125	6,478,400	(338,275)
Depreciation	3,685,849	3,695,178	(9,329)
Non-Operating Expenses	1,678,324	1,500,228	178,096
Total Expenses	11,504,298	11,673,806	(169,508)
Capital Contributions:			
Tap-In Fees	131,771	86,346	45,425
Total Capital Contributions	131,771	86,346	45,425
Net Income (Loss)	(265,172)	(729,672)	464,500
Net Position:			
Beginning of Year	33,012,765	33,742,437	(729,672)
End of Year	$ 32,747,593	$ 33,012,765	$ (265,172)

Revenues

Total Revenues increased from the prior year amount by $249,567 (2.3%). Sewer charges increased during the period by $319,351 (3.1%). Revenues increased for two primary reasons during the current year. First, a rate increase of $2.00 per month per EDU became effective as of January 1, 2020, or approximately midway through the July 31, 2020 fiscal year, and because the increased rate was effective for the entire July 31, 2021 fiscal year, additional sewer charge revenue is reasonable. Second, due to the stay-at-home order and other coronavirus pandemic precautionary efforts in the year ended July 31, 2020, revenues were not as high as originally anticipated.

Other operating fees and charges decreased by $58,877 (29.0%). During the year ended July 31, 2020, the Authority placed several surplus assets for sale through an opened public auction process increasing the miscellaneous revenues line item. Such sales were not necessary for the year ended July, 31, 2021 and therefore miscellaneous revenues declined.

Expenses

Total Expenses decreased by $169,508 (1.5%). Operating Expenses, Net of Depreciation decreased by $338,275 (5.2%). During the year ended July 31, 2021 Operating Expenses, Net of Depreciation decreased due to the following reasons: (1) salaries and wages for plant employees reduced by $94,427

as an employee retired during the prior year and was not replaced, (2) plant maintenance and repairs decreased by $39,377, (3) the cost of medical and prescription drug benefits decreased by $44,931 primarily due to retirements during the current and prior year, (4) engineering services, not capitalized, reduced by 79,999, (5) electricity decreased by $55,833, and (6) major noncapital purchases declined by $45,028. It is typical for operating costs to fluctuate from year to year during the natural course of business.

Depreciation expense decreased by $9,329 (0.3%) during the year ended July 31, 2021. The change in depreciation is minimal in the current year, due to relatively minor capital additions as well as reductions in depreciation expenses for assets that became fully depreciated or removed from service during the period.

Non-Operating Expenses increased by $178,096 (11.9%). During the current year, the Authority refinanced both the 2015 and 2016 Bonds, with the 2020A and 2021 Bonds, respectively, resulting in bond issuance costs of $423,655. During the prior year, the Authority only refinanced the 2013 Bonds, with the 2020 Bonds resulting in a bond issuance cost of $244,628. Therefore, bond issuance costs were higher by $179,027 during the current period.

Capital Contributions

Total Capital Contributions increased by $45,425 (52.6%). The demand for access to the sewer system increased during the year resulting in more Tap-In Fees of $45,425. There was no Developer Contribution Revenue. Revenues generated from Tap-In Fees and Developer Contribution Revenue directly correlate to area development and can fluctuate greatly from fiscal year to fiscal year based on need and timing.

Net Income (Loss)

During the fiscal year ended July 31, 2021, the Authority experienced a Net Loss of $265,172, compared to the July 31, 2020 Net Loss of $729,672.

CAPITAL IMPROVEMENTS

During the fiscal year, the Authority continued its ongoing capital improvement expenditures for rehabilitation and evaluation of the sewer system and upgrades to the wastewater treatment facility.

Capital projects and purchases made during the fiscal year included: wastewater treatment plant (WWTP) SCADA phase 1 ($224,534), WWTP chlorine tank improvement project ($71,484), two WWTP turbine blowers ($70,410), WWTP lime dust control equipment ($173,247), central storage equalization tank valve replacement ($35,677), and a Ford F-250 4x4 pickup truck ($34,318). There were no Developer Contributions for sewer extensions accepted by the Authority during the year.

The Authority continues to maintain Construction in Progress projects as of July 31, 2021 that includes the following projects: (1) *Rocklick Pump Station Replacement Project* design and permitting phase*, (2) Center Avenue Pump and Valve Replacement Program, (3) WWTP Aeration Tank Gate Actuator Project, (4) WWTP Automatic Chlorine Feed Equipment, (5) WWTP Sludge Thickener Upgrade Project, (6) WWTP Primary Clarifiers Project, and (7) CAP Project* design phase*.*

Depreciation expense decreased by $9,329 (0.3%) during the year ended July 31, 2021.

DEBT

During 2013, the Authority issued $10,000,000 in Sewer Revenue Bonds, to advance refund a portion ($8,315,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received an economic gain of approximately $340,000, as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the prior fiscal year, and after the 2020 Series current refunding of the debt, as described below and in the Notes, this loan was paid-in-full during the year ended July 31, 2020.

During 2015, the Authority issued $9,965,000 in Sewer Revenue Bonds, to advance refund a portion ($9,345,000) of the 2010 Bond issue. Proceeds of this issue were used to pay for the costs of the issue and establish an escrow account to partially defease the 2010 Bond debt. The Authority also received savings of approximately $1,354,000 as a result of reduced debt service payments compared to the 2010 Bond issue debt service schedule. At the end of the fiscal year, and after the 2020A Series current refunding of the debt, as described below and in the Notes, this loan was paid-in-full during the year ended July 31, 2021.

In February 2016, the Authority issued new Sewer Revenue Bonds in the amount of $9,895,000. Proceeds from this obligation were used to fund additional contributions to the Debt Service Reserve Fund, pay for costs of the bond issuance, and to provide funding for the various capital projects of the Authority, including the *Negley Avenue Pump Station Replacement Project, WWTP Headworks Improvements*, and *WWTP Sludge Dewatering Improvements*. At the end of the fiscal year, and after the 2021 Series current refunding of the debt, as described below and in the Notes, this loan was paid-in-full during the year ended July 31, 2021.

In October 2017, the Authority issued new Sewer Revenue Bonds (Series A and B) in the total amount of $11,320,000. Proceeds from this obligation were used to pay for costs of the bond issuance, purchase a surety policy for deposit to the Debt Service Reserve Fund, and to refund various PennVest loans of the Authority. At the end of the fiscal year, the Authority had outstanding bond debt for Series A of $8,325,000. Principal and interest payments will vary from year-to-year with the final payment due in 2032. The Series B Bonds matured in 2019 and are paid in full.

In 2020, the Authority issued new Sewer Revenue Bonds in the amount of $9,910,000. Proceeds from this obligation were used to pay for costs of the bond issuance and current refund the 2013 Bonds in the amount of $9,695,000. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $9,745,000. Principal and interest payments will vary from year-to-year with the final payment due in 2034.

In October of 2020, the Authority issued new Sewer Revenue Bonds in the amount of $8,510,000. Proceeds from this obligation were used to pay for costs of the bond issuance and current refund the 2015 Bonds in the amount of $8,800,000. At the end of the fiscal year, the Authority had outstanding bond debt for this issue of $7,950,000. Principal and interest payments will vary from year-to-year with the final payment due in 2031.

In April 2021, the Authority issued new Sewer Revenue Bonds in the amount of $8,315,000. Proceeds from this obligation were used to pay for costs of the bond issuance and current refund the 2016 Bonds in the amount of $8,665,000. At the end of the fiscal year, the Authority had outstanding bond debt for

this issue of $8,290,000. Principal and interest payments will vary from year-to-year with the final payment due in 2041.

In February 2011, the Authority closed on a loan from PennVest in the amounts of $13,087,500 to partially fund the *Butler City Act 537 Wet Weather Flow Equalization Tanks, Diversion Structures, and Pumping Station Facilities Projects* required by the Consent Order and Agreement (CO&A), respectively. The Authority completed the projects during the fiscal year ended July 31, 2014. Amortization payments of principal and interest continued during the fiscal year, leaving an outstanding balance as of July 31, 2020 of $7,814,092 on the remaining loan. The final payment on this loan is scheduled for January 2032.

More detailed information about the Authority's long-term debt is presented in the Notes to Financial Statements.

CONDITIONS AFFECTING FUTURE FINANCIAL POSITION

The Authority continues to focus on capital improvement projects to address aging equipment and infrastructure in fiscally responsible ways to fund those projects while keeping our customers and the rate schedule in mind. The Authority evaluates capital projects on an ongoing basis by using input from the management team to establish priorities as well as the budget process and the Consulting Engineer's Annual Report as tools to assist in this on-going valuation.

<u>DEP Chapter 94 Corrective Action Plan to Address Pump Station Overflows</u>

At the request of the Authority, a meeting of Authority representatives and representatives from the Pennsylvania Department of Environmental Protection (DEP) was held on November 14, 2018. The purpose of the meeting was to discuss recurring wet weather sanitary sewer overflows (SSOs) during the 2018 record rainfall year associated with several of BASA's sewage pump stations and the corrective actions necessary to reduce the overloaded conditions and/or to provide the additional capacities, if necessary, to address the hydraulic overload conditions and eliminate these SSOs.

In response to this meeting, the Authority prepared and submitted a Corrective Action Plan (CAP) to address wet weather hydraulic overloading of specific pump stations within the Authority's sewer system. The CAP primarily focuses on three pump stations that have experienced recurring wet weather SSO events during 2018: the Fisher Heights Pump Station, the Brewster Booster Pump Station, and the Bryson Pump Station. The Fisher Heights Pump Station is not significantly affected by pumped flows from any upstream pump station. However, the Brewster Booster and Bryson Pump Stations are significantly affected hydraulically by pumped flows from other upstream pump stations. Therefore, the CAP had to consider the hydraulic interconnection of the upstream pump stations when identifying the cause of the SSOs and assessing corrective actions and any capital improvements to these two pump stations.

The CAP was subdivided into separate sections to address the following pump stations and pump station systems (listed by the pump station flow sequence):

1. The Fisher Heights, Brewster, and Brewster Booster Pump Station System (FBB); and

2. The Greenwood, Benbrook, and Bryson Pump Station System (GBB).

Although many of the CAP tasks are similar for each of these systems, the tasks were outlined for each specific system for scheduling and progress reporting purposes.

The DEP reviewed the Authority's draft CAP and requested a few minor revisions. The revised CAP dated March 11, 2019 was formally approved by the DEP in a letter dated March 26, 2019.

In August 2019, the Authority hired Herbert Rowland and Grubic, Inc. (HRG) to provide engineering services to assist the Authority in completing the pump station assessments and preliminary design evaluation of alternative solutions for the approved CAP. This assessment was completed during the fourth quarter of 2020. HRG has since been contracted to proceed with planning and design services for phases 01 through 05 for the FBB and GBB areas to satisfy the CAP at a cost of $735,400. The estimated total cost of the combined FBB and GBB projects is $12,000,000 and is expected to be completed by June 2024. As of July 31, 2021, the Authority has successfully complied with the CAP tasks and implementation schedule and has also continued to provide quarterly progress reports to the DEP in a timely manner. Funding for this project is expected to be provided through a new bond issue.

Private Sector Solicitation to Purchase Authority Operations

During the year, the Authority was contacted by two private sector wastewater providers for consideration of the sale of all Authority assets and therefore ultimately the dissolution of the wastewater Authority. No agreement has been entered, but the ultimate outcome of this inquiry is unknown as of the date of this report.

CONTACTING THE AUTHORITY

If you have any questions about this report or need additional financial information, contact the Butler Area Sewer Authority's Finance Director or Executive Director at 100 Litman Road, Butler, PA 16001-3256.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF NET POSITION

JULY 31, 2021 AND 2020

	2021	2020
Assets		
Current assets:		
Cash and cash equivalents	$ 9,682,187	$ 7,160,047
Investments:		
Trusteed accounts	7,490,655	6,555,331
Other	-	2,699,000
Accounts receivable	2,139,656	2,093,796
Unbilled sewer receivable	944,700	906,400
Total current assets	20,257,198	19,414,574
Non-current assets:		
Capital assets, not being depreciated	1,181,850	1,031,065
Capital assets, net of accumulated depreciation	59,258,482	62,139,662
Total capital assets	60,440,332	63,170,727
Total non-current assets	60,440,332	63,170,727
Total Assets	80,697,530	82,585,301
Deferred Outflows of Resources		
Deferred charge on refunding	954,774	1,047,903
Liabilities		
Current liabilities:		
Vouchers payable	178,832	73,500
Accrued expenses	955,663	931,434
Current maturities of bonds payable	1,760,000	1,805,000
Current portion of notes payable	635,854	624,201
Total current liabilities	3,530,349	3,434,135
Non-current liabilities:		
Bonds payable, net of unamortized discount and premium	33,520,787	34,688,602
Notes payable	7,178,238	7,814,092
OPEB liability	4,264,068	4,169,524
Total non-current liabilities	44,963,093	46,672,218
Total Liabilities	48,493,442	50,106,353
Deferred Inflows of Resources		
Deferred inflows of resources for OPEB	411,269	514,086
Net Position		
Net investment in capital assets	18,300,227	19,633,450
Restricted	7,490,655	6,208,616
Unrestricted	6,956,711	7,170,699
Total Net Position	$ 32,747,593	$ 33,012,765

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED JULY 31, 2021 AND 2020

	2021	2020
Operating Revenues:		
Sewer charges - non-industrial waste	$ 10,352,097	$ 10,069,349
Sewer charges - industrial waste	340,654	304,051
Other operating fees and charges	144,273	203,150
Total operating revenues	10,837,024	10,576,550
Operating Expenses:		
Operations and maintenance	5,026,355	5,372,404
Administration	1,113,770	1,105,996
Depreciation	3,685,849	3,695,178
Total operating expenses	9,825,974	10,173,578
Operating Income (Loss)	1,011,050	402,972
Non-Operating Revenues (Expenses):		
Interest income	196,049	281,165
Interest expense	(1,251,394)	(1,252,308)
Bond issuance costs	(423,655)	(244,628)
Loss on disposal of capital assets	(3,275)	(3,292)
Amortization	74,282	73
Total non-operating revenues (expenses)	(1,407,993)	(1,218,990)
Income (Loss) Before Capital Contributions	(396,943)	(816,018)
Capital Contributions:		
Tap-in fees	131,771	86,346
Total capital contributions	131,771	86,346
Net Income (Loss)	(265,172)	(729,672)
Net Position:		
Beginning of year	33,012,765	33,742,437
End of year	$ 32,747,593	$ 33,012,765

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

STATEMENTS OF CASH FLOWS

YEARS ENDED JULY 31, 2021 AND 2020

	2021	2020
Cash Flows From Operating Activities:		
Sewer charges and fees	$ 10,752,864	$ 10,438,600
Operations and maintenance	(4,905,067)	(5,791,007)
Administrative expenses	(1,113,770)	(1,105,996)
Net cash provided by (used in) operating activities	4,734,027	3,541,597
Cash Flows From Capital and Related Financing Activities:		
Tap-in fees	131,771	86,346
Proceeds from bonds payable	16,825,000	9,910,000
Principal paid on capital debt	(19,579,201)	(12,062,762)
Interest paid on capital debt	(590,453)	(1,330,851)
Payments related to the acquisition, construction, or improvement of capital assets	(958,729)	(296,183)
Net cash provided by (used in) capital and related financing activities	(4,171,612)	(3,693,450)
Cash Flows From Investing Activities:		
Interest and dividends	196,049	281,165
Proceeds from sale (purchase) of long-term investments	1,763,676	(11,684)
Net cash provided by (used in) investing activities	1,959,725	269,481
Net Increase (Decrease) in Cash and Cash Equivalents	2,522,140	117,628
Cash and Cash Equivalents:		
Beginning of year	7,160,047	7,042,419
End of year	$ 9,682,187	$ 7,160,047
Reconciliation of Operating Income (Loss) to Net Cash and Cash Equivalents Provided by (Used in) Operating Activities:		
Operating income (loss)	$ 1,011,050	$ 402,972
Adjustments to reconcile operating income (loss) to cash and cash equivalents provided by (used in) operating activities:		
Depreciation	3,685,849	3,695,178
Change in assets and liabilities:		
Accounts and unbilled sewer receivables	(84,160)	(137,950)
Vouchers payable and accrued expenses	129,561	(393,369)
OPEB liability	94,544	(539,320)
Deferred inflows of resources - OPEB	(102,817)	514,086
Total adjustments	3,722,977	3,138,625
Net cash provided by (used in) operating activities	$ 4,734,027	$ 3,541,597

See accompanying notes to financial statements.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2021 AND 2020

1. Organization

The Butler Area Sewer Authority (Authority) is a body corporate and politic organized under the Municipality Authorities Act of 1945, P.L. 382 (Act), as amended and supplemented having been duly organized, under said Act by joint action of the City of Butler (City) and the Township of Butler (Township), both of Butler County, Pennsylvania. Its Certificate of Incorporation was issued by the Secretary of the Commonwealth of Pennsylvania on November 13, 1962. On May 6, 1997, the articles of incorporation were amended to extend the existence of the Authority to February 6, 2046.

The Authority provides sanitary sewer collection and treatment for the City of Butler, Township of Butler, Center Township, areas in East Butler Borough, and limited areas of Summit, Connoquenessing, and Oakland Townships.

2. Summary of Significant Accounting Policies

The financial statements of the Authority have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the authoritative standard-setting body for the establishment of governmental accounting and financial reporting principles.

Reporting Entity

The report includes all of the services provided by the Authority to residents and businesses within its service area. Authority services provided include operation and maintenance of sewage collection and treatment facilities.

The Board is comprised of five members, with two members appointed by the Township and three appointed by the City. The Authority is not considered a component unit of either the Township or the City. The Authority is not financially accountable to either the Township or the City, nor does the Authority create a financial benefit or burden to either the Township or the City. The City appoints a majority of Board members to the Authority, but because the City cannot replace the Board members at will once they have been appointed, they do not exercise control of the Board.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2021 AND 2020

Basis of Accounting

The activities of the Authority are presented as an Enterprise Fund because the operations are financed and managed in a manner similar to private business enterprises, where the intent of the governing body is that the costs of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

As an Enterprise Fund, the Authority uses the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when the liability is incurred.

Operating revenues and expenses consist of those revenues and expenses that result from the ongoing principal operation of the Authority. Operating revenues consist primarily of user charges. Non-operating revenues and expenses consist of those revenues and expenses that are related to the financing and investing types of activities.

When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Authority's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements, and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statements of cash flows, the Authority considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

Investments, principally money market funds, are carried at fair value.

BUTLER AREA SEWER AUTHORITY

NOTES TO FINANCIAL STATEMENTS

YEARS ENDED JULY 31, 2021 AND 2020

Accounts Receivable

Accounts receivable consists of unpaid customer sewer billings at July 31, 2021 and 2020. No provision is made for uncollectible accounts, as these charges are lienable charges to the property served.

Unbilled Sewer Receivable

Unbilled sewer receivable represents an estimate of sewer services provided to customers that have not yet been billed.

Capital Assets

Capital assets, which include land, sewer system, pump stations, plant, vehicles, and construction in progress, are recorded at cost. The costs of maintenance and repairs that do not enhance the functionality of the asset or materially extend asset lives are not capitalized. The capitalization threshold is $5,000 for all new purchases. Depreciation of all capital assets is charged against operations. Depreciation on assets has been provided using the straight-line method over the estimated useful lives, as follows:

Sewer system	5 to 40 years
Pump stations	5 to 40 years
Plant	5 to 40 years
Vehicles	5 years

Compensated Absences

The Authority provides paid vacation, personal, and sick leave benefits to all eligible employees. Vacation days can be accumulated by eligible employees, not to exceed 24 days. Personal days are granted annually to eligible full-time employees; however, they may not be carried over from calendar year to calendar year. Sick leave can be accumulated by employees, not to exceed 130 days. The Authority's policy at the time of separation of employment is to pay unused vacation, personal, and sick leave at the time of separation. The balance of compensated absences at July 31, 2021 and 2020 was $833,345 and $812,729, respectively, and is recorded in accrued expenses on the statements of net position.

Bond Discounts and Bond Premiums

Bond discounts and bond premiums are deferred and amortized over the life of the related bonds using the straight-line method. The unamortized balances of the bond discount and bond premium are recorded as a reduction of the related bond payable. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as expenses.

Deferred Outflows of Resources and Deferred Inflows of Resources

In addition to assets, the statements of net position report a separate section for deferred outflows of resources. This represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has one item that qualifies for reporting in this category, the deferred charge on refunding. The deferred charge on refunding resulted from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt.

In addition to liabilities, the statements of net position report a separate section for deferred inflows of resources. This represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority has the following items that qualify for reporting in this category. In conjunction with other post-employment benefits (OPEB) accounting requirements, differences between expected and actual experience, and changes in assumption are recorded as deferred inflows of resources for OPEBs. These amounts are determined based on an actuarial valuation performed for the OPEB Plan. See Note 7 for additional information about the OPEB plan.

Net Position

Accounting standards require the classification of net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in

this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.

- Restricted – This component of net position consists of constraints placed on net position use through external restrictions.

- Unrestricted – This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted."

Pending Pronouncements

GASB has issued statements that will become effective in future years, including Statement Nos. 87 (Leases), 89 (Accounting for Interest Cost), 91 (Conduit Debt Obligations), 92 (Omnibus 2020), 94 (Public-Private and Public-Public Partnerships), 96 (Information Technology Arrangements), and 97 (Deferred Compensation Plans). Management has not yet determined the impact of these statements on the financial statements.

3. Deposits and Investments

In accordance with the Municipality Authorities Act and Act 10 of the Pennsylvania state legislature, in addition to deposits in institutions insured by the Federal Deposit Insurance Corporation (FDIC), the Authority may invest in any of the following: United States Treasury Bills, short-term obligations of the United States Government or its agencies or instrumentalities, obligations of the United States or any of its agencies or instrumentalities backed by the full faith and credit of the United States or the Commonwealth of Pennsylvania, commercial paper, bankers' acceptance, and negotiable certificates of deposits. There were no deposit or investment transactions during the years ended July 31, 2021 and 2020 that were in violation of these policies.

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The following is a description of the Authority's deposit and investment risks:

Deposits

Custodial Credit Risk - Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a formal deposit policy for custodial credit risk.

At times, the Authority holds certificates of deposit through Pennsylvania Local Government Investment Trust (PLGIT), in the name of the Authority, and maturing within one year, that are fully covered under the FDIC's general deposit insurance rules. These deposits are reported as investments in the statements of net position in the amount of $0 and $2,699,000 for 2021 and 2020, respectively.

As of July 31, 2021, $6,198,523 of the Authority's bank balance of $6,448,523 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,437,620 as of July 31, 2021 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2021, $250,000 of the Authority's deposits was covered by FDIC insurance.

As of July 31, 2020, 6,457,885 of the Authority's bank balance of $6,707,885 was exposed to custodial credit risk, which is collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution. These deposits have carrying amounts of $6,656,800 as of July 31, 2020 and are reported as cash and cash equivalents in the statements of net position. As of July 31, 2020, $250,000 of the Authority's deposits was covered by FDIC insurance.

In addition to the deposits noted above, included in cash and cash equivalents on the statements of net position are PLGIT investments of $3,244,567 and $503,247 at July 31, 2021 and 2020, respectively. The fair value of the Authority's investments in PLGIT is the same as the value of the pool shares.

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Investments

Included on the statements of net position are the following investments held by the Authority at July 31, 2021 and 2020:

	2021		2020	
		Maturity in years		Maturity in years
		Less		Less
Investment Type	Fair Value	than 1 year	Fair Value	than 1 year
Money market funds	$ 7,490,655	$ 7,490,655	$ 6,555,331	$ 6,555,331
Total Investments	$ 7,490,655	$ 7,490,655	$ 6,555,331	$ 6,555,331

The fair value of the Authority's investments is the same as their carrying amount.

Credit Risk – The risk that an issuer or other counterparty to an investment will not fulfill its obligations is called credit risk. The Authority has no formal investment policy that would limit its investment choices based on credit ratings by nationally recognized statistical rating organizations.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Authority will not be able to recover the value of the investments or collateral securities that are in the possession of the outside entity. The Authority does not have a formal investment policy for custodial credit risk.

Concentration of Credit Risk - The Authority places no limit on the amount the Authority may invest in any one issuer.

Interest Rate Risk - The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are

significant unobservable inputs. The Authority has no assets as of July 31, 2021 and 2020 requiring such valuation.

4. Capital Assets

A summary of changes in capital assets for the years ended July 31, 2021 and 2020 are as follows:

	Balance at August 1, 2020	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2021
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	209,640	150,785	-	360,425
Capital assets, not being depreciated	$ 1,031,065	$ 150,785	$ -	$ 1,181,850
Vehicles	$ 864,336	$ 34,318	$ (47,502)	$ 851,152
Sewer system	59,740,751	69,024	(221,188)	59,588,587
Pump stations	38,323,993	76,156	-	38,400,149
Plant	36,584,219	628,446	(18,228)	37,194,437
Capital assets, being depreciated	135,513,299	807,944	(286,918)	136,034,325
Less: accumulated depreciation	(73,373,637)	(3,685,849)	283,643	(76,775,843)
Capital assets, net of accumulated depreciation	$ 62,139,662	$ (2,877,905)	$ (3,275)	$ 59,258,482
Total capital assets, net	$ 63,170,727	$ (2,727,120)	$ (3,275)	$ 60,440,332

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	Balance at August 1, 2019	Additions/ Transfers	Deletions/ Transfers	Balance at July 31, 2020
Land	$ 821,425	$ -	$ -	$ 821,425
Construction in progress	283,477	124,548	(198,385)	209,640
Capital assets, not being depreciated	$ 1,104,902	$ 124,548	$ (198,385)	$ 1,031,065
Vehicles	$ 878,276	$ 42,113	$ (56,053)	$ 864,336
Sewer system	59,766,286	6,907	(32,442)	59,740,751
Pump stations	38,263,878	60,115	-	38,323,993
Plant	36,600,592	260,885	(277,258)	36,584,219
Capital assets, being depreciated	135,509,032	370,020	(365,753)	135,513,299
Less: accumulated depreciation	(70,040,920)	(3,695,178)	362,461	(73,373,637)
Capital assets, net of accumulated depreciation	$ 65,468,112	$ (3,325,158)	$ (3,292)	$ 62,139,662
Total capital assets, net	$ 66,573,014	$ (3,200,610)	$ (201,677)	$ 63,170,727

5. Debt

Bonds Payable

During 2013, the Authority issued Sewer Revenue Bonds, Series of 2013 (2013 Bonds) in the amount of $10,000,000, the proceeds of which were used to partially advance refund the 2010 Bonds. The interest rates of the 2013 Bonds vary between 2.00% and 3.50% and mature from 2016 to 2034. The refunding of the 2010 Bonds generated a deferred charge on refunding of $1,323,253, which is amortized over the life of the 2013 Bonds. These Bonds were refunded during the year ended July 31, 2020.

During October 2015, the Authority issued Sewer Revenue Bonds, Series of 2015 (2015 Bonds), in the amount of $9,965,000 to advance refund $9,345,000 of the 2010 Bonds, and pay costs related to the issuance and sale of the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2016 to 2031. The refunding of the 2010 Bonds generated a deferred charge on refunding of $399,230, which is amortized over the life of the 2015 Bonds. These Bonds were refunded during the year ended July 31, 2021.

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NOTES TO FINANCIAL STATEMENTS

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During February 2016, the Authority issued Sewer Revenue Bonds, Series of 2016 (2016 Bonds), in the amount of $9,895,000 to finance various capital projects of the Authority, fund a deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 4.00% and mature from 2017 to 2041. These Bonds were refunded during the year ended July 31, 2021.

During October 2017, the Authority issued Sewer Revenue Bonds, Series A and Series B of 2017 (2017 Bonds), in the amount of $9,995,000 and $1,325,000, respectively, a total of $11,320,000 to refund certain PennVest notes payable, purchase a surety policy for deposit to the Debt Service Reserve Fund, and pay related costs and expenses of issuing the bonds. For Series A, the interest rates vary between 2.00% and 3.00% and mature from 2019 to 2032. The 2017 Series B Bonds matured in 2019.

During February 2020, the Authority issued Sewer Revenue Bonds, Series 2020 (2020 Bonds), in the amount of $9,910,000 to current refund the 2013 Bonds and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 5.00% and mature from 2020 to 2034.

During October 2020, the Authority issued Sewer Revenue Bonds, Series 2020A (2020A Bonds), in the amount of $8,510,000 to current refund the 2015 Bonds and pay related costs and expenses of issuing the bonds. The interest rates vary between 1.00% and 5.00% and mature from 2021 to 2031.

During April 2021, the Authority issued Sewer Revenue Bonds, Series 2021 (2021 Bonds), in the amount of $8,315,000 to current refund the 2016 Bonds and pay related costs and expenses of issuing the bonds. The interest rates vary between 2.00% and 5.00% and mature from 2021 to 2041.

In the event of default, the bondholder may demand immediate payment of all outstanding principal and accrued interest. All Bonds are secured by pledged revenues derived by the Authority from the operations of the Sewer System. The bonds contain certain covenants as to the Authority, with respect to which the Authority is in compliance.

BUTLER AREA SEWER AUTHORITY

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Annual maturities of the bonds payable at July 31, 2021 are as follows:

Year Ending July 31,	Principal	Interest	Total
2022	$ 1,760,000	$ 849,332	$ 2,609,332
2023	1,825,000	786,232	2,611,232
2024	1,890,000	720,332	2,610,332
2025	1,980,000	651,582	2,631,582
2026	2,100,000	578,366	2,678,366
2027-2031	11,510,000	2,126,448	13,636,448
2032-2036	10,710,000	785,400	11,495,400
2037-2041	2,535,000	156,950	2,691,950
Total Payments	34,310,000		
Plus: Unamortized Bond Discount/Premium	970,787		
	$ 35,280,787	$ 6,654,642	$ 40,964,642

Notes Payable - PennVest

During 2011, the Authority entered into a loan agreement with PennVest. The loan proceeds of $13,087,500 were used to fund the Butler City Act 537 Project. This direct borrowing is secured by a parity first lien on the Authority's sewer revenues and contains provisions that in the event of default, (1) the outstanding principal balance and any accrued and unpaid interest to be immediately due and payable in full, and (2) PennVest may exercise any and all rights in the security interest in the Project collateral. Principal payments of $624,201 and $612,762 were made for the years ended July 31, 2021 and 2020, respectively. The interest rate for the first sixty months was 1.437% and is 1.851% for the remainder of the loan. Principal and interest payments are due in monthly installments of $62,775 for the first 30 months, $62,690 for the next 30 months, and $64,593 for the remainder of the loan with the final payment scheduled for August 2032.

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Principal and interest payable in future years on all of the PennVest notes are as follows:

Fiscal Years	Principal	Interest	Total
2022	$ 635,854	$ 139,262	$ 775,116
2023	647,724	127,392	775,116
2024	659,815	115,301	775,116
2025	672,133	102,983	775,116
2026	684,680	90,436	775,116
2027-2031	3,619,961	255,619	3,875,580
2032-2033	893,925	10,377	904,302
	$ 7,814,092	$ 841,370	$ 8,655,462

Changes in Long-Term Liabilities

The following is a summary of debt transactions of the Authority for the year ended July 31, 2021:

	Balance at August 1, 2020	Issuance	Payments	Balance at July 31, 2021	Due within one year
Sewer Revenue Bonds (2015)	$ 8,800,000	$ -	$ (8,800,000)	$ -	$ -
Sewer Revenue Bonds (2016)	8,665,000	-	(8,665,000)	-	-
Sewer Revenue Bonds (2017)	9,140,000	-	(815,000)	8,325,000	835,000
Sewer Revenue Bonds (2020)	9,835,000	-	(90,000)	9,745,000	100,000
Sewer Revenue Bonds (2020A)	-	8,510,000	(560,000)	7,950,000	505,000
Sewer Revenue Bonds (2021)	-	8,315,000	(25,000)	8,290,000	320,000
Notes from direct borrowings:					
PennVest Note (2011)	8,438,293	-	(624,201)	7,814,092	635,854
Payable, end of year	$ 44,878,293	$ 16,825,000	$ (19,579,201)	$ 42,124,092	$ 2,395,854

Amounts above and below do not reflect an original issue discount in the amount of $108,642 and $119,474, as of July 31, 2021 and 2020, respectively, for the 2013 Bonds and 2017 Bonds. The discount is amortized using the straight-line method over the shorter of the life of the original or refunded bonds.

Amounts above and below do not reflect an original issue premium in the amount of $1,079,429 and $173,076, as of July 31, 2021 and 2020, respectively, for the 2015 Bonds, 2016 Bonds, 2020 Bonds, 2020A Bonds, and 2021 Bonds. The premium is amortized using the straight-line method over the shorter of the life of the original or refunded bonds.

The following is a summary of debt transactions of the Authority for the year ended July 31, 2020:

	Balance at August 1, 2019	Issuance	Payments	Balance at July 31, 2020	Due within one year
Sewer Revenue Bonds (2013)	$ 9,695,000	$ -	$ (9,695,000)	$ -	$ -
Sewer Revenue Bonds (2015)	9,355,000	-	(555,000)	8,800,000	565,000
Sewer Revenue Bonds (2016)	8,990,000	-	(325,000)	8,665,000	335,000
Sewer Revenue Bonds (2017)	9,940,000	-	(800,000)	9,140,000	815,000
Sewer Revenue Bonds (2020)	-	9,910,000	(75,000)	9,835,000	90,000
Notes from direct borrowings:					
PennVest Note (2011)	9,051,055	-	(612,762)	8,438,293	624,201
Payable, end of year	$ 47,031,055	$ 9,910,000	$ (12,062,762)	$ 44,878,293	$ 2,429,201

Neither the credit nor the taxing power of the City, the Township, or any political subdivision other than the Authority is pledged for the payment of the debt service payable. The debt is not an obligation of the City, the Township, or any other political subdivision other than the Authority.

6. Pension Plan

As of February 29, 2008, the accrued benefits for each participant of the defined benefit Pension Plan for Employees of Butler Area Sewer Authority (Plan) were calculated as actuarial equivalent account balances for the purpose of establishing individual account balances for the conversion of the Plan into a 401(a) defined contribution plan. As of the conversion date, no additional defined benefits accrued under the Plan and effective March 1, 2008, the Plan began as a defined contribution plan. As of July 31, 2021, all Authority employees that were eligible participated in the Plan. The Plan requires that all employees be employed at least twelve consecutive months and work a minimum of 1,000 hours during this period, as defined by the Plan document, to be eligible to participate. The Plan year is defined as the calendar year. Beginning January 1, 2018, participants and employers are required to contribute 5% and 7.5%, respectively, of eligible compensation. Employee and employer contributions to the Plan were $131,524 and $197,562, respectively, for the year ended July 31, 2021. Employee and employer contributions to the Plan were $134,944 and $204,194, respectively, for the year ended July 31, 2020.

Effective March 1, 2008, the Authority adopted the Butler Area Sewer Authority 457(b) Plan (457(b) Plan). The 457(b) Plan year is defined as a calendar year and eligibility requirements of the 457(b) Plan prior to November 1, 2018, are consistent with the eligibility requirements of the Plan noted above. Effective November 1, 2018, contributions to the 457(b) Plan continue to be on a voluntary basis, but may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2021, all of the Authority's employees are eligible to participate in the 457(b) Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum annual dollar amount permitted by law. Employee contributions were $98,129 and $102,440 for the years ended July 31, 2021 and 2020, respectively.

Effective January 1, 2010, the Authority adopted the 457 Governmental Deferred Compensation Plan & Trust (Governmental Plan), in addition to the existing 457(b) Plan. The Governmental Plan year is defined as a calendar year. Contributions to the Governmental Plan are on a voluntary basis and may commence upon employment with the Authority, provided applicable enrollment documents are in place. As of July 31, 2021, all of the Authority's employees are eligible to participate in the Governmental Plan. Employee contributions are permitted up to the lesser of 100% of a participant's annual salary or the maximum dollar amount permitted by law. Employee contributions for the years ended July 31, 2021 and 2020 were $13,408 and $8,391, respectively.

7. Postemployment Benefits Other Than Pension Benefits (OPEBs)

Plan Description

In addition to the benefits described in Note 6, the Authority provides postemployment healthcare benefits in accordance with a labor agreement between the Authority and the American Federation of State, County, and Municipal Employees. The OPEB plan is a single-employer defined benefit OPEB plan administered by the Authority. No assets are accumulated in a trust to pay related benefits.

If an employee was hired prior to August 1, 2010, normal retirement is age 65, but those participants who retire after December 31, 2000 are eligible for OPEB benefits after attaining age 62. If an employee was hired on or after August 1, 2010, no post-employment benefits are payable. Covered individuals are employees, their spouses, and eligible dependents.

Benefits Provided

For those eligible employees retiring between ages 62 and 64, the Authority pays up to 97% of the cost of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan until Medicare eligibility (a period not to exceed 36 months). No dental or vision benefits are provided. Upon Medicare eligibility, the retiree must convert to a Medicare Advantage Plan. The Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained. For those employees retiring at age 65, the Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained.

For spouses and eligible dependent(s) who are under age 65, the Authority will pay up to 97% of the medical and prescription drug premium on a plan comparable to the Authority's active employee medical plan for a period not to exceed 36 months from the date of retirement, or until the retiree reaches Medicare eligibility, whichever comes first. If the retiree becomes Medicare eligible prior to the expiration of the maximum 36-month period, the spouse will be placed in COBRA until the earlier of 36-month or reaching Medicare eligibility. Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Advantage premium, provided that Medicare eligibility is sustained. All Authority-paid benefits to the spouse cease upon the death of the retiring employee. All Authority-paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the spouse's eligibility for Medicare, or the retiree's death.

For pre-age 65 coverage, a PPO $500/$1000 Deductible Plan administered by Municipal Benefits Services is available. For post-age 65 coverage, a Medicare Advantage Plan is available, where Highmark bills the Authority through the retiree.

Contributions

The Authority will pay costs up to 97% of the active employee group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months as described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

BUTLER AREA SEWER AUTHORITY

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Employees Covered by Benefit Terms

As of August 1, 2019, the date of the most recent actuarial valuation, the following employees were covered by the benefit terms:

Current retired participants receiving OPEB benefits	17
Active participants eligible for future OPEB benefits	25
	42

Total OPEB Liability

The Authority's total OPEB liability of $4,264,068 was measured as of August 1, 2019 and was determined by an actuarial valuation as of that date.

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of August 1, 2019 using the following actuarial assumptions, applied to all periods including the measurement:

Inflation	2.75%
Discount rate	2.75% per year
Healthcare cost trend rates	0.00% for 2019; 5.0% per year thereafter
Retirees' share of benefit-related costs	The Authority will pay costs up to 97% of the active employee base group rate as of the date of retirement towards the retiree group rate for a maximum period of 36 months. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.

The discount rate was based on the index rate for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Mortality rates were based on the RP-2014 Mortality Table with 50% of Blue-Collar Adjustment.

The actuarial assumptions used in the August 1, 2019 valuation were based on the results of an actuarial experience study as of August 1, 2019.

BUTLER AREA SEWER AUTHORITY

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Changes in the Total OPEB Liability

	Total OPEB Liability
Balance at July 31, 2020	$ 4,169,524
Changes for the year:	
Service cost	111,110
Interest	115,908
Changes in assumptions or other input	-
Differences between expected and actual experience	-
Benefit payments	(132,474)
Net changes	94,544
Balance at July 31, 2021	$ 4,264,068

There were no changes of benefit terms.

The discount rate was reduced from 3.5% to 2.75% to more accurately reflect the high quality long-term municipal bond rate published by the Federal Reserve.

The withdrawal assumption was updated from Table T-2, *Actuary's Pension Handbook* to Table T-1, *Actuary's Pension Handbook*. The assumed coverage level for future retirees was changed from 20% individual, 80% husband/wife to 40% individual and 60% husband/wife with the spouse age difference increased from 2 years to 3 years.

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate as of July 31, 2021:

	1% Decrease (1.75%)	Discount Rate (2.75%)	1% Increase (3.75%)
Total OPEB liability	$ 4,961,743	$ 4,264,068	$ 3,692,664

BUTLER AREA SEWER AUTHORITY

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Sensitivity of the Total OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates as of July 31, 2021:

	1% Decrease (1.75%)	Discount Rate (2.75%)	1% Increase (3.75%)
Total OPEB liability	$ 3,564,782	$ 4,264,068	$ 5,156,309

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended July 31, 2021, the Authority recognized OPEB expense of $124,201. At July 31, 2021, the Authority had the following deferred outflows of resources and deferred inflows or resources related to OPEB:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 370,002
Changes of assumptions	-	41,267
	$ -	$ 411,269

Amounts reported as deferred outflows of resources and deferred inflows or resources related to OPEBs will be recognized in OPEB expense as follows:

Year Ending July 31,		
2022	$	(102,817)
2023		(102,817)
2024		(102,817)
2025		(102,818)
2026		-
	$	(411,269)

8. Environmental and Other Contingent Liabilities

DEP Chapter 94 Corrective Action Plan (CAP) of 2019

On March 11, 2019, the Authority submitted a voluntary Corrective Action Plan (CAP) with the Pennsylvania Department of Environmental Protection (DEP) to address the hydraulic overloads that have been identified in portions of the Authority's sewer conveyance system, which was approved by the DEP on March 26, 2019. The CAP includes various tasks related to the Fisher Heights Pump Station, Brewster & Brewster Booster Pump Station System (FBB), and Greenwood, Benbrook, and Bryson Pump Station System (GBB) with work to be completed through June 2024.

Pump station assessments and preliminary design evaluation of alternatives for the approved CAP were completed and finalized during the fourth quarter of 2020. At their meeting on December 8, 2020, the Authority Board accepted a proposal to proceed with engineering services for phases 01, 02, and 03 for a lump sum fee of $683,400 to perform the planning, design and other professional services related to the CAP alternatives analysis for the FBB and GBB drainage areas. At their meeting on July 13, 2021, the Authority Board authorized engineering services for phases 04 and 05 in the amount of $52,000.

Once completed, these engineering services will assess, recommend, design, and implement the necessary structural improvements to the FBB and GBB systems to satisfy the CAP. The recommended structural improvements, currently estimated at $12,000,000, include new submersible pumps and equalization facilities to temporarily store excess wet weather flows during storm events. The Authority is in the process of analyzing this current

estimate and consulting with Bond Counsel on the financing options available to fund this project.

As of July 31, 2021, the Authority has successfully complied with the CAP tasks and the CAP implementation schedule. The Authority has also submitted quarterly progress reports to the DEP in a timely manner as required by the CAP.

Act 43 of 2021

On June 30, 2021, P.L. 208, No. 43 (Act 43), Pennsylvania House Bill 957, was passed into law, to become effective in 60 days, amending Title 53 (Municipalities Generally) of the Pennsylvania Consolidated Statutes, in municipal authorities, further providing for purpose and powers. This change in statute may have an effect on the Authority's billable revenues by establishing an opportunity for the owner of multiple residential units that are served by a single water meter to request a review and possible adjustment to the current billable rate. The impact of Act 43 on the Authority is unknown at this time.

9. Commitments

As of July 31, 2021, the Authority has entered into construction contracts that have not been completed as of the end of the fiscal year. Amounts remaining on the contracts for construction services not performed as of July 31, 2021 total approximately $906,000. Work is scheduled to be completed on these projects during the upcoming fiscal year.

10. Operations

The Authority has received solicitation to purchase its operations from outside entities. The Authority has not formally acted on the solicitations and are considering the feasibility of a sale.

REQUIRED SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

SCHEDULE OF CHANGES IN THE AUTHORITY'S
TOTAL OPEB LIABILITY AND RELATED RATIOS

YEAR ENDED JULY 31
LAST 10 FISCAL YEARS*

	2021	2020	2019	2018
Total OPEB Liability:				
Service cost	$ 111,110	$ 108,136	$ 128,003	$ 124,577
Interest	115,908	113,534	161,018	154,796
Differences between expected and actual experiences	-	(555,002)	-	-
Changes of assumptions	-	(61,901)	-	-
Benefit payments	(132,474)	(144,087)	(104,459)	(105,616)
Net change in Total OPEB Liability	94,544	(539,320)	184,562	173,757
Total OPEB Liability - Beginning	4,169,524	4,708,844	4,524,282	4,350,525
Total OPEB Liability - Ending	$ 4,264,068	$ 4,169,524	$ 4,708,844	$ 4,524,282
Covered Employee Payroll	$ 1,630,730	$ 1,878,279	$ 1,916,392	$ 2,237,929
Total OPEB Liability as a percentage of Covered Employee Payroll	261.48%	221.99%	245.71%	202.16%

*Until a full 10-year trend is compiled, the required information for the plan is presented for those years for which information is available.

See accompanying notes to required supplementary information.

BUTLER AREA SEWER AUTHORITY

NOTES TO REQUIRED
SUPPLEMENTARY INFORMATION

YEARS ENDED JULY 31, 2021 AND 2020

Accumulated Assets

No assets are accumulated in a trust to pay related benefits.

Benefit Changes

There were no changes of benefit terms.

Changes of Assumptions

In the August 1, 2019 actuarial valuation, the discount rate was reduced from 3.5% to 2.75%; the withdrawal assumption was updated from Table T-2, Actuary's Pension Handbook, to Table T-1, Actuary's Pension Handbook; and the assumed coverage level for future retirees was changed from 20% individual, 80% husband/wife to 40% individual, and 60% husband/wife with the spouse age difference increased from 2 years to 3 years.

SUPPLEMENTARY INFORMATION

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2021

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 5,263,071	$ -	$ -	$ 4,419,116	$ -	$ -	$ 9,682,187
Investments:							
Trusteed accounts	-	549	2,336,711	-	5,153,395	-	7,490,655
Other	-	-	-	-	-	-	-
Accounts receivable	2,139,656	-	-	-	-	-	2,139,656
Unbilled sewer receivable	944,700	-	-	-	-	-	944,700
Total current assets	8,347,427	549	2,336,711	4,419,116	5,153,395	-	20,257,198
Non-current assets:							
Capital assets, not being depreciated	1,181,850	-	-	-	-	-	1,181,850
Capital assets, net of accumulated depreciation	59,258,482	-	-	-	-	-	59,258,482
Total capital assets	60,440,332	-	-	-	-	-	60,440,332
Total non-current assets	60,440,332	-	-	-	-	-	60,440,332
Total Assets	68,787,759	549	2,336,711	4,419,116	5,153,395	-	80,697,530
Deferred Outflows of Resources							
Deferred charge on refunding	954,774	-	-	-	-	-	954,774
Liabilities							
Current liabilities:							
Vouchers payable	178,832	-	-	-	-	-	178,832
Accrued expenses	955,663	-	-	-	-	-	955,663
Current maturities of bonds payable	1,760,000	-	-	-	-	-	1,760,000
Current portion of notes payable	635,854	-	-	-	-	-	635,854
Total current liabilities	3,530,349	-	-	-	-	-	3,530,349
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	33,520,787	-	-	-	-	-	33,520,787
Notes payable	7,178,238	-	-	-	-	-	7,178,238
OPEB liability	4,264,068	-	-	-	-	-	4,264,068
Total non-current liabilities	44,963,093	-	-	-	-	-	44,963,093
Total Liabilities	48,493,442	-	-	-	-	-	48,493,442
Deferred Inflows of Resources							
Deferred inflows of resources for OPEB	411,269	-	-	-	-	-	411,269
Net Position							
Net investment in capital assets	18,300,227	-	-	-	-	-	18,300,227
Restricted	-	549	2,336,711	-	5,153,395	-	7,490,655
Unrestricted	2,537,595	-	-	4,419,116	-	-	6,956,711
Total Net Position	$ 20,837,822	$ 549	$ 2,336,711	$ 4,419,116	$ 5,153,395	$ -	$ 32,747,593

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF NET POSITION

JULY 31, 2020

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Assets							
Current assets:							
Cash and cash equivalents	$ 3,093,206	$ -	$ -	$ 4,066,841	$ -	$ -	$ 7,160,047
Investments:							
Trusteed accounts	-	256	2,335,731	-	3,872,629	346,715	6,555,331
Other	2,205,000	-	-	494,000	-	-	2,699,000
Accounts receivable	2,093,796	-	-	-	-	-	2,093,796
Unbilled sewer receivable	906,400	-	-	-	-	-	906,400
Total current assets	8,298,402	256	2,335,731	4,560,841	3,872,629	346,715	19,414,574
Non-current assets:							
Capital assets not being depreciated	1,031,065	-	-	-	-	-	1,031,065
Capital assets, net of accumulated depreciation	62,139,662	-	-	-	-	-	62,139,662
Total capital assets	63,170,727	-	-	-	-	-	63,170,727
Total non-current assets	63,170,727	-	-	-	-	-	63,170,727
Total Assets	71,469,129	256	2,335,731	4,560,841	3,872,629	346,715	82,585,301
Deferred Outflows of Resources							
Deferred charge on refunding	1,047,903	-	-	-	-	-	1,047,903
Liabilities							
Current liabilities:							
Vouchers payable	73,500	-	-	-	-	-	73,500
Accrued expenses	931,434	-	-	-	-	-	931,434
Current maturities of bonds payable	1,805,000	-	-	-	-	-	1,805,000
Current portion of notes payable	624,201	-	-	-	-	-	624,201
Total current liabilities	3,434,135	-	-	-	-	-	3,434,135
Non-current liabilities:							
Bonds payable, net of unamortized discount and premium	34,688,602	-	-	-	-	-	34,688,602
Notes payable	7,814,092	-	-	-	-	-	7,814,092
OPEB liability	4,169,524	-	-	-	-	-	4,169,524
Total non-current liabilities	46,672,218	-	-	-	-	-	46,672,218
Total Liabilities	50,106,353	-	-	-	-	-	50,106,353
Deferred Inflows of Resources							
Deferred inflows of resources for OPEB	514,086	-	-	-	-	-	514,086
Net Position							
Net investment in capital assets	19,633,450	-	-	-	-	-	19,633,450
Restricted	(346,715)	256	2,335,731	-	3,872,629	346,715	6,208,616
Unrestricted	2,609,858	-	-	4,560,841	-	-	7,170,699
Total Net Position	$ 21,896,593	$ 256	$ 2,335,731	$ 4,560,841	$ 3,872,629	$ 346,715	$ 33,012,765

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2021

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 10,352,097	$ -	$ -	$ -	$ -	$ -	$ 10,352,097
Sewer charges - industrial waste	340,654	-	-	-	-	-	340,654
Other operating fees and charges	144,273	-	-	-	-	-	144,273
Total operating revenues	10,837,024	-	-	-	-	-	10,837,024
Operating Expenses:							
Operations and maintenance	5,026,355	-	-	-	-	-	5,026,355
Administration	1,113,770	-	-	-	-	-	1,113,770
Depreciation	3,685,849	-	-	-	-	-	3,685,849
Total operating expenses	9,825,974	-	-	-	-	-	9,825,974
Operating Income (Loss)	1,011,050	-	-	-	-	-	1,011,050
Non-Operating Revenues (Expenses):							
Interest income	188,700	1,000	980	3,667	1,582	120	196,049
Interest expense	(1,251,394)	-	-	-	-	-	(1,251,394)
Bond issuance costs	(423,655)	-	-	-	-	-	(423,655)
Loss on disposal of capital assets	(3,275)	-	-	-	-	-	(3,275)
Amortization	74,282	-	-	-	-	-	74,282
Total non-operating revenues (expenses)	(1,415,342)	1,000	980	3,667	1,582	120	(1,407,993)
Income (Loss) Before Capital Contributions and Transfers	(404,292)	1,000	980	3,667	1,582	120	(396,943)
Capital Contributions:							
Tap-in fees	131,771	-	-	-	-	-	131,771
Total capital contributions	131,771	-	-	-	-	-	131,771
Net Income (Loss) Before Transfers	(272,521)	1,000	980	3,667	1,582	120	(265,172)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,603,406	-	-	1,279,184	-	3,882,590
Debt Service Fund	2,604,113	-	-	-	-	-	2,604,113
Capital Improvement and Redemption Fund	492,227	-	-	-	-	-	492,227
Construction Fund	-	-	-	346,835	-	-	346,835
Transfers out to:							
Revenue Fund	-	(2,604,113)	-	(492,227)	-	-	(3,096,340)
Debt Service Fund	(2,603,406)	-	-	-	-	-	(2,603,406)
Capital Improvement and Redemption Fund	-	-	-	-	-	(346,835)	(346,835)
Bond Redemption and Improvement Fund	(1,279,184)	-	-	-	-	-	(1,279,184)
Net Income (Loss)	(1,058,771)	293	980	(141,725)	1,280,766	(346,715)	(265,172)
Net Position:							
Beginning of year	21,896,593	256	2,335,731	4,560,841	3,872,629	346,715	33,012,765
End of year	$ 20,837,822	$ 549	$ 2,336,711	$ 4,419,116	$ 5,153,395	$ -	$ 32,747,593

BUTLER AREA SEWER AUTHORITY

COMBINING STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED JULY 31, 2020

	Revenue Fund	Debt Service Fund	Debt Service Reserve Fund	Capital Improvement and Redemption Fund	Bond Redemption and Improvement Fund	Construction Fund	Total
Operating Revenues:							
Sewer charges - non-industrial waste	$ 10,069,349	$ -	$ -	$ -	$ -	$ -	$ 10,069,349
Sewer charges - industrial waste	304,051	-	-	-	-	-	304,051
Other operating fees and charges	203,150	-	-	-	-	-	203,150
Total operating revenues	10,576,550	-	-	-	-	-	10,576,550
Operating Expenses:							
Operations and maintenance	5,372,404	-	-	-	-	-	5,372,404
Administration	1,105,996	-	-	-	-	-	1,105,996
Depreciation	3,695,178	-	-	-	-	-	3,695,178
Total operating expenses	10,173,578	-	-	-	-	-	10,173,578
Operating Income (Loss)	402,972	-	-	-	-	-	402,972
Non-Operating Revenues (Expenses):							
Interest income	192,648	2,961	29,030	6,330	42,933	7,263	281,165
Interest expense	(1,252,308)	-	-	-	-	-	(1,252,308)
Bond issuance costs	(244,628)	-	-	-	-	-	(244,628)
Loss on disposal of capital assets	(3,292)	-	-	-	-	-	(3,292)
Amortization	73	-	-	-	-	-	73
Total non-operating revenues (expenses)	(1,307,507)	2,961	29,030	6,330	42,933	7,263	(1,218,990)
Income (Loss) Before Capital Contributions and Transfers	(904,535)	2,961	29,030	6,330	42,933	7,263	(816,018)
Capital Contributions:							
Tap-in fees	86,346	-	-	-	-	-	86,346
Total capital contributions	86,346	-	-	-	-	-	86,346
Net Income (Loss) Before Transfers	(818,189)	2,961	29,030	6,330	42,933	7,263	(729,672)
Transfers:							
Transfers in from:							
Revenue Fund	-	2,705,693	-	-	561,988	-	3,267,681
Debt Service Fund	2,716,034	-	-	-	-	-	2,716,034
Capital Improvement and Redemption Fund	578,260	-	-	-	-	-	578,260
Construction Fund	-	-	-	409,150	-	-	409,150
Transfers out to:							
Revenue Fund	-	(2,716,034)	-	(578,260)	-	-	(3,294,294)
Debt Service Fund	(2,705,693)	-	-	-	-	-	(2,705,693)
Capital Improvement and Redemption Fund	-	-	-	-	-	(409,150)	(409,150)
Bond Redemption and Improvement Fund	(561,988)	-	-	-	-	-	(561,988)
Net Income (Loss)	(791,576)	(7,380)	29,030	(162,780)	604,921	(401,887)	(729,672)
Net Position:							
Beginning of year	22,688,169	7,636	2,306,701	4,723,621	3,267,708	748,602	33,742,437
End of year	$ 21,896,593	$ 256	$ 2,335,731	$ 4,560,841	$ 3,872,629	$ 346,715	$ 33,012,765

Butler Area Sewer Authority

Butler County, Pennsylvania

Consulting Engineer's Annual Report and 2022/2023 Fiscal Year Budget

September 2022

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Butler Area Sewer Authority
Butler County, Pennsylvania

Consulting Engineer's Annual Report and 2022/2023 Fiscal Year Budget

August 2022

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Project No.: H/244008/001

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Executive Summary

This annual report, prepared for the Butler Area Sewer Authority, presents a review of the Sewer System operation and projected financial status for the fiscal year ended July 31, 2022. Additionally, this report identifies needed maintenance and capital addition items and includes the 2022/2023 operating budget.

The conclusions and recommendations of this report are as follows:

- The sewerage facilities have operated continuously and successfully during the past fiscal year and numerous capital additions, improvements, and major maintenance/replacement projects were accomplished.
- Extraordinary repair/replacement and capital addition projects recommended for starting and/or completion in fiscal year 2022/2023 include the following projects at the Treatment Plant: Sludge Thickener Building Upgrade Project (Contracts 2020-02 and 2020-06); Extraordinary repair/replacement and capital addition projects recommended for starting and/or completion in fiscal year 2022/2023 include the following sewer and pump station projects: Rock Lick Pump Station Improvements, Hansen Avenue and Whitestown Road Sewer Upgrades, and Alameda Sewer Upgrade Project.
- The 2022/2023 balanced budget anticipates total revenues of $12,752,000, total operating expenses of $6,193,970, and total other expenses of $6,558,030.
- The current rate structure for sewer service charges effective July 31, 2022, appear to generate sufficient revenues to meet the Trust Indenture requirements and to provide for proper operation, maintenance, and repair of the Sewer System in fiscal year 2022/2023.
- Insurance coverage maintained on the Sewer System should continue to be reviewed and updated annually to ensure replacement values are up to date and meet the requirements of the Trust Indenture.

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1. System Review

The wastewater treatment plant was operated continuously and successfully during the past fiscal year and effluent permit discharge concentrations were met on both a monthly and yearly average basis. Table 1-1 was prepared using data obtained from the operator's monthly performance log and summarizes the operational and performance data for the 12-month period from August 2021 through July 2022.

Table 1-1: Sewage Treatment Plant 2021-2022 Performance Data

Month	Average Flow (MGD)	$CBOD_5$		Total Suspended Solids		Ammonia		Fecal Coliform
		Average Effluent (mg/L)	Estimated Removal (%)	Average Effluent (mg/L)	Actual Removal (%)	Average Effluent (mg/L)	Actual Removal (%)	Average Effluent (Geo Mean) (MPN/100 mL)
August 2021	6.827	< 4.61	97.3%	< 6.5	96.4%	< 0.622	94.45%	< 8
Septmember 2021	4.582	< 3.38	98.2%	< 6.4	96.8%	< 0.634	93.96%	< 8
October 2021	4.675	< 2.93	98.4%	< 6.1	97.1%	< 0.630	94.88%	< 3
November 2021	4.174	< 2.71	98.5%	< 5.1	97.2%	< 0.630	95.37%	< 5
December 2021	6.709	< 3.13	97.5%	< 5.2	95.0%	< 0.259	97.58%	< 6
January 2022	5.628	< 3.00	97.8%	< 5.5	95.8%	< 0.132	98.95%	< 3
February 2022	11.557	< 3.16	96.1%	< 6.2	93.0%	< 0.290	95.32%	< 13
March 2022	7.726	< 3.02	97.2%	< 4.6	95.7%	< 0.439	94.22%	< 2
April 2022	8.023	< 3.02	97.3%	< 5.5	95.3%	< 0.180	97.78%	< 3
May 2022	7.710	< 3.04	97.5%	< 5.1	95.7%	< 0.189	98.13%	< 3
June 2022	4.354	< 3.0	97.5%	< 4.8	97.6%	< 0.193	98.68%	< 2
July 2022	4.266	< 3.55	98.0%	< 5.0	97.6%	< 0.196	98.73%	< 3
Annual Average	**6.353**	**< 3.21**	**97.6%**	**< 5.5**	**96.1%**	**< 0.366**	**96.50%**	**< 4.9**
NPDES Limits	10.0			30				
5/1-10/31		12.0				2.0		200.0
11/1-4/30		24.0				5.5		2000.0

The operating records show that flow to the plant averaged 6.353 million gallons per day (MGD) during this twelve-month period, with the highest monthly average flow of 11.557 MGD occurring in February 2022. The annual average effluent carbonaceous biological oxygen demand (CBOD5), total suspended solids, and ammonia values were < 3.21, <5.5, and < 0.366 milligrams per liter (mg/L) respectively. The annual average effluent most probable number/100 mL (MPN/100 mL) for fecal coliform after sanitation practices was <4.9. Exceeding 90 percent removal efficiency for the year, ammonia, CBOD5, and total suspended solids effluent

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averages were well below the current National Pollutant Discharge Elimination System (NPDES) permit limitations. While the average NPDES permit limits are displayed in Table 1-1 above, all discharge parameters are included in Appendix A.

2. Capital Additions, Improvements, and Extraordinary Maintenance/Replacement

During the 2021-2022 fiscal year, the Butler Area Sewer Authority (Authority) completed numerous capital additions, improvements, and major maintenance/replacement projects. The major projects that were completed during the fiscal year include the following:

1. The Authority staff and Process and Data Automation (PDA) completed Phase II of the SCADA project in the treatment plant ($261,781). The treatment plant is now automated. Shift work has been eliminated and the treatment plant is occupied 7 days a week, 365 days a year from 7:00 am to 3:00 pm.
2. Contractor (Process and Data Automation) along with Authority staff installed new hardware and software as part of Phase 2 of the Treatment Plant's SCADA Upgrade ($261,781)
3. Contractor (Process and Data Automation) along with Authority staff installed internet capabilities to support the SCADA project, Phase 3 at 20 remote sites (pump stations). ($22,287)
4. Contractor (Weist Asphalt Paving) repaired an 18'x100' area of roadway on Pillow Street. ($16,002)
5. Contractor (DRS Electrical Services) installed battery backup for emergency lighting in the tunnels ($10,000), associated improvements made by the Authority ($3,200).
6. Contractor (Lins Elevator Service, Inc.) completed the ASME-A17.1 drop test at elevators at ten pump stations. ($11,973)
7. Contractor (Lins Elevator Services Inc.) installed a new retractor on the elevator at the Brewster Pump Station ($2,953).
8. Contractor (Metro Fence Co.) replaced the troublesome and damaged existing scissor gate at the main plant entrance with a slide gate ($19,600).
9. Contractor (DRV) replaced a faulty control board and fan with an EATON SVX/SPX 9000 DC fan at the Ballpark ESQ Station ($6,505).
10. Contractor (DRV) replaced a faulty panel with 230V 3 HP duplex VFD panel at the Center Avenue Pump Station ($16,500).

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11. Contractor (Dumbaugh Electric) repaired the Worthington pump and replaced the pump seal at the Karns Crossing Pump Station. ($10,076)

12. The Authority initiated the repairs and updates to the square chlorine contact tank. Contractor (DRG Construction) repaired and poured 390 feet of concrete around the tanks ($7,740). Contractor (Bauer Excavating) dug and repaired underground piping ($7,491). The Authority purchased a new 6-inch Penn Valley 10 hp pump ($30,057), a Contractor (DXP) installed the pump ($11,125) and the Authority purchased additional installation hardware needed for the pump ($5,780). The Authority also purchased three stainless steel slide gates to replace the existing inoperable gates ($43,221). The current project is $106,000. The project scope continues to hit unforeseen areas needing repair. The project will continue in the 2022-2023 budget year.

13. Contractor (Dumbaugh Electric) replaced motor and shafts on number 1 plant main pump. ($4,842)

14. The Authority staff and PDA completed Phase II of the SCADA project in the treatment plant ($261,781). The treatment plant is now automated. Shift work has been eliminated and the treatment plant is occupied 7 days a week, 365 days a year from 7:00 am to 3:00 pm.

15. Treatment Plant Surveillance Cameras: Utilizing the COSTARs Contract Sourcewell #031517-SCS, Stanley Converging Security Solutions replaced all eleven surveillance cameras and installed new software for $24,112.

16. The Authority purchased and installed a new installed a 6" Penn Valley Pump for the chlorine contact tank ($30,057).

17. Consultant (KTA Tator) conducted EQ Tank coating and conditions inspection at the Monroe and Deshon locations ($14,543).

18. The Authority purchased a Toshiba LF654 Series 6" electromagnetic flow meter at the Northvue Pump Station. ($6,000)

19. The Authority purchased and installed a Toshiba LF654 Series 4" electromagnetic flow meter at Township Line Pump Station ($3,678).

20. The Authority purchased a new HACH FL900 Logger with AV9000 analyzer and sensor assembly ($11,494.10).

21. Authority Purchased 24" check valve clapper assembly and gasket from Trumbull Industries ($8,259), Contractor (Reno Brothers) installed the clapper and gasket ($3,547).

22. Authority purchased and installed an Auma actuator valve controller or trickling regulator valve to control high flows to the trickling filters ($6,220).

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23. Contractor (Timber Building Co.) installed ceilings in the Solids Building MCC Room and Operator Room ($16,800).
24. Contractor (American Contracting Enterprise, Inc.) removed and disposed of approximately 500 linear feet of asbestos pipe insulation located in the tunnel below the Lab Building ($14,937).
25. Authority purchased and installed hardware kit, sprocket, and bearings, Bissnuss Inc ($23,813) to rebuild Primary Tank #1.
26. Contractor (Bauer Excavating) completed emergency repairs on an Authority exposed 15" main sewer line interceptor ($6,988).

In addition to the major capital improvements and major maintenance projects completed during the 2021-2022 fiscal year, the Authority also made the following major equipment purchases:

1. Purchased new fiberglass panels used for flow control in the aeration basins. ($10,560)
2. Purchase new air conditioning unit for the Lab lunchroom area. ($524)
3. Purchased three new conference room chairs ($380) and large screen TV ($599) for the Engineering area.
4. Purchased new total chlorine TritaLab AT1000 with Bench Service AT1000 ($5,478) and Hach DR3000 Colorimeter ($596) for the Lab.
5. Purchased a 2022 Ford super duty F-350 pickup truck to replace a 2009 Ford F-350 ($39,906). Replaced bed with a toolbox bed ($11,247) and added logo decals ($509).
6. Purchased 2021 SECA 900-ECO combination sewer cleaner and Western Star 4700SF vactor truck ($476,106)

3. Capital Improvement Construction Contracts in Progress

During 2021-2022, the Authority completed, continued, or initiated work on the following major capital improvement construction contracts to optimize the capacity and improve the reliability of the sewage collection system, pumping station facilities, and the wastewater treatment plant:

- Rock Lick Pump Station: HRG completed the design of the Rock Lick Pump Station re-piping and bypass pit, ($21,400). Contract 2021-03 General Construction was awarded on April 12, 2022, to Utility Contracting in the amount of $252,000.
- Hansen Avenue and Whitestown Road Sewer Upgrades: Hatch completed the evaluation of the Hansen and Whitestown Road sewer system ($10,900). The evaluation provided several alternative solutions to improve flow. Staff is evaluating the alternatives for a 2022-2023 Capital Project.

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- Alameda Park Sewer Upgrade: Hatch continues with the design for the upgrading of the sewer system through the Alameda Park. Proposed future development supported by the ACT 537 Plan supports this &115,000 design project. $43,757 in design service were spent in fiscal year 2021-2022. The bidding and construction of the project is anticipated in 2022-2023.

- 2019 Corrective Action Plan (CAP): HRG continues to provide design services for the 2019 CAP. $195,000 in design service were provide by HRG in 2021-2022. DEP has approved a revised Schedule, and the project is now referenced as by DEP as R2CAP. The construction is not expected to begin until 2024.

- Sludge Thickener Building Upgrades: Bids were opened for Contract 2020-02 General Construction and Contract 2020-06 Electrical Construction on February 19, 2021. The General construction was awarded to Ray Showman Jr. Excavating, Inc. in the amount of $364,713.07 and the Electrical Contract was awarded to Bronder Technical Services in the amount of $43,920. The project is nearly completed and will be put into operation in August 2022. Hatch completed the design and conducted construction service for $22,901. $305,335 in construction dollars have been spent in 2021-2022.

- Contract No. 2021-2022 CAP Sewer Rehabilitation Contract: Contractor (State Pipe Services) completed contract pursuant to the North Hills Council of Governments (NHCOG) 2021-2022 Unit Price Sanitary Sewer Rehabilitation Contract. The project included ten (10) open cut point source sewer repairs, five (5) trenchless sewer repairs, one hundred fifty-nine (159) manhole inspections and sixty-seven (67) manhole repairs to correct defects and eliminate infiltration and inflow sources within the sewer subsystems tributary to the Authority's Cupps Pump Stations and televising (CCTV) in the Alameda Park Sewer area. The total project cost competed in 2020 -2021 fiscal year was $228,961. There was $65,294 of work completed in fiscal year 2022-2023.

Consideration has also been given towards planning for future capital improvements and/or major maintenance/replacement projects. Attached at the end of this report is Appendix B, "Anticipated Short-Term Capital Improvement Projects." This listing represents a prioritized ranking of the projects and improvements that should be completed or initiated during the 2022-2023 fiscal year or considered over the next three to five years. As indicated in the "Current Status" column, work has already been initiated on several of these major projects.

A number of other potential major capital improvement projects are also listed as "Long-Term Major Capital Improvement Projects" in Appendix C. The specific nature and scope of these potential improvement projects are not well defined at this time.

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4. DEP Chapter 94 Corrective Action Plan to Address Pump Station Overflows

In accordance with the requirements of the Pennsylvania Department of Environmental Protection (DEP) Chapter 94 Regulations, the Authority submitted the 2019 Corrective Action Plan (CAP), dated March 11, 2019, to the DEP to evaluate and address recurring wet weather sanitary sewer overflows (SSOs) associated with the Fisher Heights, Brewster, Brewster Booster (FBB) and Greenwood, Benbrook, Bryson (GBB) Pump Station systems. DEP formally approved the CAP on March 26, 2019 and has since approved two revised CAP plans entitled "RCAP" and "R2CAP" on February 22, 2021 and June 2, 2022 respectively.

To fulfill the CAP requirements, the Authority hired Herbert Rowland & Grubic (HRG) to assist with FBB and GBB design evaluation, sewage facilities planning, design and permitting, and bidding and construction services. Currently, the design evaluation and sewage facilities planning has been completed for FBB and GBB and HRG is proceeding with the design, permitting, and land acquisition process.

From the design evaluation it was determined that additional hydraulic capacity is required at all of the stations with the exception of Benbrook Pump Station which will be downgraded to a E/One triplex grinder station. To increase the hydraulic capacity, larger pumps, control systems, valve vaults, wet wells, and discharge piping will be installed where it is needed. Additional hydraulic storage capacity will be provided for through the installation of equalization tanks at Fisher, Brewster, and Greenwood Pump Stations.

As of July 31, 2022, the Authority has successfully complied with the implementation schedule and CAP tasks including the submission of quarterly compliance reports to DEP. A copy of the latest Quarterly Report to DEP is attached at the end of this report in Appendix D

5. Financial Review

A review of projected results for the twelve-month period ending July 31, 2022, indicates that financial operations will produce an increase in the revenue fund balance of $254,920 on a budgetary basis. The budget for fiscal year 2021/2022 was balanced. As shown on Table 5-1, Estimated Operating Revenues for the twelve-month period were $11,541,160 or $325,260 more than budget. Comparison of the 2021/2022 adopted budget to the projected July 31, 2022, revenue indicates the following:

- Anticipated income from sewer service charges was more than budget projections by $247,990, or approximately 2.43 percent.
- Debt Surcharges were less than anticipated by $580 or approximately 16.11 percent.
- Industrial waste billing was projected as $343,480 or 7.27 percent more than budget.

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- Estimated income from interest and penalties was more than budget projections by $21,980 or approximately 13.25 percent.
- Projected sewer tapping fees were more than anticipated by $22,500 or approximately 8.49 percent.
- Inspection Fee income was projected $3,600 less than budget or 41.86 percent.
- Sewer Connection Fees were more than anticipated by 2,400 or 145.45 percent.
- Realty transfer inspection fees were projected higher than budget by $5,100 or 6.18 percent.
- Other income was projected to be more than budget by $6,190 or 3.55 percent.

Estimated Operating Expenses for the twelve-month period ending July 31, 2022, were $5,887,210 or $300,520 under budget. A comparison of the adopted budget for this period with projected expenditures indicates the following variances:

- Plant wages were projected to be less than anticipated by $59,200 or approximately 6.20 percent.
- Plant operation and maintenance estimated costs were under budget by $53,450 or 5.15 percent.
- Pump station and tank wages were projected to be $45,000 more than anticipated or 29.29 percent.
- Pump station and tank operation and maintenance estimated costs were over budget by 2.04 percent or $6,180.
- Sewer wages were projected to be $200 more than expected or approximately .03 percent.
- Sewer operation and maintenance estimated costs were less than anticipated by $74,560 or 47.55 percent.
- Realty transfer inspections wages estimated costs were $2,500 more than budget or .73 percent.
- Realty transfer inspections operation and maintenance costs were $1,870 less than budget or 15.98 percent.
- Transportation costs were projected to be $3,740 more than the budget amount or 7.15 percent.
- Pretreatment wages were less than budget by $700 or approximately 1.22 percent.
- Pretreatment expenses were projected to be $2,490 more than the budget amount or 25.40 percent.

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- Office wages were projected to be less than anticipated by $1,200, or 0.35 percent.
- Office expenses were projected to be less than budget by $43,250 or 29.91 percent.
- Administrative wages were projected to be under budget by $5,300 or 1.65 percent.
- Administrative expenses were projected to be below budget by $31,960 or 17.20 percent.
- Employment benefits were projected to be under budget by $68,740 or 5.39 percent.
- Professional services were projected to be $20,670 less than expected, or 11.04 percent.

Projected Other Expenses and Transfers for the twelve-month period ending July 31, 2022, were $370,860 more than the adopted budget primarily due to the following variances:

- Capital expenditures were $180,090 less than expected.
- Debt service on bonds was $500 less than budgeted.
- Transfers to the Authority's Bond Improvement and Redemption Fund was projected at $551,450 more than anticipated.

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Table 5-1: Comparison of Projected Revenues and Expenses for the Fiscal Year Ending July 31, 2022, with Adopted 2022-2023 Budget Summary
($5 Increase per EDU per month effective July 1, 2022. Last Rate Increase, Effective January 1, 2020)

DESCRIPTIONS	(cash basis) ADOPTED 2021-2022 BUDGET SUMMARY	(Unaudited - cash basis) PROJECTED 7/31/22 REVENUES & EXPENSES	(cash basis) AMENDED 2022-2023 BUDGET SUMMARY
OPERATING REVENUES:			
Sewer Service Charges	$ 10,194,250	$ 10,442,240	$11,791,250
Debt Surcharges	3,600	3,020	3,000
Industrial Waste Billing	320,200	343,480	365,900
Interest & Penalty Income	165,900	187,880	226,900
Sewer Tapping Fees	**11,215,900**	**11,541,160**	**12,752,000**
OPERATING EXPENSES:			
Plant Wages	955,500	896,300	824,300
Plant Operation & Maintenance	1,038,400	984,950	1,050,900
Pump Station & Tank Wages	153,600	198,600	162,200
Pump Station & Tank Operation & Maintenance	302,780	308,960	322,900
Sewer Wages	651,200	651,400	668,100
Sewer Operation & Maintenance	156,800	82,240	139,300
Realty Transfer Inspections Wages	341,700	344,200	357,600
Realty Transfer Inspections Operation & Maintenance	11,700	9,830	12,000
Transportation	52,300	56,040	64,500
Pretreatment Wages	57,300	56,600	59,000
Pretreatment Expenses	9,800	12,290	8,900
Office Wages	343,700	342,500	355,500
Office Expenses	144,600	101,350	134,000
Administrative Wages	321,500	316,200	289,200
Administrative Expenses	184,250	152,560	233,150
Employment Benefits	1,275,400	1,206,660	1,283,300
Professional Services	187,200	166,530	229,120
TOTAL OPERATING EXPENSES	**6,187,730**	**5,887,210**	**6,193,970**
NET OPERATING REVENUES	**5,028,170**	**5,653,950**	**6,558,030**
OTHER EXPENSES & TRANSFERS:			
Capital Expenditures	1,382,870	1,202,780	1,468,260
Debt Service on Bonds	2,609,300	2,608,800	4,053,570
PENNVEST Principal & Interest	775,100	775,100	775,100
Transfer to Bond Improvement & Redemption Fund	260,900	812,350	261,100
TOTAL OTHER EXPENSES & TRANSFERS	**5,028,170**	**5,399,030**	**6,558,030**
INCREASE (DECREASE) IN REVENUE FUND BALANCE	$ -	$ 254,920	$ -

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6. Budget Considerations

The budget for fiscal year 2022/2023 provides for current costs and expected trends. The budget is shown in detail in Table 5-1 and is summarized below.

Total Operating Revenues	$12,752,000
Total Operating Expenses	6,193,970
Net Operating Revenues	6,558,030
Total Other Expenses & Transfers	6,558,030
Increase (Decrease) in Fund Balance	$ 0

Estimated Operating Revenues for fiscal year 2022/2023 are anticipated to be $1,210,840 more than the previous year projected operating revenues. Projected decreases will be offset by a substantial revenue increase of $1,349,010 in sewer service charges.

- Sewer tapping fees are expected to be $103,300 less in 2022/2023.
- Other income is anticipated to be $91,290 less in 2022/2023
- Realty Transfer Inspection Fees are expected to be $5,100 less in 2022/2023.
- Sewer Service Charges are expected to be $1,349,010 more in 2022/2023
- Industrial Waste Billings are expected to be $22,420 more in 2022/2023
- Interest & Penalty Income are expected to be $39,020 more in 2022/2023

The 2022/2023 revenues from debt surcharges, inspection fees, and sewer connection fees are expected to be comparable to projections for last year.

Total Operating Expenses and Other Expenses and Transfers are projected at $6,193,970 and $6,558,030 respectively for the 2022/2023 fiscal year. The past fiscal year's projected expenses have been adjusted to include normal anticipated increases resulting from continued inflation and any anticipated operational changes. In addition:

- Plant wages have been decreased by $72,000 compared to the projected expenditure for last year.
- Plant operation and maintenance expenses has been increased by $65,950 over last year's projected expenditure.
- Pump station and tank wages and operation and maintenance expenses are projected to be $22,460 less than last year's projected results.

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- The adopted 2022/2023 budget for sewer wages is projected to be $16,700 more than last year's projected results. Sewer operation and maintenance expenses are also expected to increase by $57,060.
- Realty transfer inspection wages and operation and maintenance expenses are projected to increase by $15,570 over last year's projected results.
- Transportation costs are expected to increase by $8,460 over last year's projected results.
- Pre-treatment wages are expected to increase by $2,400 compared to last year's projected results.
- Pre-treatment costs are expected to decrease by $3,390 compared to last year projections.
- Office wages are expected to increase by $13,000 over last year's projected results.
- Office expenses are expected to increase by $32,650 over last year's projected results.
- Administrative wages and expenses are projected to be $53,590 more than last year's results.
- Employment Benefit costs reflect a projected increase of $76,640 over last year's projected results.
- Professional service fees are expected to be $62,590 more than last year's projected results.
- Capital expenditures are proposed to increase by $265,480 over last year's projected results.
- Bond debt service is anticipated to increase by $1,444,770 over last year's projected results.
- Transfers to the Authority's Bond Improvement and Redemption Fund are expected to decrease by $551,250. The 2022/2023 budget allows for a 10 percent coverage requirement under the Trust Indenture and assumes that no excess funding is required to be transferred in accordance with the Trust Indenture. Any transfers in excess of the amount budgeted is based on the excess revenue calculation, which is completed annually in accordance with the Authority's Trust Indenture.

The adopted budget is based on the July 1, 2022, rate schedule in Table 6-1 for sewer service charges.

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Table 6-1: Sewer System Rate Schedule

BUTLER AREA SEWER AUTHORITY
NOTICE OF CHANGE IN RATES EFFECTIVE JULY 1, 2022

BILLING DISTRICT		ANNUAL BASE SEWER SERVICE RATE # ($/EDU)	ANNUAL AREA SEWER DEBT SURCHARGE RATE ($/EDU)	TOTAL PER YEAR ($/EDU)	TOTAL PER QUARTER ($/EDU)	TOTAL PER MONTH ($/EDU)
BUTLER CITY	BC	516.00		516.00	129.00	43.00
BUTLER/SUMMIT	BS	516.00		516.00	129.00	43.00
BUTLER TOWNSHIP	BT	516.00		516.00	129.00	43.00
CENTER/LAGOON	CL	516.00		516.00	129.00	43.00
CENTER TOWNSHIP	CT	516.00		516.00	129.00	43.00
DESHON AREA	DA	516.00		516.00	129.00	43.00
EAST BUTLER	EB	516.00		516.00	129.00	43.00
HULL PLAN	HP	516.00		516.00	129.00	43.00
MERIDIAN AREA	MA	516.00		516.00	129.00	43.00
MERIDIAN/HEATHER	MH	516.00		516.00	129.00	43.00
NORTHWEST AREA	NW	516.00		516.00	129.00	43.00
OAK HILLS AREA	OH	516.00		516.00	129.00	43.00
Dutchtown Opt 1		516.00		516.00	129.00	43.00
Dutchtown Opt 2		516.00	432.00 *	948.00	237.00	79.00
Dutchtown Opt 3		516.00	576.00 **	1,092.00	273.00	91.00
SOUTH BUTLER	SB	516.00		516.00	129.00	43.00

Base rate increased by $5.00 per month per EDU effective July 1, 2022 (last increase 1/1/2020).

* Surcharge effective January 1, 2011 (surcharge anticipated to be applied until December 31, 2035).

** Surcharge effective January 1, 2011 (surcharge anticipated to be applied until December 31, 2035).

For sewer services effective July 1, 2011, interest will be applied at 10% APR (5% APR on liens).

EDU = Equivalent Dwelling Unit (or Unit) average water usage of 4,000 gallons per month.

BASE SEWER SERVICE RATE FOR MULTI-FAMILY RESIDENTIAL UNITS:	TOTAL PER YEAR # ($/EDU)	TOTAL PER QUARTER # ($/EDU)	TOTAL PER MONTH # ($/EDU)
For the first 25 Units or any part thereof	516.00	129.00	43.00
For the next 25 Units or any part thereof	505.60	126.40	42.13
For the next 25 Units or any part thereof	495.20	123.80	41.27
For the next 25 Units or any part thereof	484.80	121.20	40.40
For the next 25 Units or any part thereof	474.40	118.60	39.53
For the next 25 Units or any part thereof	464.00	116.00	38.67
For all Units over 150 or any part thereof	453.60	113.40	37.80

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In accordance with the requirements of Act 57 of 2003, which amended Act 203 of 1990, the Authority developed and adopted a rate schedule for new sewer service connections to the Authority's public sewer system. The schedule, which became effective on March 1, 2013, provides for the charging of a tapping fee, a connection fee, and an inspection fee. Under the terms of Act 57, the Authority is permitted to periodically review the rate schedule and to revise it as necessary. A copy of the rate schedule can be found in Appendix E.

7. Insurance

The Authority retains the services of an independent professional firm that appraises the properties of the Authority in order to ascertain sound insurable values. The Authority also retains the services of an independent professional insurance consultant to recommend any additional coverage that should be provided. We concur with this policy of the Authority and recommend that the appraisal is updated annually, and that the insurance coverage is adjusted to meet changing conditions.

Appendix F contains a summary of the current insurance coverage carried by the Authority.

8. Acknowledgements

The following persons served on the Butler Area Sewer Authority Board as of July 31, 2022.

Paul F. Sybert, Chairman
Fred M. Vero, Vice Chairman
Lance R. Calvert Secretary
Mavrik W. Goepfert Treasurer
Steven C. Braden. Assistant Secretary/Assistant Treasurer

We wish to thank the staff of the Authority for their cooperation and assistance in the preparation of this annual report and budget.

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Appendix A
Discharge Limitations

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3800-PM-BCW0012 Rev. 10/2017
Permit

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

RECEIVED
AUG 14 2018

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM DISCHARGE REQUIREMENTS FOR PUBLICLY OWNED TREATMENT WORKS (POTWs)

NPDES PERMIT NO: PA0026697

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*,

Butler Area Sewer Authority
100 Litman Road
Butler, PA 16001-3256

is authorized to discharge from a facility known as **Butler Area STP**, located in **Butler Township, Butler County**, to **Connoquenessing Creek (Outfall 001) and Butcher Run (Outfalls 005, 011-014 & 018)** in Watershed **20-C** in accordance in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B and C hereof.

THIS PERMIT SHALL BECOME EFFECTIVE ON SEP 01 2018

THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON AUG 31 2023

The authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.

2. Failure to comply with the terms, conditions or effluent limitations of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (40 CFR 122.41(a))

3. A complete application for renewal of this permit, or notice of intent to cease discharging by the expiration date, must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date), using the appropriate NPDES permit application form. (40 CFR 122.41(b), 122.21(d))

   In the event that a timely and complete application for renewal has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit, including submission of the Discharge Monitoring Reports (DMRs), will be automatically continued and will remain fully effective and enforceable against the discharger until DEP takes final action on the pending permit application. (25 Pa. Code §§ 92a.7(b), (c))

4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

DATE PERMIT ISSUED AUG 09 2018 **ISSUED BY**

John A. Holden, P.E.
Clean Water Program Manager
Northwest Regional Office

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 50' 21" , **Longitude** 79° 55' 13" , **River Mile Index** 43.73 , **Stream Code** 34025

Type of Effluent: Treated domestic sewage

1. The permittee is authorized to discharge during the period from **March 1, 2019** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001 – after disinfection

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 001 , **Latitude** 40° 50' 21" , **Longitude** 79° 55' 13" , **River Mile Index** 43.73 , **Stream Code** 34025

Type of Effluent: Treated domestic sewage

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)*	XXX	XXX	XXX	0.33	XXX	1.1	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	2001	3002	XXX	24	36	48	1/day	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	1001	1501	XXX	12	18	24	1/day	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Total Suspended Solids	2502	3753	XXX	30	45	60	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab

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Appendix A-5.1

Permit No. PA0026697

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	459	XXX	XXX	5.5	XXX	11	1/day	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	167	XXX	XXX	2	XXX	4	1/day	24-Hr Composite
Total Phosphorus	167	XXX	XXX	2	XXX	4	1/day	24-Hr Composite

* Refer to Special Condition V - Requirements for Total Residual Chlorine

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001 – after disinfection, except for influent sampling.

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Appendix A-5.1

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. C. **For Outfall** 005 , **Latitude** 40° 50' 29" , **Longitude** 79° 55' 06" , **River Mile Index** 0.1 , **Stream Code** 35116

Type of Effluent: Treated domestic sewage

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		

This outfall is for emergency use only. Any discharge from this outfall shall met the same effluent limitations and monitoring requirements imposed on Outfall 001.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001 monitoring point.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (Continued)

Additional Requirements

1. The permittee may not discharge:

   a. Floating solids, scum, sheen or substances that result in observed deposits in the receiving water. (25 Pa Code § 92a.41(c))

   b. Oil and grease in amounts that cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline, or that exceed 15 mg/l as a daily average or 30 mg/l at any time (or lesser amounts if specified in this permit). (25 Pa. Code § 92a.47(a)(7), § 95.2(2))

   c. Substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (25 Pa Code § 93.6(a))

   d. Foam or substances that produce an observed change in the color, taste, odor or turbidity of the receiving water, unless those conditions are otherwise controlled through effluent limitations or other requirements in this permit. For the purpose of determining compliance with this condition, DEP will compare conditions in the receiving water upstream of the discharge to conditions in the receiving water approximately 100 feet downstream of the discharge to determine if there is an observable change in the receiving water. (25 Pa Code § 92a.41(c))

2. The monthly average percent removal of BOD_5 or $CBOD_5$ and TSS must be at least 85% for POTW facilities on a concentration basis except where 25 Pa. Code 92a.47(g) and (h) are applicable to facilities with combined sewer overflows (CSOs) or as otherwise specified in this permit. (25 Pa. Code § 92a.47(a)(3))

3. If the permit requires the reporting of average weekly statistical results, the maximum weekly average concentration and maximum weekly average mass loading shall be reported, regardless of whether the results are obtained for the same or different weeks.

4. The permittee shall monitor the sewage effluent discharge(s) for the effluent parameters identified in the Part A limitations table(s) during all bypass events at the facility, using the sample types that are specified in the limitations table(s). Where the required sample type is "composite", the permittee must commence sample collection within one hour of the start of the bypass, wherever possible. The results shall be reported on the Daily Effluent Monitoring supplemental form (3800-FM-BCW0435) and be incorporated into the calculations used to report self-monitoring data on Discharge Monitoring Reports (DMRs).

Footnotes

(1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.

(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

Supplemental Information

(1) The hydraulic design capacity of million gallons per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to help determine whether a "hydraulic overload" situation exists, as defined in Title 25 Pa. Code Chapter 94.

(2) The effluent limitations for Outfalls 001 were determined using effluent discharge rates of 10 MGD.

(3) The organic design capacity of 12750 lbs BOD_5 per day for the treatment facility is used to prepare the annual Municipal Wasteload Management Report to determine whether an "organic overload" condition exists, as defined in 25 Pa. Code Chapter 94.

(4) Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

II. DEFINITIONS

At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified.

Average refers to the use of an arithmetic mean, unless otherwise specified in this permit. (40 CFR 122.41(l)(4)(iii))

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollutant loading to surface waters of the Commonwealth. The term also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The term includes activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities. (25 Pa. Code § 92a.2)

Bypass means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i))

Calendar Week is defined as the seven consecutive days from Sunday through Saturday, unless the permittee has been given permission by DEP to provide weekly data as Monday through Friday based on showing excellent performance of the facility and a history of compliance. In cases when the week falls in two separate months, the month with the most days in that week shall be the month for reporting.

Clean Water Act means the Federal Water Pollution Control Act, as amended (33 U.S.C.A. §§ 1251 to 1387).

Composite Sample (for all except GC/MS volatile organic analysis) means a combination of individual samples (at least eight for a 24-hour period or four for an 8-hour period) of at least 100 milliliters (mL) each obtained at spaced time intervals during the compositing period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval is proportional to the flow rates over the time period used to produce the composite. (EPA Form 2C)

Composite Sample (for GC/MS volatile organic analysis) consists of at least four aliquots or grab samples collected during the sampling event (not necessarily flow proportioned). The samples must be combined in the laboratory immediately before analysis and then one analysis is performed. (EPA Form 2C)

Daily Average Temperature means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (25 Pa. Code § 92a.2, 40 CFR 122.2)

Daily Maximum Discharge Limitation means the highest allowable "daily discharge."

Discharge Monitoring Report (DMR) means the DEP or EPA supplied form(s) for the reporting of self-monitoring results by the permittee. (25 Pa. Code § 92a.2, 40 CFR 122.2)

Estimated Flow means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

Geometric Mean means the average of a set of n sample results given by the n^{th} root of their product.

Grab Sample means an individual sample of at least 100 mL collected at a randomly selected time over a period not to exceed 15 minutes. (EPA Form 2C)

Hauled-In Wastes means any waste that is introduced into a treatment facility through any method other than a direct connection to the sewage collection system. The term includes wastes transported to and disposed of within the treatment facility or other entry points within the collection system.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act. (40 CFR 122.2)

Immersion Stabilization (i-s) means a calibrated device is immersed in the wastewater until the reading is stabilized.

Indirect Discharger means a non-domestic discharger introducing pollutants to a Publicly Owned Treatment Works (POTW) or other treatment works. (25 Pa. Code § 92a.2, 40 CFR 122.2)

Industrial User means a source of Indirect Discharge. (40 CFR 403.3)

Instantaneous Maximum Effluent Limitation means the highest allowable discharge of a concentration or mass of a substance at any one time as measured by a grab sample. (25 Pa. Code § 92a.2)

Measured Flow means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Monthly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. (25 Pa. Code § 92a.2)

Municipality means a city, town, borough, county, township, school district, institution, authority or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes. (25 Pa. Code § 92a.2)

Municipal Waste means garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from operation of residential, municipal, commercial or institutional establishments and from community activities; and sludge not meeting the definition of residual or hazardous waste under this section from a municipal, commercial or institutional water supply treatment plant, waste water treatment plant or air pollution control facility. (25 Pa. Code § 271.1)

Publicly Owned Treatment Works (POTW) means a treatment works as defined by §212 of the Clean Water Act, owned by a state or municipality. The term includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. The term also includes sewers, pipes or other conveyances if they convey wastewater to a POTW providing treatment. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works. (25 Pa Code § 92a.2, 40 CFR 122.2)

Residual Waste means garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous. The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act. The term does not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under and in compliance with a valid permit issued under the Clean Streams Law. (25 Pa Code § 287.1)

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii))

Stormwater means the runoff from precipitation, snow melt runoff, and surface runoff and drainage. (25 Pa. Code § 92a.2)

Stormwater Associated With Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, and as defined at 40 CFR §122.26(b)(14)(i) – (ix) and (xi) and 25 Pa. Code § 92a.2.

Toxic Pollutant means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains may, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in these organisms or their offspring. (25 Pa. Code § 92a.2)

Weekly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

III. SELF-MONITORING, REPORTING AND RECORDKEEPING

A. Representative Sampling

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity (40 CFR 122.41(j)(1)). Representative sampling includes the collection of samples, where possible, during periods of adverse weather, changes in treatment plant performance and changes in treatment plant loading. If possible, effluent samples must be collected where the effluent is well mixed near the center of the discharge conveyance and at the approximate mid-depth point, where the turbulence is at a maximum and the settlement of solids is minimized. (40 CFR 122.48, 25 Pa. Code § 92a.61)

2. Records Retention (40 CFR 122.41(j)(2))

   Except for records of monitoring information required by this permit related to the permittee's sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for 3 years from the date of the sample measurement, report or application, unless a longer retention period is required by the permit. The 3-year period shall be extended as requested by DEP or the EPA Regional Administrator.

3. Recording of Results (40 CFR 122.41(j)(3))

   For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

   a. The exact place, date and time of sampling or measurements.
   b. The person(s) who performed the sampling or measurements.
   c. The date(s) the analyses were performed.
   d. The person(s) who performed the analyses.
   e. The analytical techniques or methods used; and the associated detection level.
   f. The results of such analyses.

4. Test Procedures

   a. Facilities that test or analyze environmental samples used to demonstrate compliance with this permit shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 (27 Pa. C.S. §§ 4101-4113) and 25 Pa. Code Chapter 252, relating to environmental laboratory accreditation.

   b. Test procedures (methods) for the analysis of pollutants or pollutant parameters shall be those approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, unless the method is specified in this permit or has been otherwise approved in writing by DEP. (40 CFR 122.41(j)(4), 122.44(i)(1)(iv))

   c. Test procedures (methods) for the analysis of pollutants or pollutant parameters shall be sufficiently sensitive. A method is sufficiently sensitive when 1) the method minimum level is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or 2) the method has the lowest minimum level of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, for the measured pollutant or pollutant parameter; or 3) the method is specified in this permit or has been otherwise approved in writing by DEP for the measured pollutant or pollutant parameter. Permittees have the option of providing matrix or sample-specific minimum levels rather than the published levels. (40 CFR 122.44(i)(1)(iv))

5. Quality/Assurance/Control

   In an effort to assure accurate self-monitoring analyses results:

   a. The permittee, or its designated laboratory, shall participate in the periodic scheduled quality assurance inspections conducted by DEP and EPA. (40 CFR 122.41(e), 122.41(i)(3))

   b. The permittee, or its designated laboratory, shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit, in accordance with 40 CFR Part 136. (40 CFR 122.41(j)(4))

B. Reporting of Monitoring Results

1. The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.44, 92a.61(i) and 40 CFR §§ 122.41(e), 122.44(i)(1))

2. The permittee shall use DEP's electronic Discharge Monitoring Report (eDMR) system to report the results of compliance monitoring under this permit (see www.dep.pa.gov/edmr). Permittees that are not using the eDMR system as of the effective date of this permit shall submit the necessary registration and trading partner agreement forms to DEP's Bureau of Clean Water (BCW) within 30 days of the effective date of this permit and begin using the eDMR system when notified by DEP BCW to do so. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.61(g) and 40 CFR § 122.41(l)(4))

3. Submission of a physical (paper) copy of a Discharge Monitoring Report (DMR) is acceptable under the following circumstances:

   a. For a permittee that is not yet using the eDMR system, the permittee shall submit a physical copy of a DMR to the DEP regional office that issued the permit during the interim period between the submission of registration and trading partner agreement forms to DEP and DEP's notification to begin using the eDMR system.

   b. For any permittee, as a contingency a physical DMR may be mailed to the DEP regional office that issued the permit if there are technological malfunction(s) that prevent the successful submission of a DMR through the eDMR system. In such situations, the permittee shall submit the DMR through the eDMR system within 5 days following remedy of the malfunction(s).

4. DMRs must be completed in accordance with DEP's published DMR instructions (3800-FM-BCW0463). DMRs must be received by DEP no later than 28 days following the end of the monitoring period. DMRs are based on calendar reporting periods and must be received by DEP in accordance with the following schedule:

   - Monthly DMRs must be received within 28 days following the end of each calendar month.
   - Quarterly DMRs must be received within 28 days following the end of each calendar quarter, i.e., January 28, April 28, July 28, and October 28.
   - Semiannual DMRs must be received within 28 days following the end of each calendar semiannual period, i.e., January 28 and July 28.
   - Annual DMRs must be received by January 28, unless Part C of this permit requires otherwise.

5. The permittee shall complete all Supplemental Reporting forms (Supplemental DMRs) attached to this permit, or an approved equivalent, and submit the signed, completed forms as attachments to the DMR, through DEP's eDMR system. DEP's Supplemental Laboratory Accreditation Form (3800-FM-BCW0189) must be completed and submitted to DEP with the first DMR following issuance of this permit, and anytime thereafter when changes to laboratories or methods occur. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.61(g) and 40 CFR § 122.41(l)(4))

6. The completed DMR Form shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code § 92a.22:

- For a corporation - by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.
- For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
- For a municipality, state, federal or other public agency - by a principal executive officer or ranking elected official.

If signed by a person other than the above and for co-permittees, written notification of delegation of DMR signatory authority must be submitted to DEP in advance of or along with the relevant DMR form. (40 CFR § 122.22(b))

7. If the permittee monitors any pollutant at monitoring points as designated by this permit, using analytical methods described in Part A III.A.4. herein, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR. (40 CFR 122.41(l)(4)(ii))

C. Reporting and Notification Requirements

1. Planned Changes to Physical Facilities – The permittee shall give notice to DEP as soon as possible but no later than 30 days prior to planned physical alterations or additions to the permitted facility. A permit under 25 Pa. Code Chapter 91 may be required for these situations prior to implementing the planned changes. A permit application, or other written submission to DEP, can be used to satisfy the notification requirements of this section.

   Notice is required when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b). (40 CFR 122.41(l)(1)(i))

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this permit. (40 CFR 122.41(l)(1)(ii))

   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(l)(1)(iii))

   d. The planned change may result in noncompliance with permit requirements. (40 CFR 122.41(l)(2))

2. Planned Changes to Waste Stream – Under the authority of 25 Pa. Code § 92a.24(a) and 40 CFR 122.42(b), the permittee shall provide notice to DEP and EPA as soon as possible but no later than 45 days prior to any planned changes in the volume or pollutant concentration of its influent waste stream as a result of indirect discharges or hauled-in wastes, as specified in paragraphs 2.a. and 2.b., below. Notice shall be provided on the "Planned Changes to Waste Stream" Supplemental Report (3800-FM-BCW0482), available on DEP's website. The permittee shall provide information on the quality and quantity of waste introduced into the POTW, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW (40 CFR 122.42(b)(3)). The Report shall be sent via Certified Mail or other means to confirm DEP's receipt of the notification. DEP will determine if the submission of a new application and receipt of a new or amended permit is required.

   a. Introduction of New Pollutants (25 Pa. Code § 92a.24(a), 40 CFR 122.42(b)(1))

      New pollutants are defined as parameters that meet one or more of the following criteria:

(i) Any pollutants that were not detected in the facilities' influent waste stream as reported in the permit application; and have not been approved to be included in the permittee's influent waste stream by DEP in writing.

(ii) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants (40 CFR 122.42(b)(1)).

The permittee shall provide notification of the introduction of new pollutants in accordance with paragraph 2 above. The permittee may not authorize the introduction of new pollutants until the permittee receives DEP's written approval.

b. Increased Loading of Approved Pollutants (25 Pa. Code § 92a.24(a), 40 CFR 122.42(b)(2))

Approved pollutants are defined as parameters that meet one or more of the following criteria:

(i) Were detected in the facilities' influent waste stream as reported in the permittee's permit application; or have been previously approved to be included in the permittee's influent waste stream by DEP in writing.

(ii) Have an effluent limitation or monitoring requirement in this permit.

The permittee shall provide notification of the introduction of increased influent loading (lbs/day) of approved pollutants in accordance with paragraph 2 above when (1) the cumulative increase in influent loading (lbs/day) exceeds 20% of the maximum loading reported in the permit application, or a loading previously approved by DEP and/or EPA, or (2) may cause an exceedance in the effluent of Effluent Limitation Guidelines (ELGs) or limitations in Part A of this permit, or (3) may cause interference or pass through at the POTW, or (4) may cause exceedances of the applicable water quality standards in the receiving stream. Unless specified otherwise in this permit, if DEP does not respond to the notification within 30 days of its receipt, the permittee may proceed with the increase in loading. The acceptance of increased loading of approved pollutants may not result in an exceedance of ELGs or effluent limitations, may not result in a hydraulic or organic overload condition as defined in 25 Pa. Code § 94.1, and may not cause exceedances of the applicable water quality standards in the receiving stream.

3. Reporting Requirements for Hauled-In Wastes

a. Receipt of Residual Waste

(i) The permittee shall document the receipt of all hauled-in residual wastes (including but not limited to wastewater from oil and gas wells, food processing waste, and landfill leachate), as defined at 25 Pa. Code § 287.1, that are received for processing at the treatment facility. The permittee shall report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BCW0450) as an attachment to the DMR. If no residual wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report. The information used to develop the Report shall be retained by the permittee for five years from the date of receipt and must be made available to DEP or EPA upon request.

(1) The dates that residual wastes were received.

(2) The volume (gallons) of wastes received.

(3) The license plate number of the vehicle transporting the waste to the treatment facility.

(4) The permit number(s) of the well(s) where residual wastes were generated, if applicable.

(5) The name and address of the generator of the residual wastes.

(6) The type of wastewater.

The transporter of residual waste must maintain these and other records as part of the daily operational record (25 Pa. Code § 299.219). If the transporter is unable to provide this information or the permittee has not otherwise received the information from the generator, the residual wastes shall not be accepted by the permittee until such time as the permittee receives such information from the transporter or generator.

(ii) The following conditions apply to the characterization of residual wastes received by the permittee:

(1) If the generator is required to complete a chemical analysis of residual wastes in accordance with 25 Pa. Code § 287.51, the permittee must receive and maintain on file a chemical analysis of the residual wastes it receives. The chemical analysis must conform to the Bureau of Waste Management's Form 26R except as noted in paragraph (2), below. Each load of residual waste received must be covered by a chemical analysis if the generator is required to complete it.

(2) For wastewater generated from hydraulic fracturing operations ("frac wastewater") within the first 30 production days of a well site, the chemical analysis may be a general frac wastewater characterization approved by DEP. Thereafter, the chemical analysis must be waste-specific and be reported on the Form 26R.

b. Receipt of Municipal Waste

(i) The permittee shall document the receipt of all hauled-in municipal wastes (including but not limited to septage and liquid sewage sludge), as defined at 25 Pa. Code § 271.1, that are received for processing at the treatment facility. The permittee shall report hauled-in municipal wastes on a monthly basis to DEP on the "Hauled In Municipal Wastes" Supplemental Report (3800-FM-BCW0437) as an attachment to the DMR. If no municipal wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report:

(1) The dates that municipal wastes were received.

(2) The volume (gallons) of wastes received.

(3) The BOD_5 concentration (mg/l) and load (lbs) for the wastes received.

(4) The location(s) where wastes were disposed of within the treatment facility.

(ii) Sampling and analysis of hauled-in municipal wastes must be completed to characterize the organic strength of the wastes, unless composite sampling of influent wastewater is performed at a location downstream of the point of entry for the wastes. The influent BOD_5 characterization for the treatment facility, as reported in the annual Municipal Wasteload Management Report per 25 Pa. Code Chapter 94, must be representative of the hauled-in municipal wastes received.

4. Unanticipated Noncompliance or Potential Pollution Reporting

   a. Immediate Reporting - The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code §§ 91.33 and 92a.41(b).

      (i) If, because of an accident, other activity or incident a toxic substance or another substance which would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify DEP by telephone of the location and nature of the danger. Oral notification to the Department is required as soon as possible, but no later than 4 hours after the permittee becomes aware of the incident causing or threatening pollution.

      (ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.

      (iii) The permittee shall immediately take or cause to be taken steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.

   b. The permittee shall report any noncompliance which may endanger health or the environment in accordance with the requirements of 40 CFR 122.41(l)(6). These requirements include the following obligations:

      (i) 24 Hour Reporting - The permittee shall orally report any noncompliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):

         (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

         (2) Any upset which exceeds any effluent limitation in the permit; and

         (3) Violation of the maximum daily discharge limitation for any of the pollutants listed in the permit as being subject to the 24-hour reporting requirement.

      (ii) Written Report - A written submission shall also be provided within 5 days of the time the permittee becomes aware of any noncompliance which may endanger health or the environment. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

      (iii) Waiver of Written Report - DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by DEP, the permittee shall submit a written report in accordance with this paragraph. (40 CFR 122.41(l)(6)(iii))

5. Other Noncompliance

   The permittee shall report all instances of noncompliance not reported under paragraph C.4 of this section or specific requirements of compliance schedules, at the time DMRs are submitted, on the Non-Compliance Reporting Form (3800-FM-BCW0440). The reports shall contain the information listed in paragraph C.4.b.(ii) of this section. (40 CFR 122.41(l)(7))

PART B

I. MANAGEMENT REQUIREMENTS

A. Compliance

1. The permittee shall comply with all conditions of this permit. If a compliance schedule has been established in this permit, the permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in this permit. (40 CFR 122.41(a)(1))

2. The permittee shall submit reports of compliance or noncompliance, or progress reports as applicable, for any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline. (25 Pa. Code § 92a.51(c), 40 CFR 122.47(a)(4))

B. Permit Modification, Termination, or Revocation and Reissuance

1. This permit may be modified, terminated, or revoked and reissued during its term in accordance with 25 Pa. Code § 92a.72 and 40 CFR 122.41(f).

2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. (40 CFR 122.41(f))

3. In the absence of DEP action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions. (40 CFR 122.41(a)(1))

C. Duty to Provide Information

1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. (40 CFR 122.41(h))

2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this permit. (40 CFR 122.41(h))

3. Other Information - Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to DEP, it shall promptly submit the correct and complete facts or information. (40 CFR 122.41(l)(8))

4. The permittee shall provide the following information in the annual Municipal Wasteload Management Report, required under the provisions of Title 25 Pa. Code Chapter 94:

   a. The requirements identified in 25 Pa. Code § 94.12.

   b. The identity of any indirect discharger(s) served by the POTW which are subject to pretreatment standards adopted under Section 307(b) of the Clean Water Act; the POTW shall also specify the total volume of discharge and estimated concentration of each pollutant discharged into the POTW by the indirect discharger.

   c. A "Solids Management Inventory" if specified in Part C of this permit.

   d. The total volume of hauled-in residual and municipal wastes received during the year, by source.

   e. The Annual Report requirements for permittees required to implement an industrial pretreatment program listed in Part C, as applicable.

D. General Pretreatment Requirements

1. Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (MGD) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program unless specifically exempted by the Approval Authority. A POTW with a design flow of 5 MGD or less may be required to develop a POTW Pretreatment Program if the Approval Authority finds that the nature or volume of the industrial influent, treatment process upsets, violations of effluent limitations, contamination of sludge, or other circumstances warrant in order to prevent interference or pass through. (40 CFR 403.8)

2. Each POTW with an approved Pretreatment Program pursuant to 40 CFR 403.8 shall develop and enforce specific limits to implement the prohibitions listed in 40 CFR 403.5(a)(1) and (b), and shall continue to develop these limits as necessary and effectively enforce such limits. This condition applies, for example, when there are planned changes to the waste stream as identified in Part A III.C.2. If the permittee is required to develop or continue implementation of a Pretreatment Program, detailed requirements will be contained in Part C of this permit.

3. For all POTWs, where pollutants contributed by indirect dischargers result in interference or pass through, and a violation is likely to recur, the permittee shall develop and enforce specific limits for indirect dischargers and other users, as appropriate, that together with appropriate facility or operational changes, are necessary to ensure renewed or continued compliance with this permit or sludge use or disposal practices. Where POTWs do not have an approved Pretreatment Program, the permittee shall submit a copy of such limits to DEP when developed. (25 Pa. Code § 92a.47(d))

E. Proper Operation and Maintenance

1. The permittee shall employ operators certified in compliance with the Water and Wastewater Systems Operators Certification Act (63 P.S. §§ 1001-1015.1).

2. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit. (40 CFR 122.41(e))

F. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge, sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d))

G. Bypassing

1. Bypassing Not Exceeding Permit Limitations - The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions in paragraphs two, three and four of this section. (40 CFR 122.41(m)(2))

2. Other Bypassing - In all other situations, bypassing is prohibited and DEP may take enforcement action against the permittee for bypass unless:

a. A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage." (40 CFR 122.41(m)(4)(i)(A))

b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance. (40 CFR 122.41(m)(4)(i)(B))

c. The permittee submitted the necessary notice required in paragraph G.4 below. (40 CFR 122.41(m)(4)(i)(C))

3. DEP may approve an anticipated bypass, after considering its adverse effects, if DEP determines that it will meet the conditions listed in paragraph G.2 above. (40 CFR 122.41(m)(4)(ii))

4. Notice

a. Anticipated Bypass – If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass. (40 CFR 122.41(m)(3)(i))

b. Unanticipated Bypass – The permittee shall submit oral notice of any other unanticipated bypass within 24 hours, regardless of whether the bypass may endanger health or the environment or whether the bypass exceeds effluent limitations. The notice shall be in accordance with Part A III.C.4.b.

H. Sanitary Sewer Overflows (SSOs)

An SSO is an overflow of wastewater, or other untreated discharge from a separate sanitary sewer system (which is not a combined sewer system), which results from a flow in excess of the carrying capacity of the system or from some other cause prior to reaching the headworks of the sewage treatment facility. SSOs are not authorized under this permit. The permittee shall immediately report any SSO to DEP in accordance with Part A III.C.4 of this permit.

II. PENALTIES AND LIABILITY

A. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 CFR 122.41(a)(2).

Any person or municipality, who violates any provision of this permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

B. Falsifying Information

Any person who does any of the following:

- Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or

- Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or noncompliance)

Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A § 4904 and 40 CFR 122.41(j)(5) and (k)(2).

C. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603 or 605 of the Clean Streams Law.

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under the Clean Water Act and the Clean Streams Law.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (40 CFR 122.41(c))

III. OTHER RESPONSIBILITIES

A. Right of Entry

Pursuant to Sections 5(b) and 305 of Pennsylvania's Clean Streams Law, and Title 25 Pa. Code Chapter 92a and 40 CFR 122.41(i), the permittee shall allow authorized representatives of DEP and EPA, upon the presentation of credentials and other documents as may be required by law:

1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; (40 CFR 122.41(i)(1))

2. To have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; (40 CFR 122.41(i)(2))

3. To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and (40 CFR 122.41(i)(3))

4. To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Clean Streams Law, any substances or parameters at any location. (40 CFR 122.41(i)(4))

B. Transfer of Permits

1. Transfers by modification. Except as provided in paragraph 2 of this section, a permit may be transferred by the permittee to a new owner or operator only if this permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (40 CFR 122.61(a))

2. Automatic transfers. As an alternative to transfers under paragraph 1 of this section, any NPDES permit may be automatically transferred to a new permittee if:

   a. The current permittee notifies DEP at least 30 days in advance of the proposed transfer date in paragraph 2.b. of this section; (40 CFR 122.61(b)(1))

   b. The notice includes the appropriate DEP transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; and (40 CFR 122.61(b)(2))

   c. DEP does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue this permit, the transfer is effective on the date specified in the agreement mentioned in paragraph 2.b. of this section. (40 CFR 122.61(b)(3))

d. The new permittee is in compliance with existing DEP issued permits, regulations, orders and schedules of compliance, or has demonstrated that any noncompliance with the existing permits has been resolved by an appropriate compliance action or by the terms and conditions of the permit (including compliance schedules set forth in the permit), consistent with 25 Pa. Code § 92a.51 (relating to schedules of compliance) and other appropriate Department regulations. (25 Pa. Code § 92a.71)

3. In the event DEP does not approve transfer of this permit, the new owner or operator must submit a new permit application.

C. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege. (40 CFR 122.41(g))

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit. (40 CFR 122.41(b))

E. Other Laws

The issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

IV. ANNUAL FEE

Permittees shall pay an annual fee in accordance with 25 Pa. Code § 92a.62. Annual fee amounts are specified in the following schedule and are due on each anniversary of the effective date of the most recent new or reissued permit. All flows identified in the schedule are annual average design flows. (25 Pa. Code § 92a.62)

Small Flow Treatment Facility (SRSTP and SFTF)	$0
Minor Sewage Facility < 0.05 MGD (million gallons per day)	$250
Minor Sewage Facility ≥ 0.05 and < 1 MGD	$500
Minor Sewage Facility with CSO (Combined Sewer Overflow)	$750
Major Sewage Facility ≥ 1 and < 5 MGD	$1,250
Major Sewage Facility ≥ 5 MGD	$2,500
Major Sewage Facility with CSO	$5,000

As of the effective date of this permit, the facility covered by the permit is classified in the following fee category: **Major Sewage Facility >=5 MGD**.

Invoices for annual fees will be mailed to permittees approximately three months prior to the due date. In the event that an invoice is not received, the permittee is nonetheless responsible for payment. Throughout a five year permit term, permittees will pay four annual fees followed by a permit renewal application fee in the last year of permit coverage. Permittees may contact the DEP at 717-787-6744 with questions related to annual fees. The fees identified above are subject to change in accordance with 25 Pa. Code § 92a.62(e).

Payment for annual fees shall be remitted to DEP at the address below by the anniversary date. Checks should be made payable to the Commonwealth of Pennsylvania.

PA Department of Environmental Protection
Bureau of Clean Water
Re: Chapter 92a Annual Fee
P.O. Box 8466
Harrisburg, PA 17105-8466

PART C

I. OTHER REQUIREMENTS

A. No storm water from pavements, area ways, roofs, foundation drains or other sources shall be directly admitted to the sanitary sewers associated with the herein approved discharge.

B. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance or replacement of all sewers or sewerage structures associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress and regress.

C. Collected screenings, slurries, sludges, and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 271, 273, 275, 283, and 285 (related to permits and requirements for landfilling, land application, incineration, and storage of sewage sludge), Federal Regulation 40 CFR 257, Pennsylvania Clean Streams Law, Pennsylvania Solid Waste Management Act of 1980, and the Federal Clean Water Act and its amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport, and disposal of solid waste materials generated as a result of wastewater treatment.

D. The permittee shall optimize chlorine dosages used for disinfection or other purposes to minimize the concentration of Total Residual Chlorine (TRC) in the effluent, meet applicable effluent limitations, and reduce the possibility of adversely affecting the receiving waters. Optimization efforts may include an evaluation of wastewater characteristics, mixing characteristics, and contact times, adjustments to process controls, and maintenance of the disinfection facilities. If DEP determines that effluent TRC is causing adverse water quality impacts, DEP may reopen this permit to apply new or more stringent effluent limitations and/or require implementation of control measures or operational practices to eliminate such impacts.

E. The permittee shall not accept hauled-in wastes at the treatment facility under the following conditions, unless otherwise approved by DEP in writing:

- When acceptance of hauled-in wastes would cause a hydraulic or organic overload as defined in Chapter 94.1 of the DEP's regulations.

- When the treatment facility is considered to be in an existing hydraulic or organic overload condition, as determined by the permittee or DEP, as defined in Chapter 94.1 of the DEP's regulations.

- When the instantaneous flow at the treatment facility exceeds 28 MGD (flow taken from the WQM application #1009404 – Amendment No. 1), and for 24 hours following exceedance of this threshold.

II. POTW PRETREATMENT PROGRAM IMPLEMENTATION

A. General Requirement – The permittee shall operate and implement a POTW pretreatment program in accordance with the federal Clean Water Act, the Pennsylvania Clean Streams Law, and the federal General Pretreatment Regulations at 40 CFR Part 403. The program shall also be implemented in accordance with the permittee's approved pretreatment program and any modifications thereto submitted by the permittee and approved by the Approval Authority.

B. Annual Report and Other Requirements – The permittee shall submit a Pretreatment Annual Report by March 31 of each year to EPA that describes the permittee's pretreatment activities for the previous calendar year. The Pretreatment Annual Report shall include a description of pretreatment activities in all municipalities from which wastewater is received at the permittee's POTW. The Pretreatment Annual Report shall include the following information, at minimum:

1. Industrial Listing – The Annual Report shall contain an updated industrial listing providing the names and addresses of all current Significant Industrial Users (SIUs) and Non-Significant Categorical

Industrial Users (NSCIUs), as defined in 40 CFR 403.3, and the categorical standard, if any, applicable to each. The listing must: (1) identify any users that are subject to reduced reporting requirements under 40 CFR 403.12(e)(3); (2) identify which users are NSCIUs; (3) identify any users that have been granted a monitoring waiver in accordance with 40 CFR 403.12(e)(2) as well as the pollutants for which the waiver was granted and the date of the last POTW sampling event for each pollutant; and (4) identify any categorical industrial users that have been given mass-based limits in place of concentration-based categorical limits in accordance with 40 CFR 403.6(c)(5) or concentration-based limits in place of mass-based categorical limits in accordance with 40 CFR 403.6(c)(6).

In addition, the Annual Report shall contain a summary of any hauled-in wastes accepted at the POTW including the source of the wastes (domestic, commercial or industrial) and the receiving location for acceptance of the wastes. For each industrial source (whether or not classified as an SIU), the report shall indicate (1) the name and address of the industrial source; (2) the average daily amount of wastewater received; (3) a brief description of the type of process operations conducted at the industrial facility; (4) whether the source facility is a categorical industrial user (including NSCIU), significant industrial users, or non-significant industrial user; and (5) any controls imposed on the user.

2. Control Mechanism Issuance – The Annual Report shall contain a summary of SIU control mechanism issuance, including a list of issuance, effective, and expiration dates for each SIU control mechanism. For each general control mechanism issued, provide the names of all SIUs covered by the general control mechanism and an explanation of how the users meet the criteria of 40 CFR 403.8(f)(1)(iii)(A) for issuance of a general control mechanism.

3. Sampling and Inspection – The Annual Report shall contain a summary of the number and types of inspections and sampling events of SIUs by the permittee, including a list of all SIUs either not sampled or not inspected, and the reason that the sampling and/or inspection was not conducted. For any user subject to reduced reporting under 40 CFR 403.12(e)(3), the list shall include the date of the last POTW sampling event and the date of the last POTW inspection of the user. In addition, the report shall include a summary of the number of self-monitoring events conducted by each SIU and the number required to be conducted, including a list of all SIUs that did not submit the required number of reports and the reason why the reports were not submitted. For NSCIUs, the report shall provide the date of the compliance certification required under 40 CFR 403.12(q).

4. Industrial User Compliance and POTW Enforcement – The Annual Report shall contain a summary of the number and type of violations of pretreatment standards and requirements, including local limits, and the actions taken by the permittee to obtain compliance, including compliance schedules, penalty assessments and actions for injunctive relief. The report shall state whether each SIU was in significant noncompliance, as that term is defined in 40 CFR Section 403.8(f)(2)(viii), and include the parameter(s) in violation, the period of violation, the actions taken by the POTW in response to the violations, and the compliance status at the end of the reporting period. A copy of the publication of users meeting the significant noncompliance criteria shall be included. In addition, the report shall provide a list of users previously designated as NSCIUs that have violated (to any extent) any pretreatment standard or requirement during the year and the date and description of the violation(s).

5. Summary of POTW Operations – The Annual Report shall contain a summary of any interference, pass-through, or permit violations by the POTW and indicate the following: (1) which, if any, permit violations may be attributed to industrial users; (2) which IU(s) are responsible for such violations; and (3) the actions taken to address these events. The report shall also include all sampling and analysis of POTW treatment plant influent, effluent, and sludge conducted during the year for local limit and priority pollutants identified pursuant to Section 303(d) of the Clean Water Act, 33 U.S.C. 1313(d).

6. Pretreatment Program Changes – The Annual Report shall contain a summary of any changes made or proposed to the approved program during the period covered by the report and the date of submission to the Approval Authority.

A summary of pretreatment activities shall be incorporated into the permittee's Annual Municipal Wasteload Management Report required by 25 Pa. Code Chapter 94 and referenced in Part B I.C.4 of this permit.

C. Routine Monitoring – The permittee shall conduct monitoring at its treatment plant that, at a minimum, includes quarterly influent, effluent, and sludge analysis for all pollutants for which local limits have been established, and an annual priority pollutant scan for influent and sludge.

D. Notification of Pass Through or Interference – The permittee shall notify EPA and DEP, in writing, of any instance of pass through or interference, as defined at 40 CFR 403.3(p) and (k), respectively, known or suspected to be related to a discharge from an IU into the POTW. The notification shall be attached to the DMR submitted to EPA and DEP and shall describe the incident, including the date, time, length, cause (including responsible user if known), and the steps taken by the permittee and IU (if identified) to address the incident. A copy of the notification shall also be sent to the EPA at the address provided below.

E. Headworks Analysis – The permittee shall submit to EPA a reevaluation of its local limits based on a headworks analysis of its treatment plant within one (1) year of permit issuance, and provide a revised submission within three (3) months of receipt of comments from EPA or DEP unless a longer period of time is granted in writing by EPA or DEP. In order to ensure that the permittee's discharge complies with water quality standards, the reevaluation of local limits shall consider, at a minimum, all water quality standards under 25 Pa. Code Chapter 93 applicable to the pollutants included in the reevaluation, unless the POTW is subject to an effluent limitation for the pollutant in Part A of this permit. The list of pollutants to be evaluated, as well as a sampling plan for collection of necessary data, shall be submitted to EPA within three (3) months of permit issuance. Unless otherwise approved in writing, the list of pollutants shall include arsenic, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, zinc, BOD_5, TSS, ammonia, any pollutants for which a local limit currently exists, any pollutant limited in this permit, as well as any other pollutants that have been identified in the POTW through monitoring or the receipt of indirect discharges and hauled-in wastes in quantities that have the potential to cause pass through and/or interference. For example, facilities receiving residual waste from oil and gas operations should include pollutants such as Total Dissolved Solids (TDS), specific ions such as chlorides and sulfates, specific radionuclides, metals such as barium and strontium, and other pollutants that could reasonably be expected to be present. Within four (4) months of acceptance of the headworks analysis by the Approval Authority, the permittee shall adopt any revisions to the local limits and, if necessary to ensure that the limits are enforceable throughout the service area, notify all contributing municipalities of the need to adopt the revised local limits.

F. Changes to Pretreatment Program – EPA and DEP may require the permittee to submit for approval changes to its pretreatment program if any one or more of the following conditions is present:

1. The program is not implemented in accordance with 40 CFR Part 403;

2. Problems such as interference, pass through or sludge contamination develop or continue;

3. The POTW proposes to introduce new pollutants or an increased loading of approved pollutants as described in Part A III.C.2 of this permit;

4. Federal, State, or local requirements change;

5. Changes are needed to assure protection of waters of the Commonwealth.

Program modification is necessary whenever there is a significant change in the operation of the pretreatment program that differs from the information contained in the permittee's submission, as approved under 40 CFR 403.11.

G. Procedure for Pretreatment Program Changes – Upon submittal by the permittee, and written notice of approval by the Approval Authority to the permittee of any changes to the permittee's approved pretreatment program, such changes are effective and binding upon the permittee unless the permittee objects within 30 days of receipt of the written notice of approval. Any objection must be submitted in writing to EPA and DEP.

H. Correspondence – The Approval Authority shall be EPA at the following address:

Pretreatment Coordinator (3WP41)
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

III. SOLIDS MANAGEMENT

A. The permittee shall manage and properly dispose of sewage sludge and/or biosolids by performing sludge wasting that maintains an appropriate mass balance of solids within the treatment system. The wasting rate must be developed and implemented considering the specific treatment process type, system loadings, and seasonal variation while maintaining compliance with effluent limitations. Holding excess sludge within clarifiers or in the disinfection process is not permissible.

B. The permittee shall submit the Supplemental Reports entitled, "Supplemental Report – Sewage Sludge/Biosolids Production and Disposal" (Form No. 3800-FM-BCW0438) as an attachment to the DMR on a monthly basis. When applicable, the permittee shall submit the Supplemental Reports entitled, "Supplemental Report – Hauled In Municipal Wastes" (Form No. 3800-FM-BCW0437) and "Supplemental Report – Hauled In Residual Wastes" (Form No. 3800-FM-BCW0450), as attachments to the DMR.

C. By March 31 of each year, the permittee shall submit a "Sewage Sludge Management Inventory" that summarizes the amount of sewage sludge and/or biosolids produced and wasted during the calendar year from the system. The "Sewage Sludge Management Inventory" may be submitted with the Municipal Wasteload Management Report required by Chapter 94. This summary shall include the expected sewage sludge production (estimated using the methodology described in the U.S. EPA handbook, "Improving POTW Performance Using the Composite Correction Approach" (EPA-625/6-84-008)), compared with the actual amount disposed during the year. Sludge quantities shall be expressed as dry weight in addition to gallons or other appropriate units.

IV. WHOLE EFFLUENT TOXICITY (WET)

A. General Requirements

1. The permittee shall conduct **chronic** WET tests as specified in this section. The permittee shall collect discharge samples and perform WET tests to generate **survival and reproduction** data for the cladoceran, *Ceriodaphnia dubia* and **survival and growth** data for the fathead minnow, *Pimephales promelas*.

2. Samples shall be collected at Outfall 001 in accordance with paragraph E.

3. The permittee shall perform testing using the following dilution series: **18%, 37%, 73%, 87%, and 100%** effluent, with a control, where **73%** is the facility-specific Target In-Stream Waste Concentration (TIWC).

4. The determination of whether a test endpoint passes or fails shall be made using DEP's WET Analysis Spreadsheet (available at www.dep.pa.gov/wett) by comparing replicate data for the control with replicate data for the TIWC dilution or any dilution greater than the TIWC.

5. The permittee shall submit only valid WET test results to DEP.

B. Test Frequency and Reporting

1. WET testing shall be conducted annually, at a minimum, during the period January 1 – December 31. Annual WET tests must be completed at least 6 months apart, and shall start in the year the permit becomes effective if the permit effective date is prior to October 1.

2. A complete WET test report shall be submitted to the DEP regional office that issued the permit within 45 days of test completion. A complete WET test report submission shall include the information contained in paragraph H, below. The permittee shall continue annual WET monitoring, at a minimum, during the permit renewal review period and during any period of administrative extension of this permit.

3. If a test failure is determined for any endpoint during annual monitoring, the permittee shall initiate a re-test for the species with the failure within 45 days of test completion. All endpoints for the species shall be evaluated in the re-test. The results of the re-test shall be submitted to the DEP regional office that issued the permit.

4. If a passing result is determined for all endpoints in a re-test, the permittee may resume annual monitoring.

5. If there is a failure for one or more endpoints in a re-test, the permittee shall initiate or continue quarterly WET testing for both species until there are four consecutive passing results for all endpoints. The results of all tests shall be submitted to the DEP regional office that issued the permit. In addition, the permittee shall initiate a Phase I Toxicity Reduction Evaluation (TRE) as specified in paragraph C, below.

6. The permittee shall attach the WET Analysis Spreadsheet for the latest four consecutive WET tests to the NPDES permit renewal application that is submitted to DEP at least 180 days prior to the permit expiration date.

C. Phase I Toxicity Reduction Evaluation (TRE)

1. The Phase I TRE trigger is one WET endpoint failure followed by a re-test that confirms the failure for the same species. When the TRE process is triggered, quarterly WET testing shall be initiated for both species until there are four consecutive passing results for all endpoints. The Phase I TRE may include a Toxicity Identification Evaluation (TIE) if the permittee cannot immediately identify the possible causes of the effluent toxicity and the possible sources of the causative agents.

2. The permittee shall, within one year following the Phase I TRE trigger, submit a Phase I TRE report to the DEP regional office that issued the permit. The Phase I TRE shall be conducted in accordance with EPA's guidance, "Toxicity Reduction Evaluation for Municipal Wastewater Treatment Plants" (EPA/833B-99/002), "Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations" (EPA/600/2-88/070), and other relevant EPA guidance, as applicable. If a TIE is conducted as part of the Phase I TRE, it shall conform to EPA's guidance, "Methods for Aquatic Toxicity Identification Evaluations Phase I" (EPA/600/6-91/003), "Phase II" (EPA/600/R-92/080), "Phase III" (EPA/600/R-92/081) and other relevant EPA guidance. The Phase I TRE report shall be submitted with the fourth quarterly WET test report that is completed following the Phase I TRE trigger. The TRE shall include all activities undertaken to identify the cause(s) and source(s) of toxicity and any control efforts.

3. If all four quarterly WET tests produce passing results for all endpoints during the Phase I TRE process, performance of a Phase II TRE is not required, and annual WET testing in accordance with paragraph B.1 may resume.

4. If the four WET tests produce at least one failing result during the Phase I TRE process, the permittee shall continue quarterly WETT monitoring for both species and initiate a Phase II TRE in accordance with paragraph D. In this case, the Phase I TRE must include a schedule for completion of the Phase II TRE. The schedule must include interim milestones and a final completion date not to exceed two years from the initiation of the Phase II TRE. The permittee shall implement the Phase II TRE in accordance with the schedule unless DEP issues written approval to modify the schedule or cease performance of the Phase II TRE.

5. Re-tests during the TRE process are required for invalid tests but are optional and at the discretion of the permittee for valid tests. The results of all re-tests must be submitted to the DEP regional office that issued the permit along with the required elements in paragraph H.

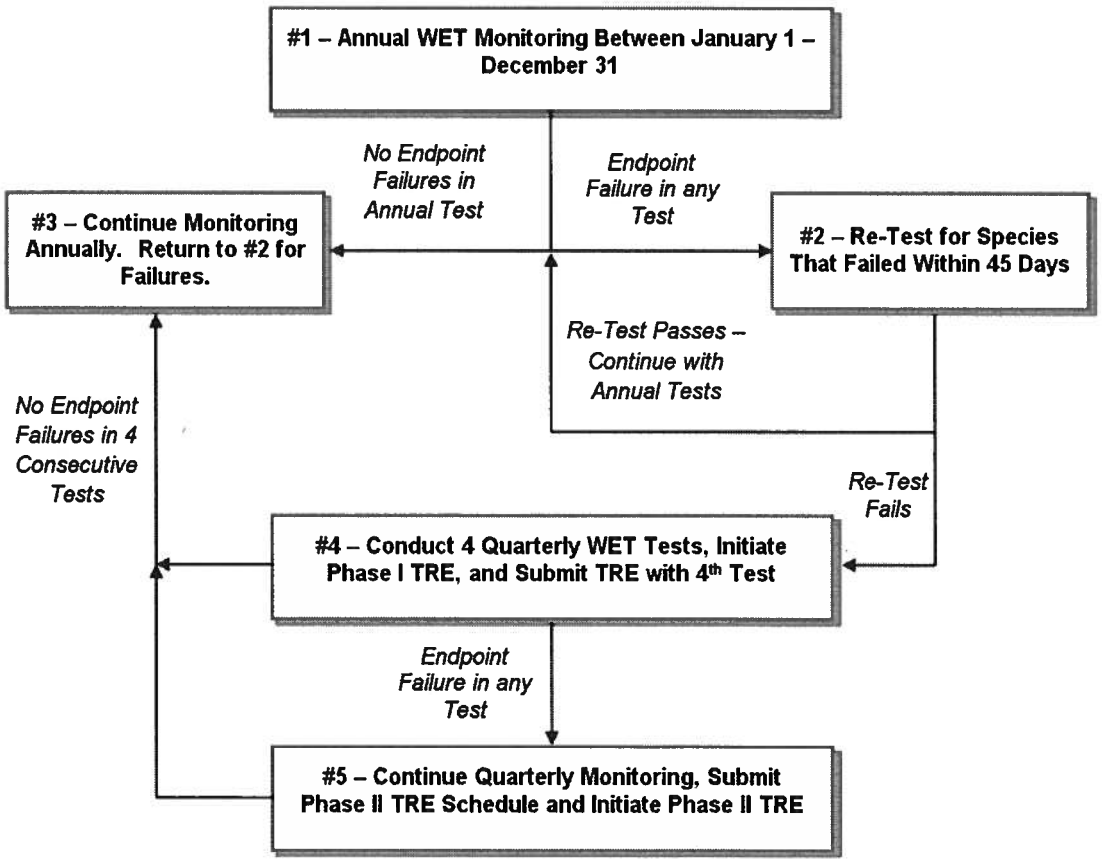
D. Phase II Toxicity Reduction Evaluation (TRE)

1. The Phase II TRE trigger is one WET endpoint failure during performance of the Phase I TRE. A Phase II TRE, if required, shall conform to EPA's guidance, "Toxicity Reduction Evaluation for Municipal Wastewater Treatment Plants" (EPA/833B-99/002), "Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations" (EPA/600/2-88/070), and other relevant EPA guidance, as applicable. A Phase II TRE evaluates the possible control options to reduce or eliminate the effluent toxicity and the implementation of controls.

2. Once initiated, the Phase II TRE must continue until the source(s) of toxicity are controlled as evidenced by four consecutive WET test passing results for all endpoints, and a final TRE report must be submitted on or before the date specified in the schedule, unless otherwise approved by DEP in writing.

3. If four consecutive quarterly WET tests produce passing results for all endpoints during the Phase II TRE process, annual WET testing in accordance with paragraph B.1 may be initiated or resume.

An overview of the process described in paragraphs B, C and D is presented below:



E. Sample Collection

For each acute testing event, a 24-hour flow-proportioned composite sample shall be collected. For each chronic testing event, three 24-hour flow-proportioned, composite samples shall be collected over a seven day exposure period. The samples must be collected at a frequency of not greater than every two hours and must be flow-proportioned. The samples must be collected at the permit compliance sampling location. Samples must be analyzed within 36 hours from the end of the compositing period and must be placed on ice and held at ≤ 6°C. Refer to the sample handling and preservation regulations set forth in 40 CFR 136, 25 Pa. Code Chapter 252, The NELAC Institute (TNI) Standard, and the appropriate EPA methods.

F. Test Conditions and Methods

Laboratories must be accredited by the DEP Laboratory Accreditation Program in order to perform and report WET tests for NPDES permit compliance. Laboratories must be either State or NELAP accredited.

1. Acute tests shall be completed in accordance with EPA's "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012, latest edition). Forty eight (48) hour static non-renewal tests shall be used.

2. Chronic tests shall be completed in accordance with EPA's "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (EPA-821-R-02-013, latest edition). Seven (7) day tests shall be used with renewal every 24 hours.

3. The quality assurance and control (QA/QC) requirements and test acceptability standards specified in EPA's test methods and the requirements set forth in 25 Pa Code Chapter 252 or the TNI Standard must be followed.

4. If the permittee or its accredited laboratory determines that QA/QC requirements and/or test acceptability standards have not been met, a re-test shall be initiated within 45 days. Original test data must be maintained by the laboratory and be submitted to DEP upon request. The justification for a re-test must be clearly documented and kept on file with the sample results.

G. Chemical Analyses

Chemical analyses must follow the requirements of the EPA methods and applicable State and/or Federal regulations.

1. Chemical analysis on effluent samples shall include pH, Conductivity, Total Alkalinity, Total Hardness, Total Residual Chlorine, Total Ammonia (Unionized Ammonia), Dissolved Oxygen and temperature. Chemical analyses as described in the EPA Methods (above) shall be performed for each sampling event, including each new batch of dilution water and each testing event.

2. In addition to the chemical analyses required above, those parameters listed in Part A of the NPDES permit for the outfall(s) tested shall be analyzed concurrently with the WET test by using the method(s) specified in the permit.

H. WET Report Elements

WET test reports that are submitted to DEP must include the requirements identified in 25 Pa. Code § 252.401(j)(1) – (15) or in the TNI Standard, or equivalent, as well as the following information:

1. A general test description, including the origin and age of test organisms, dates and results of reference toxicant tests, light and temperature regimes, and other documentation that QA and test acceptability criteria as specified in EPA's methods and DEP's QA Summaries have been met.

2. A description of sample collection procedures and sampling location.

3. Name(s) of individual(s) collecting and transporting samples, including sample renewals, and the date(s) and time(s) of sample collection.

4. All chemical and physical data including laboratory quantitation limits and observations made on the species. The hardness shall be reported for each test condition.

5. Copies of raw data sheets and/or bench sheets with data entries and signatures.

6. When effluents are dechlorinated, dechlorination procedures must be described and if applicable a thiosulfate control used in addition to the normal dilution water control. If the thiosulfate control results are significantly different from the normal control, as determined using DEP's WET Analysis Spreadsheet, the thiosulfate control shall be used in the spreadsheet for comparison with the TIWC condition. The WET report must specify which control was used to determine whether the test result is pass or fail.

7. A description of all observations or test conditions that may have affected the test outcome.

8. Control charts for the species tested regarding age, temperature test range, mortality data and all reference toxicant tests.

9. A completed WET test summary report (3800-FM-BCW0485).

10. A DEP WET Analysis Spreadsheet printout that provides control and TIWC replicate data and displays the outcome of the test (pass or fail) for each endpoint tested.

    WETT reports shall be submitted to the DEP regional office that issued the permit and, for discharges to the Delaware River basin, the Delaware River Basin Commission (DRBC).

V. REQUIREMENTS FOR TOTAL RESIDUAL CHLORINE (TRC)

Optional Site-Specific Data Collection

If the permittee elects to evaluate chlorine demand concentrations, the study shall be performed in accordance with DEP's guidance, "Implementation Guidance Total Residual Chlorine (TRC) Regulation" (DEP ID 391-2000-015), Appendix B, or subsequent guidance published by DEP. DEP's current modeling practice is to assume an in-stream and discharge chlorine demands of 0.3 mg/l and 0 mg/l, respectively. The study results shall be submitted with the next renewal application.

VI. REQUIREMENTS APPLICABLE TO STORMWATER OUTFALLS

A. The permittee is authorized to discharge non-polluting stormwater from its site, alone or in combination with other wastewaters, through the following outfalls:

Outfall No.	Latitude	Longitude
011	40° 50' 30"	79° 55' 07"
012	40° 50' 29"	79° 55' 06"
013	40° 50' 27"	79° 55' 00"
014	40° 50' 28"	79° 54' 50"
018	40° 50' 30"	79° 54' 49"

A non-polluting stormwater discharge(s) is defined as causing no significant adverse environmental impact.

Monitoring requirements and effluent limitations for these outfalls are specified in Part A of this permit, if applicable.

B. Preparedness, Prevention and Contingency (PPC) Plan

1. The permittee shall develop and implement a PPC Plan in accordance with 25 Pa. Code § 91.34 following the guidance contained in DEP's "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" (DEP ID 400-2200-001), its NPDES-specific addendum and the minimum requirements below.

   a. The PPC Plan must identify all potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the facility.

   b. The PPC Plan must describe preventative measures and BMPs that will be implemented to reduce or eliminate pollutants from coming into contact with stormwater resulting from routine site activities and spills.

   c. The PPC Plan must address actions that will be taken in response to on-site spills or other pollution incidents.

   d. The PPC Plan must identify areas which, due to topography or other factors, have a high potential for soil erosion, and identify measures to limit erosion. Where necessary, erosion and sediment control measures must be developed and implemented in accordance with 25 Pa. Code Chapter 102 and DEP's "Erosion and Sediment Pollution Control Manual" (DEP ID 363-2134-008).

   e. The PPC Plan must address security measures to prevent accidental or intentional entry which could result in an unintentional discharge of pollutants.

   f. The PPC Plan must include a plan for training employees and contractors on pollution prevention, BMPs, and emergency response measures.

   g. If the facility is subject to SARA Title III, Section 313, the PPC Plan must identify releases of "Water Priority Chemicals" within the previous three years. Water Priority Chemicals are those identified in EPA's "Guidance for the Determination of Appropriate Methods for the Detection of Section 313 Water Priority Chemicals" (EPA 833-B-94-001, April 1994). The Plan must include an evaluation of all activities that may result in the stormwater discharge of Water Priority Chemicals.

   h. Spill Prevention Control and Countermeasure (SPCC) plans may be used to meet the requirements of this section if the minimum requirements are addressed.

2. The permittee shall review and if necessary update the PPC Plan on an annual basis, at a minimum, and when one or more of the following occur:

   a. Applicable DEP or federal regulations are revised, or this permit is revised.

   b. The PPC Plan fails in an emergency.

   c. The facility's design, industrial process, operation, maintenance, or other circumstances change in a manner that materially increases the potential for fires, explosions or releases of toxic or hazardous constituents; or which changes the response necessary in an emergency.

   d. The list of emergency coordinators or equipment changes.

   e. When notified in writing by DEP.

   The permittee shall maintain all PPC Plan updates on-site, make the updates available to DEP upon request.

C. Minimum Required BMPs

In addition to BMPs identified in the PPC Plan, the permittee shall implement the following minimum BMPs relating to stormwater pollution prevention:

1. If applicable, post-construction stormwater BMPs that are required under 25 Pa. Code Chapter 102 must be maintained.

2. Manage sludge in accordance with all applicable permit requirements.

3. Store chemicals in secure and covered areas on impervious surfaces away from storm drains.

4. For new facilities and upgrades, design wastewater treatment facilities to avoid, to the maximum extent practicable, stormwater commingling with sanitary wastewater, sewage sludge, and biosolids.

5. Efficiently use herbicides for weed control. Where practicable, use the least toxic herbicide that will achieve pest management objectives. Do not apply during windy conditions.

6. Do not wash parts or equipment over impervious surfaces that wash into storm drains.

7. Implement infiltration techniques, including infiltration basins, trenches, dry wells, porous pavement, etc., wherever practicabl

D. Routine Inspections.

Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. BMPs in the PPC Plan and required by this permit shall be inspected on a semiannual basis, at a minimum, to determine whether they are adequate and properly implemented in accordance with the terms of this permit or whether additional control measures are needed. Documentation of inspections shall be maintained on-site and be made available to DEP upon request.

Appendix B
Anticipated Short-Term Capital Improvement Projects

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BUTLER AREA SEWER AUTHORITY

ANTICIPATED SHORT-TERM CAPITAL IMPROVEMENT PROJECTS

(AS OF JULY 31, 2022)

	CAPITAL IMPROVEMENT PROJECTS	COMMENTS	ESTIMATED PROJECT COSTS
1.	Structural Repairs and Gunite Coating of Square Chlorine Contact Tank		$100,000
2.	SCADA Upgrade - Phase 3 (multi year plan) Hardware and Programming to Upgrade remote Sites		$35,000
3.	Rock Lick Pump Station Upgrade Construction and Professional Services Replacing Existing Piping and Adding Bypass Piping	Project Awarded (April 12, 2022)	$262,000
4.	Thickener Building Upgrade	Project Awarded (March 9, 2021)	$384,695
5.	Thickener Building Construction Services (Hatch)		$34,000
6.	EQ Tank Repairs per KTA Tator Report		$20,000
7.	Purchase new utility trucks for Sewer Crew, Sewer Plant and Realty Transfer		$216,000
8.	DEP CAP - Design pump stations and EQ tanks for Fisher Heights, Brewster/Brewster Booster and and Greenwood/Benbrook/Bryson Pump Station locations	Project Authorized (December 8, 2020)	$450,000
9.	DEP CAP - Property acquisition service and misc. services for Fisher Heights, Brewster/Brewster Booster and and Greenwood/Benbrook/Bryson Pump Station locations	Project Authorized (July 13, 2021)	$35,000
10.	Trickling Filter Retaining Wall Repair & Underdrain		$12,000
11.	Install Mag Meters at Pump stations (year 2 of multi 5 year plan)		$20,000
12.	Alameda Park Sewer Design, Bid & Inspection		$83,580
13.	Alameda Park Sewer Upsize		$2,600,000
14.	Dep CAP Construction costs for Fisher Heights, Brewster/ Brewster Booster and Greenwood Benbrook/Bryson EQ tanks tanks and pump stations		$2,000,000
15.	NHCOG Sewer System Jetting, Tving, Manhole Repairs and Mainline Repairs		$225,000
16.	S.R. 68 Sewer Relocation - PA Dot Project Design	Approved (December 14, 2021)	$70,000
17.	S.R. 68 Sewer Relocation- PA Dot Cost Sharing	Approved (March 8, 2022)	$68,500
18.	Lunch Room Renovations		$50,000

BUTLER AREA SEWER AUTHORITY

ANTICIPATED SHORT-TERM CAPITAL IMPROVEMENT PROJECTS

(AS OF JULY 31, 2022)

	CAPITAL IMPROVEMENT PROJECTS	COMMENTS	ESTIMATED PROJECT COSTS
19.	Karns Bridge Sewer Relocation- PA Dot Cost Sharing	Approved (April 12, 2022)	$87,500
20.	Replace Steps in Tunnel		$15,000
21.	Evaluate Plant Odor Control Systems		$10,000
22.	Replace Plant Utility Cart		$25,000
23.	Grinder Pump Replacement/Maintenance Plan	On going replacement plan	$15,000
24.	Force main Pressure Relief Valve Maintenance Program		$10,000
25.	Purchase Exercise Equipment		$10,000
26.	Replace Reel System on and Rail on Secondary Bridge (One Bridge)		$45,000
27.	Priority Plant Projects		$100,000
28.	Priority Pump Station Projects		$100,000
29.	Priority Collection System Projects		$100,000
30.	Replace Flights, Chains, Sprockets in Primary Tank		$60,000
31.	Reactor Clarifier #3 Improvements		$25,000
32.	Pump Station Upgrades (Electric, Lighting and Controls)		$65,000
33.	Replace Plant Boiler Chemical Building (Heating)		$60,000
35.	Handicap Door Openers on Customer Entry Doors		$10,000
36.	Hansen/Whitestown Road Sewer Improvements		$30,000
37.	Shockey Lane Sewer Repairs		$16,000
38.	Volkswood Lane Sewer Repairs		$25,000
39.	Flow Monitoring Technology Upgrades		$10,000
40.	Replace Chlorine Contact Tank Drain Valves		$20,000
41.	Replace Rocklick Pump Station Force Main		$400,000
		Total	$7,904,275

Appendix C
Anticipated Long-Term Capital Improvement Projects

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BUTLER AREA SEWER AUTHORITY

ANTICIPATED LONG-TERM
CAPITAL IMPROVEMENT PROJECTS
(AS OF JULY 31, 2022)

CAPITAL IMPROVEMENT PROJECTS	ESTIMATED PROJECT COSTS
Replace obsolete Federal Pacific Motor Control Centers in Blower Building, Main Pump Station, and Chemical Building	$600,000 #
Evaluate 8-inch gravity sewer extension to eliminate Foxcroft Pump Station	$15,000 #
Replace Diamond Street Pump Station	$1,000,000 #
AND Replace about 2,700 lineal feet of 8-inch main line gravity sewers and service laterals tributary to Diamond Street Pump Station	$540,000 #
Replace September Drive Pump Station OR construct gravity sewer extension to eliminate pump station	$1,000,000 #
Install aluminum safety kick plate rails on existing safety railings at WWTP, catwalk locations only	$125,000 #
Replace traveling bridge sludge collectors on secondary settling tanks	$3,000,000 #
Reconstruct portions of sanitary sewer collection system greater than 50 years old (Est. 160 miles)	$170,000,000 #
Replace WWTP compressed air system	$200,000 #
Replace WWTP main pump VFD's	$100,000 #
SCADA system upgrade, Phase 3 remote site SCADA panels and communications	$1,500,000 #
Replace backhoe	$125,000 #
Replace articulating loader	$250,000 #
Replace excavator	$100,000 #
Rebuilding/Replace Various Pump Stations	$5,000,000 #
Add UV disinfectant process	$3,000,000 #
Invstigate benefical effluent water reuse program with industrai cutomers on AK Steel site	$20,000 #
Total	$186,575,000

Rough estimate only, no preliminary engineering or feasibility studies have been conducted.

Appendix D
Corrective Action Plan

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BUTLER AREA SEWER AUTHORITY
2019 CORRECTIVE ACTION PLAN
PUMP STATION SANITARY SEWER OVERFLOWS

SECOND QUARTER 2022 PROGRESS REPORT

I. BACKGROUND

In accordance with the requirements of the Pennsylvania Department of Environmental Protection (DEP) Chapter 94 Regulations, the Butler Area Sewer Authority (BASA) submitted the 2019 Corrective Action Plan (CAP) dated March 11, 2019 to the DEP to evaluate and address the recurring wet weather sanitary sewer overflows (SSOs) during the 2018 record rainfall year associated with several of BASA's sewage pump stations. DEP formally approved the CAP on March 26, 2019. Two revised CAP plans, "RCAP" and "R2CAP", were approved on February 22, 2021 and June 2, 2022 respectively. The CAP plans outline specific tasks to assess the causes of the SSOs and determine the necessary corrective actions to reduce the overloaded conditions and/or to provide the additional capacities, if necessary, to accommodate the hydraulic overload conditions and eliminate the SSOs. A Connection Management Program to limit and/or control new connections to these overloaded pump stations was also included as part of the CAP.

The original CAP was subdivided into three separate sections located in two separate areas of the sewer collection system that have experienced recurring wet weather SSO events: the Fisher Heights Pump Station, the Brewster and Brewster Booster Pump Station, and the Greenwood, Benbrook and Bryson Pump Station. Hydraulic relationships with neighboring pump stations as well as the two separate locations for which the pump stations are located prompted the Authority to address the two areas using the following nomenclature:

1. Fisher Heights, Brewster, and Brewster Booster Pump Stations (FBB)
2. Greenwood, Benbrook, Bryson Pump Stations (GBB)

The Authority hired Herbert Rowland & Grubic (HRG) to assist with FBB and GBB design evaluation, sewage facilities planning, design and permitting, and bidding and construction services. *As of the Second Quarter 2022, design evaluation (phase 01 & 02) and sewage facilities planning (phase 03) are complete. BASA has authorized HRG to proceed with design (Phase 04), permitting (Phase 05), and land acquisition (Phase 06) engineering services.*

Included in the progress report, you will find details on inflow and infiltration (I&I) repair and replacement efforts, a summary of corrective actions for the FBB and GBB areas, a narrative on the Connection Management Program, and HRG's summary reports for the *Second Quarter 2022.*

II. IDENTIFICATION AND REDUCTION OF INFILTRATION AND INFLOW (I&I) SOURCES AT ALL LOCATIONS

During the *Second Quarter 2022*, BASA continued its ongoing efforts to identify and remove sources of I&I from our gravity sewers. Intermittent sanitary sewer overflows have shifted BASA's efforts to the GBB collection area. BASA intends to identify and eliminate I&I, first on the public portion of the sewer system. If after the public sewer infrastructure has been repaired or replaced, BASA identifies significant sources of I&I entering the system from private laterals, every attempt will be made to suspend the I&I sources.

1. **Greenwood Pump Station Wastewater Flow Study –** In April, 2022, three flow monitors were installed within the Greenwood Pump Station collection area covering the three main collection branches: northwestern, northeastern, and southeastern sewersheds. Internal data evaluation was completed showing that the majority of the I&I is originating from the northeastern and southeastern sewersheds. To pinpoint the I&I origins, BASA is evaluating I&I micro-detection technology offered by Eastech. Similar to a virtual hydraulic model, the ultrasonic micro-detection units display a time lapse video of water levels at each location to provide a visual representation of what the collection system is experiencing during a storm event. If BASA proceeds to use the micro-detection technology, unit placement is anticipated to take place in the fall of 2022. Once the general location of the I&I has been identified, internal staff and outside contractors will be deployed to pin point the location(s) through the use of closed-circuit television (CCTV) and manhole inspections. Rehabilitation and replacement efforts will be scheduled as required, prioritizing public infrastructure repair over private lateral lines.

III. FISHER HEIGHTS, BREWSTER, AND BREWSTER BOOSTER PUMP STATION SYSTEM

FBB are located within Center Township in the northwest portion of the Butler Area Sewer Shed known as Sullivan Run Sub-Basin. In their respective order, Fisher Heights, Brewster, and Brewster Booster Pump Stations are located at 2019 William Flynn Highway, 306 East Butler Road and 171 East Brewster Road. All wastewater pumped by Fisher Heights Station, as well as supplemental residential sources, is received by Brewster Pump Station. Brewster Pump Station then directly pumps all wastewater to Brewster Booster Pump Station. Fisher Heights Station has two 250 gpm design flow rate pumps that typically convey 0.02 - 0.07 MGD. Brewster and Brewster Booster Stations are identical in that they have two 600 gpm design flow rate pumps per station that transfer 0.1 – 0.3 MGD. FBB has experienced high wet weather flows caused by excessive I&I entering the collection system. High flows have led to the exceedance of FBB's pumping capacity causing intermittent sanitary sewer overflows. The CAP schedule was designed to eliminate SSOs at FBB by taking immediate and long-term actions to lower the wet weather flow rate and increase the pumping capacities of the stations.

As of *June 30, 2022*, FBB stations will be upgraded with new submersible and immersible Gorman-Rupp pumps, pump control systems, magnetic flow meters, valve vaults, wet wells, bypass connections, trash baskets, cranes and new discharge piping. The existing dry and wet chambers at Fisher Heights and Brewster Pump Stations will be abandoned, backfilled, and replaced by new wet wells. Due to construction constraints, Brewster Booster Pump Station will continue to use a dry pit chamber. Fisher Heights Pump Station will be equipped with a below-ground concrete equalization tank while Brewster Pump Station will have an above-ground glass-fused steel equalization tank. Tank sizing for both locations is being finalized. To avoid rags/debris from entering the equalization tanks, Duperon dual auger systems are to be installed at Fisher Heights and Brewster Pump Station. The rag/debris removal system design concept will differ in that Fisher Heights Pump Station dual auger will only accept equalization tank wastewater flow while the Brewster Pump Station dual auger will except all pump station flows.

A. CORRECTIVE ACTIONS COMPLETED AS OF ***JUNE 30, 2022***

1. Installation of Flow Meters Within Fisher Heights Tributary Sewer System
- Original Deadline – Jan. 31, 2019
- Completed – Jan. 2019

2. List of FBB Sewer Rehab Repairs for Contract 2018-04
- Original Deadline – Mar. 31, 2019
- Completed – Mar. 2019

3. FBB Sewer Rehabilitation Repairs for Contract 2018 Completed
- Original Deadline – Aug. 31, 2019
- Completed – Sep. 2019

4. Fisher Heights Station Pump Tests
- Original Deadline – Sep. 30, 2019
- Completed – Aug. 2019

5. Fisher Heights Pump Station Short Term Repairs
- Original Deadline – Dec. 31, 2019
- Completed – Oct. 2019

6. FBB 12-Months SSO Flow Monitoring
- Original Deadline – Fisher Heights Pump Station - Apr. 30, 2020
- Original Deadline – Brewster/Brester Booster Pump Station - May 30, 2020

7. FBB Final Structural Improvements Recommendations and Design Scope
- Original Deadline – Jul. 31, 2020
- Completed – Oct. 2020

8. Sewage Facilities Planning Completion
- Revised "RCAP" Deadline – Jan. 30, 2022
- Completed – Sep. 2021

B. CORRECTIVE ACTIONS IN PROGRESS

1. Submission of Water Quality Management Permit
- Revised "R2CAP" Deadline – Jan. 31, 2023
  - Draft Water Quality Management Permit in progress.

2. Pump Station Design Work
- Revised "R2CAP" Deadline – Aug. 30, 2023

- HRG prepared a Duplex vs. Triplex memorandum on April 11, 2022. HRG met with BASA staff on April 26, 2022 to discuss the Duplex vs. Triplex memorandum and came to a conclusion on Pump Station configuration.
- HRG is coordinating with the pump manufacturer for finalizing pump recommendations for Brewster and Brewster Booster EQ pumps. Hydraulic model in progress.
- After two meetings held with BASA on May 10 and June 1, 2022, HRG and BASA concluded Duperon augers with baggers shall be installed at Fisher, Brewster, and Greenwood Pump Stations
- HRG sent a Corrective Action Plan modification letter to DEP on May 18, 2022. DEP approved the revised Corrective Action Plan, "R2CAP", via letter dated June 2, 2022.
- HRG is investigating alternatives to design around space restrictions for proposed pumps in Booster's dry pit.

C. CORRECTIVE ACTIONS TO BE TAKEN

1. FBB Bid Award
- Revised "R2CAP" Deadline January 31, 2024

2. FBB Construction Completion
- Revised "R2CAP" Deadline May 3, 2025

IV. GREENWOOD, BENBROOK & BRYSON PUMP STATION SYSTEM

GBB are all located within Butler Township in the western portion of the Butler Area Sewer Shed known as Deshon Sub-Basin. In their respective order, Greenwood, Benbrook, and Bryson Pump Stations are located at 200 Greenwood Drive, 524 South Benbrook Road, and 106 Bryson Road. Wastewater is pumped consecutively in the order of Greenwood, Benbrook, Bryson. However, Benbrook does receive a small amount of flow from local residential sources. GBB are all equipped with two 500 gpm design capacity pumps and generally pump 0.19 - 0.24 MGD. GBB has experienced high wet weather flows caused by excessive I&I entering the collection system. High flows have led to the exceedance of GBB's pumping capacity causing intermittent sanitary sewer overflows. The CAP schedule was designed to eliminate SSOs at GBB by taking immediate and long-term actions to lower the wet weather flow rate and increase the pumping capacities of the stations.

As of *June 30, 2022*, Greenwood, Benbrook, and Bryson Pump Stations will be upgraded. Greenwood and Bryson Pump Stations will be equipped with new submersible pumps, pump control systems, magnetic flow meters, valve vaults, wet wells, bypass connections, trash baskets, cranes, discharge and force main piping. The existing dry and wet chambers at each station will be abandoned, backfilled, and replaced by new wet wells. A below-ground equalization tank is to be installed at Greenwood Pump Station. To avoid rags/debris from entering the equalization tank, a Duperon dual auger system is to be installed on the influent waste stream to the equalization tank.

Benbrook Pump Station is being evaluated and may be transitioned to either a duplex or triplex E/One grinder pump system near the existing wet well. The wet well as well as the existing pump station building will remain in place. Piping will be installed so that the existing wet well will provide emergency overflow. The existing pump station building will house the new control panel associated with the E/One grinder pump system.

A. CORRECTIVE ACTIONS COMPLETED AS OF ***JUNE 30, 2022***

1. List of Sewer Rehab Repairs for Contract 2018-04
- Original Deadline – Mar. 31, 2019
- Completed – Mar. 2019

2. Sewer Rehabilitation Repairs for Contract 2018 Completed
- Original Deadline – Aug. 31, 2019
- Completed – Sep. 2019

3. 12-Month Flow Monitoring for any Occurrences of Sanitary Sewer Overflows
- Original Deadline – May 31, 2020
- Ongoing

4. Final Structural Improvements Recommendations and Design Scope
- Original Deadline – Nov. 30, 2020
- Completed – Oct. 2020

5. Sewage Facilities Planning Completion
- Revised "RCAP" Deadline – Jan. 30, 2022
- Completed – Sep. 2021

6. Sewage Facilities Planning Modification
- Revised "R2CAP" Deadline – July 31, 2022
- Completed – May 2022

B. CORRECTIVE ACTIONS IN PROGRESS

2. Submission of Water Quality Management Permit

- Revised "R2CAP" Deadline – Jan. 31, 2023

3. Pump Station Design Work

- Revised "R2CAP" Deadline – Dec. 31, 2024

- HRG prepared a Duplex vs. Triplex memorandum on April 11, 2022. HRG met with BASA staff on April 26, 2022 to discuss the Duplex vs. Triplex memorandum and came to a conclusion on pump station configuration.
- HRG is coordinating with the pump manufacturer for finalizing pump recommendations for Brewster and Brewster Booster EQ pumps. Hydraulic model in progress.
- After two meetings held with BASA on May 10 and June 1, 2022, HRG and BASA concluded Duperon augers with baggers shall be installed at Fisher, Brewster, and Greenwood Pump Stations.
- HRG prepared the GBB Sewage Facilities Plan Modification and sent to Butler Township on May 17, 2022 for their execution.
- HRG sent a Corrective Action Plan modification letter to DEP on May 18, 2022. DEP approved the revised Corrective Action Plan, "R2CAP", via letter dated June 2, 2022.
- HRG is investigating alternatives to design around space restrictions for proposed pumps in Booster's dry pit.

C. CORRECTIVE ACTIONS TO BE TAKEN

1. GBB Bid Award

- Revised "R2CAP" Deadline Apr. 30, 2025

2. GBB Construction Completion

- Revised "R2CAP" Deadline Aug. 31, 2026

V. CONNECTION MANAGEMENT PROGRAM

Under the DEP's Chapter 94 Regulations, BASA must prohibit new sewer service connections to the gravity sewer systems tributary to the Fisher, Brewster Booster (FBB) and Greenwood, Benbrook, Bryson (GBB) Pump Stations unless approved by DEP. BASA's other pump station facilities and sewer system areas that are not hydraulically overloaded are not subject to this new connection prohibition.

BASA's original CAP submittal included a provision that BASA may request DEP approval of an additional new sewer connection allotment for use during each upcoming year as part of BASA's Fourth Quarter Progress Reports.

As part of BASA's Fourth Quarter 2021 Progress Report, BASA requested and was approved for 45 EDUs, or 18,000 gallons per day (gpd), of sewage flow (based on 400 gpd/EDU) within the CAP sewer service areas for use during the period from February 1, 2022 through January 31, 2023. BASA's request for 45 EDUs was based upon 35 EDUs from a proposed apartment complex in the GBB system and an additional 10 EDUs for single household connections. During the second quarter 2022, BASA completed one single family household sewer connection permit. From February 1, 2022, through June 30, 2022, BASA has completed 4 sewer connection permits in the GBB collection area representing four of the 45 approved PA DEP EDUs.

In addition, BASA also reserved the right to approve and issue new sewer connection permits for any property that meets the specific exception definitions in the Chapter 94 Regulations. Any replacement of discharge exceptions that may be approved by BASA must be reported to the DEP, along with documentation supporting the replacement exception. Any proposed connections that would meet the exception criteria for the elimination of a threat to public health or for a facility of public need must be submitted to DEP for approval of the exception prior to the issuance of a new sewer connection permit. Through *June 30*, *2022*, BASA has not requested any such sewer connection exceptions from the DEP.

VI. HRG MONTHLY PROGRESS REPORTS AND SCHEDULE

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY

220 West Kensinger Drive, Suite 100
Cranberry Township, PA 16066
724.779.4777
www.hrg-inc.com

PROGRESS REPORT
Butler Area Sewer Authority
CORRECTIVE ACTION PLAN UPGRADES
Attn: Mr. Duane McKee
Report Period: April 2022
HRG Project Number: R004192.0430
MAY 3, 2022

The following summarizes the recent activities for the Planning, Design, and Permitting Services of the Corrective Action Plan (CAP) Pump Station Upgrades regarding Fisher-Brewster-Booster (FBB) and Greenwood-Benbrook-Bryson (GBB) pump stations:

Tasks Completed this Month:

- HRG met with BASA Staff on March 24, 2022 to discuss BASA's concept for proposed alterations to pump station design and operations.
- HRG prepared a Duplex vs Triplex memorandum on April 11, 2022.
- HRG met with BASA staff on April 26, 2022 to discuss the Duplex vs Triplex memorandum and came to a conclusion on pump station configuration. HRG prepared and sent meeting minutes on April 29, 2022.
- HRG is coordinating with the pump manufacturer for finalized pump recommendations at Booster and Brewster EQ pumps. With these, HRG will continue to finalize the hydraulic model.

Tasks for Next Month:

The following tasks are consistent with the approved CAP schedule.

- HRG will finalize the EQ tank sizes according to the conclusions made in the April 26, 2022, meeting once finalized pump recommendations are received from manufacturer. HRG will also model to verify no improvements are necessary to existing gravity sewers.
- HRG will continue drafting the Water Quality Management permit applications. Please note that FBB and GBB WQM permit applications are due June 30 per the CAP schedule.
- HRG will discuss property acquisition needs with Authority upon preliminary site plan preparation.

Feel free to contact us if you have any questions regarding this report or other items.

Respectfully submitted,

HERBERT, ROWLAND & GRUBIC, INC.

John D. Klein
Team Leader | Water & Wastewater

Liz B. Lackey, P.E.
Team Leader | Water & Wastewater

LBL/JDK/CEH/SCS
R004192.0430
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PROGRESS REPORT

Butler Area Sewer Authority

CORRECTIVE ACTION PLAN UPGRADES
Attn: Mr. Duane McKee
Report Period: May 2022
HRG Project Number: R004192.0430
JUNE 7, 2022

The following summarizes the recent activities for the Planning, Design, and Permitting Services of the Corrective Action Plan (CAP) Pump Station Upgrades regarding Fisher-Brewster-Booster (FBB) and Greenwood-Benbrook-Bryson (GBB) pump stations:

Tasks Completed this Month:

- HRG is coordinating with the pump manufacturer for finalized pump recommendations at Booster and Brewster EQ pumps. HRG will continue to finalize the hydraulic model.
- HRG met with BASA staff on May 10, 2022 to discuss screening alternatives at Fisher, Brewster and Greenwood Pump Stations.
- HRG prepared the GBB Sewage Facilities Plan Modification and sent to Butler Township on May 17, 2022 for their execution.
- HRG drafted a schedule modification letter for DEP and worked with BASA staff to finalize the letter which was mailed on May 18, 2022.
- HRG met with BASA staff on June 1, 2022 to discuss screening options.

Tasks for Next Month:

The following tasks are consistent with the approved CAP schedule.

- HRG will finalize the EQ tank sizes according to the conclusions made in the April 26, 2022, meeting once finalized pump recommendations are received from manufacturer. HRG will also use the hydraulic model to verify no improvements are necessary to existing gravity sewers.
- HRG will continue drafting the Water Quality Management permit applications.
- HRG will discuss property acquisition needs upon preliminary site plan preparation.

Please see attached schedule for long-term tasks and milestones. Feel free to contact us if you have any questions regarding this report or other items.

Respectfully submitted,

HERBERT, ROWLAND & GRUBIC, INC.

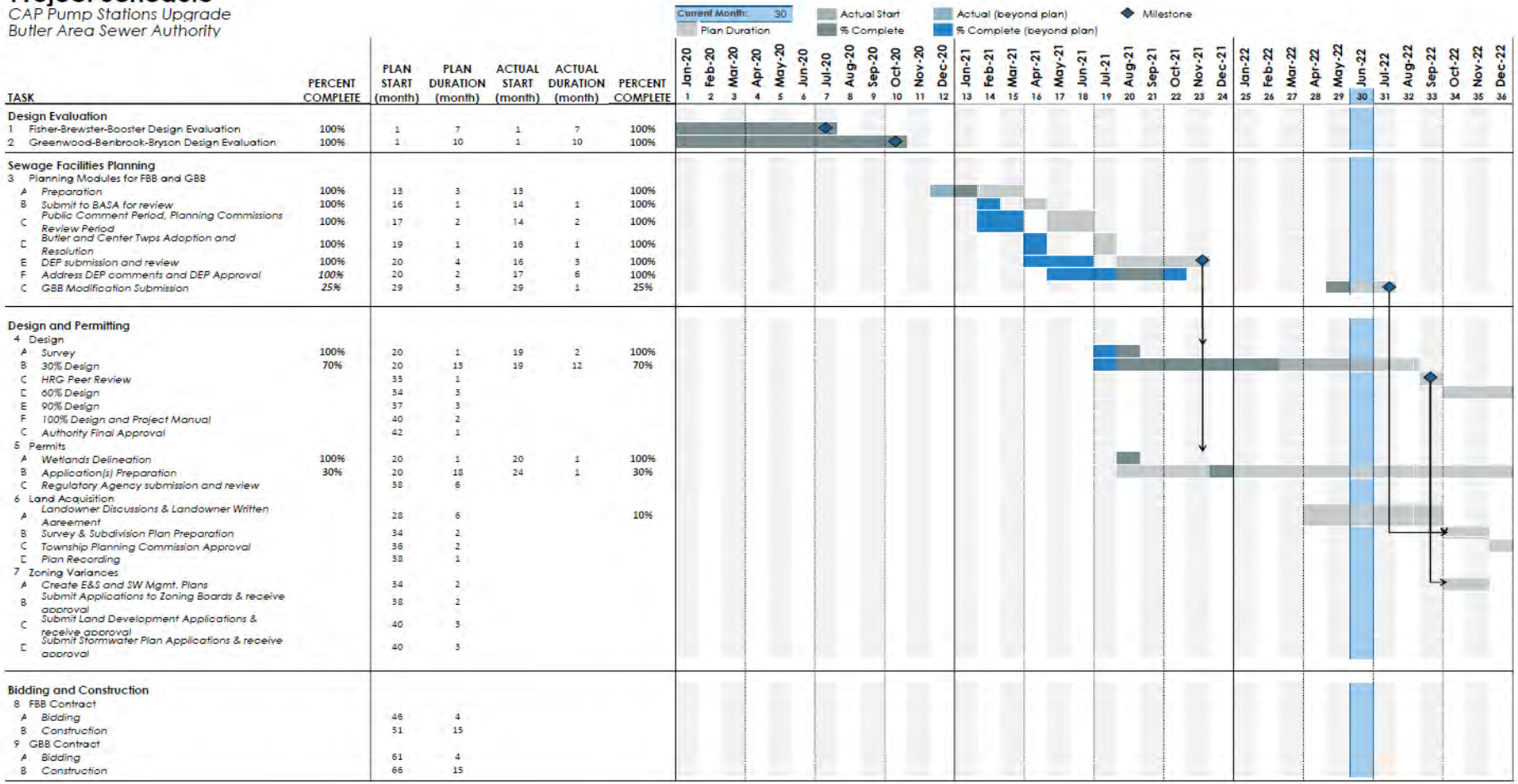
John D. Klein
Team Leader | Water & Wastewater

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Team Leader | Water & Wastewater

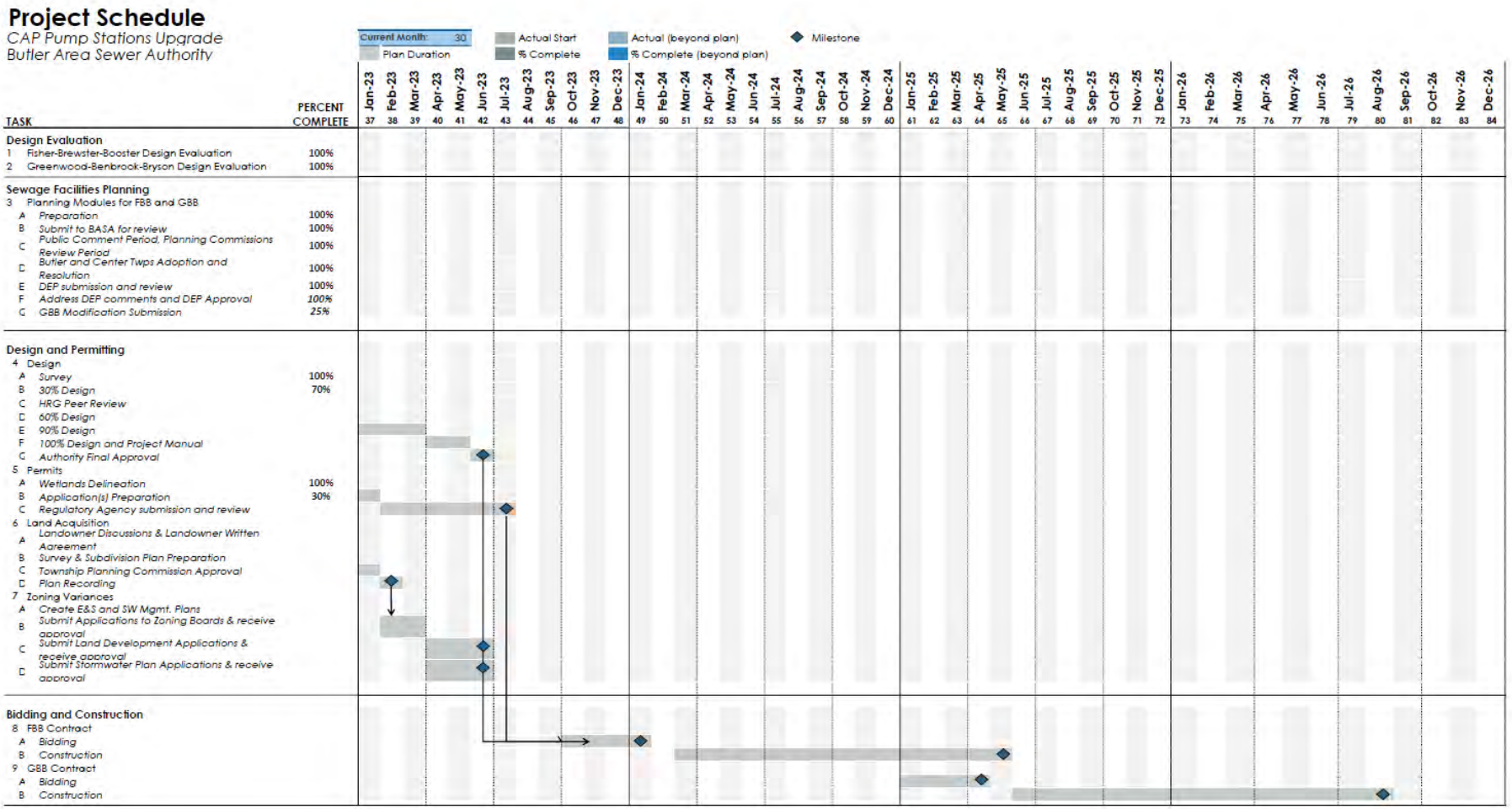
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Project Schedule

CAP Pump Stations Upgrade
Butler Area Sewer Authority



TASK	PERCENT COMPLETE	PLAN START (month)	PLAN DURATION (month)	ACTUAL START (month)	ACTUAL DURATION (month)	PERCENT COMPLETE
Design Evaluation						
1 Fisher-Brewster-Booster Design Evaluation	100%	1	7	1	7	100%
2 Greenwood-Benbrook-Bryson Design Evaluation	100%	1	10	1	10	100%
Sewage Facilities Planning						
3 Planning Modules for FBB and GBB						
A *Preparation*	100%	13	3	13		100%
B *Submit to BASA for review*	100%	16	1	14	1	100%
C *Public Comment Period, Planning Commissions Review Period*	100%	17	2	14	2	100%
C *Butler and Center Twps Adoption and Resolution*	100%	19	1	16	1	100%
E *DEP submission and review*	100%	20	4	16	3	100%
F *Address DEP comments and DEP Approval*	100%	20	2	17	6	100%
C *GBB Modification Submission*	25%	29	3	29	1	25%
Design and Permitting						
4 Design						
A *Survey*	100%	20	1	19	2	100%
B *30% Design*	70%	20	13	19	12	70%
C *HRG Peer Review*		33	1			
C *60% Design*		34	3			
E *90% Design*		37	3			
F *100% Design and Project Manual*		40	2			
C *Authority Final Approval*		42	1			
5 Permits						
A *Wetlands Delineation*	100%	20	1	20	1	100%
B *Application(s) Preparation*	30%	20	18	24	1	30%
C *Regulatory Agency submission and review*		38	6			
6 Land Acquisition						
A *Landowner Discussions & Landowner Written Agreement*		28	6			10%
B *Survey & Subdivision Plan Preparation*		34	2			
C *Township Planning Commission Approval*		36	2			
C *Plan Recording*		38	1			
7 Zoning Variances						
A *Create E&S and SW Mgmt. Plans*		34	2			
B *Submit Applications to Zoning Boards & receive approval*		38	2			
C *Submit Land Development Applications & receive approval*		40	3			
C *Submit Stormwater Plan Applications & receive approval*		40	3			
Bidding and Construction						
8 FBB Contract						
A *Bidding*		46	4			
B *Construction*		51	15			
9 GBB Contract						
A *Bidding*		61	4			
B *Construction*		66	15			


Project Schedule
CAP Pump Stations Upgrade
Butler Area Sewer Authority
Current Month: 30
Plan Duration
Actual Start
% Complete
Actual (beyond plan)
% Complete (beyond plan)
Milestone
TASK
PERCENT COMPLETE
Jan-23 37 Feb-23 38 Mar-23 39 Apr-23 40 May-23 41 Jun-23 42 Jul-23 43 Aug-23 44 Sep-23 45 Oct-23 46 Nov-23 47 Dec-23 48
Jan-24 49 Feb-24 50 Mar-24 51 Apr-24 52 May-24 53 Jun-24 54 Jul-24 55 Aug-24 56 Sep-24 57 Oct-24 58 Nov-24 59 Dec-24 60
Jan-25 61 Feb-25 62 Mar-25 63 Apr-25 64 May-25 65 Jun-25 66 Jul-25 67 Aug-25 68 Sep-25 69 Oct-25 70 Nov-25 71 Dec-25 72
Jan-26 73 Feb-26 74 Mar-26 75 Apr-26 76 May-26 77 Jun-26 78 Jul-26 79 Aug-26 80 Sep-26 81 Oct-26 82 Nov-26 83 Dec-26 84
Design Evaluation
1 Fisher-Brewster-Booster Design Evaluation 100%
2 Greenwood-Benbrook-Bryson Design Evaluation 100%
Sewage Facilities Planning
3 Planning Modules for FBB and GBB
A Preparation 100%
B Submit to BASA for review 100%
C Public Comment Period, Planning Commissions Review Period 100%
D Butler and Center Twps Adoption and Resolution 100%
E DEP submission and review 100%
F Address DEP comments and DEP Approval 100%
G GBB Modification Submission 25%
Design and Permitting
4 Design
A Survey 100%
B 30% Design 70%
C HRG Peer Review
D 60% Design
E 90% Design
F 100% Design and Project Manual
G Authority Final Approval
5 Permits
A Wetlands Delineation 100%
B Application(s) Preparation 30%
C Regulatory Agency submission and review
6 Land Acquisition
A Landowner Discussions & Landowner Written Agreement
B Survey & Subdivision Plan Preparation
C Township Planning Commission Approval
D Plan Recording
7 Zoning Variances
A Create E&S and SW Mgmt. Plans
B Submit Applications to Zoning Boards & receive approval
C Submit Land Development Applications & receive approval
D Submit Stormwater Plan Applications & receive approval
Bidding and Construction
8 FBB Contract
A Bidding
B Construction
9 GBB Contract
A Bidding
B Construction

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PROGRESS REPORT

Butler Area Sewer Authority

CORRECTIVE ACTION PLAN UPGRADES
Attn: Mr. Duane McKee
Report Period: June 2022
HRG Project Number: R004192.0430
JUNE 30, 2022

The following summarizes the recent activities for the Planning, Design, and Permitting Services of the Corrective Action Plan (CAP) Pump Station Upgrades regarding Fisher-Brewster-Booster (FBB) and Greenwood-Benbrook-Bryson (GBB) pump stations:

Tasks Completed this Month:

- DEP approved the revised Corrective Action Plan schedule via letter dated June 2, 2022.
- After a June 1 meeting with BASA, HRG and BASA concluded Duperon augers with baggers shall be installed at Fisher, Brewster, and Greenwood pump stations.
- HRG is investigating alternatives to design around space restrictions for proposed pumps in Booster's dry pit. Coordination with BASA and the pump manufacturer will occur as needed.

Tasks for Next Month:

The following tasks are consistent with the approved CAP schedule.

- HRG will continue to work to resolve space restrictions at Booster to allow a final pump to be selected.
- HRG will continue revising and finalizing pump station site layouts.
- HRG will continue drafting the Water Quality Management permit applications.
- HRG will discuss property acquisition needs upon preliminary site plan preparation.

Please see attached schedule for long-term tasks and milestones. Feel free to contact us if you have any questions regarding this report or other items.

Respectfully submitted,

HERBERT, ROWLAND & GRUBIC, INC.

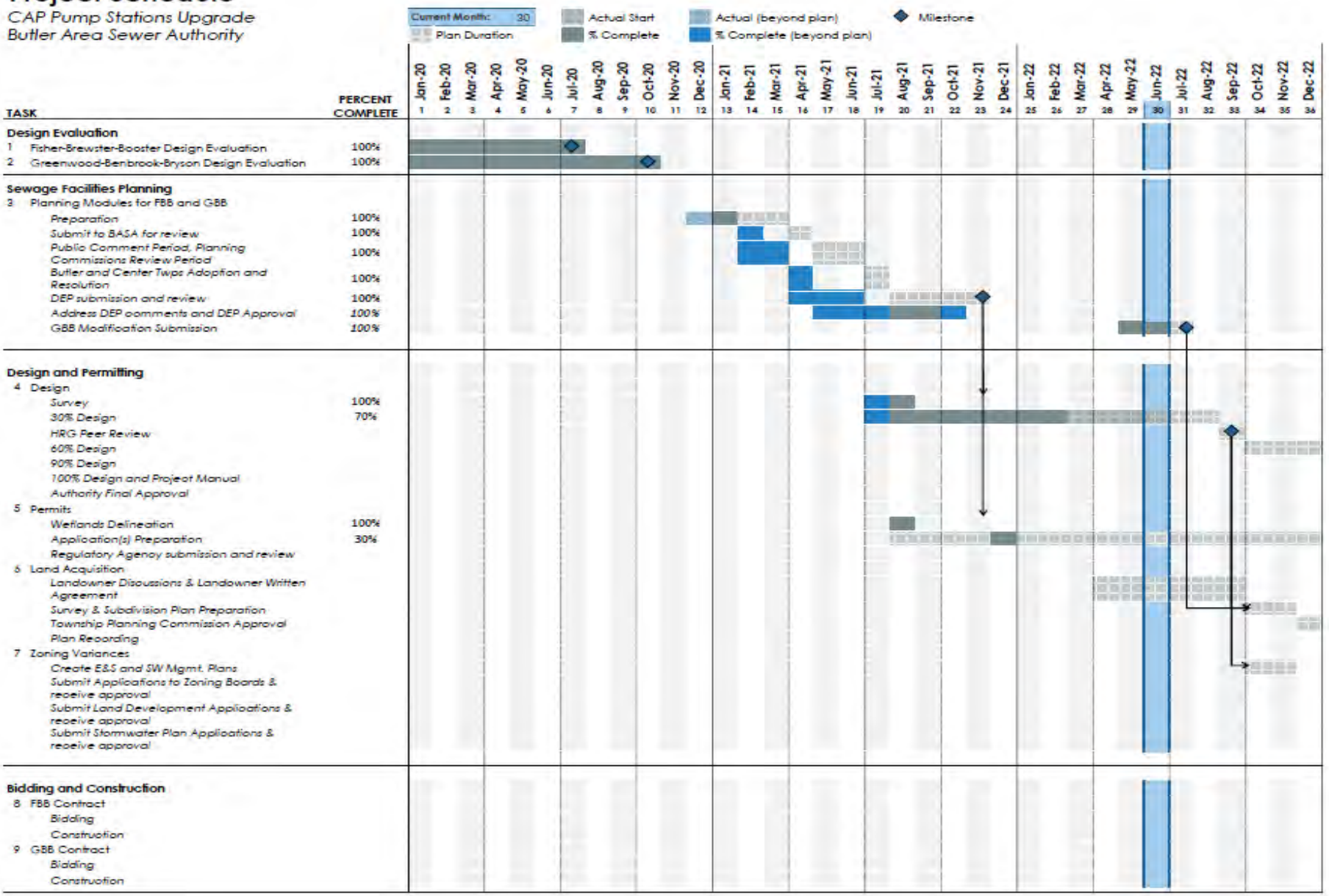
John D. Klein
Team Leader | Water & Wastewater

Liz B. Lackey, P.E.
Team Leader | Water & Wastewater

CEH/LBL/JDK/SCS/kmg
R004192.0430
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Project Schedule

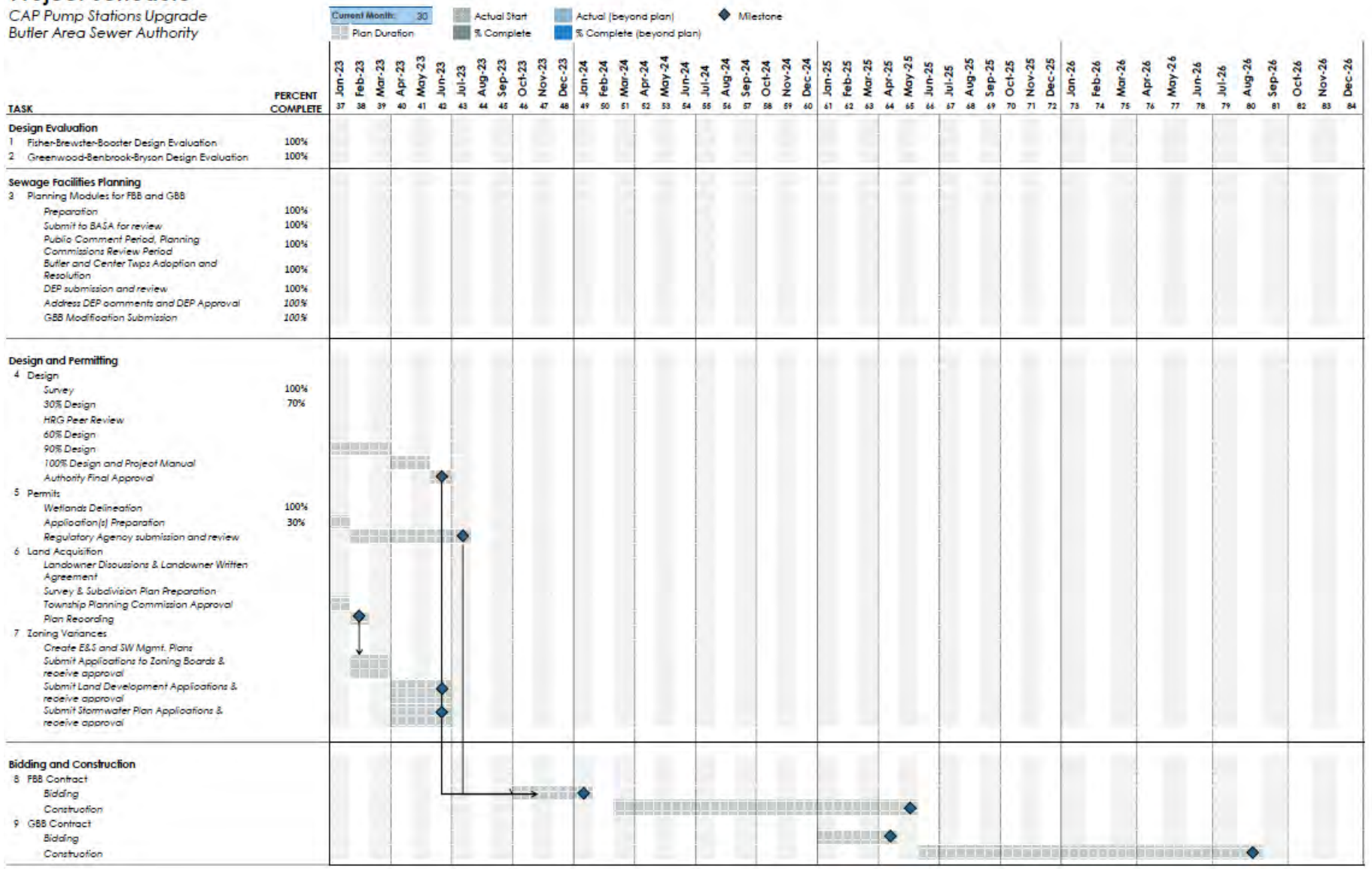
CAP Pump Stations Upgrade
Butler Area Sewer Authority



TASK	PERCENT COMPLETE
Design Evaluation	
1 Fisher-Brewster-Booster Design Evaluation	100%
2 Greenwood-Benbrook-Bryson Design Evaluation	100%
Sewage Facilities Planning	
3 Planning Modules for FBB and GBB	
Preparation	100%
Submit to BASA for review	100%
Public Comment Period, Planning Commissions Review Period	100%
Butler and Center Twps Adoption and Resolution	100%
DEP submission and review	100%
Address DEP comments and DEP Approval	100%
GBB Modification Submission	100%
Design and Permitting	
4 Design	
Survey	100%
30% Design	70%
HRG Peer Review	
60% Design	
90% Design	
100% Design and Project Manual	
Authority Final Approval	
5 Permits	
Wetlands Delineation	100%
Application(s) Preparation	30%
Regulatory Agency submission and review	
6 Land Acquisition	
Landowner Discussions & Landowner Written Agreement	
Survey & Subdivision Plan Preparation	
Township Planning Commission Approval	
Plan Recording	
7 Zoning Variances	
Create E&S and SW Mgmt. Plans	
Submit Applications to Zoning Boards & receive approval	
Submit Land Development Applications & receive approval	
Submit Stormwater Plan Applications & receive approval	
Bidding and Construction	
8 FBB Contract	
Bidding	
Construction	
9 GBB Contract	
Bidding	
Construction	

Project Schedule

CAP Pump Stations Upgrade
Butler Area Sewer Authority



TASK	PERCENT COMPLETE
Design Evaluation	
1 Fisher-Brewster-Booster Design Evaluation	100%
2 Greenwood-Benbrook-Bryson Design Evaluation	100%
Sewage Facilities Planning	
3 Planning Modules for FBB and GBB	
Preparation	100%
Submit to BASA for review	100%
Public Comment Period, Planning Commissions Review Period	100%
Butler and Center Twps Adoption and Resolution	100%
DEP submission and review	100%
Address DEP comments and DEP Approval	100%
GBB Modification Submission	100%
Design and Permitting	
4 Design	
Survey	100%
30% Design	70%
HRG Peer Review	
60% Design	
90% Design	
100% Design and Project Manual	
Authority Final Approval	
5 Permits	
Wetlands Delineation	100%
Application(s) Preparation	30%
Regulatory Agency submission and review	
6 Land Acquisition	
Landowner Discussions & Landowner Written Agreement	
Survey & Subdivision Plan Preparation	
Township Planning Commission Approval	
Plan Recording	
7 Zoning Variances	
Create E&S and SW Mgmt. Plans	
Submit Applications to Zoning Boards & receive approval	
Submit Land Development Applications & receive approval	
Submit Stormwater Plan Applications & receive approval	
Bidding and Construction	
8 FBB Contract	
Bidding	
Construction	
9 GBB Contract	
Bidding	
Construction	

Appendix E
Rate Schedule For
New Service Connections

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PUBLIC NOTICE

In accordance with the requirements of Act 57 of 2003, the Butler Area Sewer Authority has developed and adopted a new rate schedule for new sewer service connections to the Public Sewer System owned, maintained, and operated by the Authority. The following new rate schedule shall become effective **March 1, 2013**, and shall apply to all new sewer service connections.

All customers desiring to make a new sewer connection for a Single Family Residential house to the various segments of the Public Sewer System owned, maintained, and operated by the Butler Area Sewer Authority will be charged a connection fee and tapping fee in accordance with the following rate schedule:

PERMIT CLASS	SANITARY SEWER SEGMENT USED FOR NEW CONNECTION	CONNECTION FEE (Per Connection)	INSPECTION FEE (Per Connection)	TAPPING FEE (Per E.D.U.)	TOTAL FEE
A	Butler Area Sewer Authority public sewer with an existing wye connection	$300.00	$100.00	$2,790.00	$3,190.00
B	Butler Area Sewer Authority public sewer requiring a new sewer connection by owner	$150.00	$100.00	$2,790.00	$3,040.00
C	New sewer constructed by a developer since March 1, 2008 with an existing wye connection	$0.00	$100.00	$2,790.00	$2,890.00

MULTI-FAMILY RESIDENTIAL TAPPING FEES

All customers desiring to make a new sewer connection of a Multi-Family Residential structure by a single service line shall pay a single connection fee and inspection fee in accordance with the schedule shown above PLUS a tapping fee for each dwelling unit in accordance with the rate schedule shown above. An additional connection fee shall be paid for each additional physical connection to the Public Sewer System. Each apartment or dwelling unit having a separate kitchen and bath shall be considered to be one (1) Equivalent Dwelling Unit (E.D.U.).

COMMERCIAL, INDUSTRIAL, INSTITUTIONAL, PUBLIC OR MIXED USE FEES

All customers desiring to make a new connection of a building being used for Commercial, Industrial, Institutional, Public or Mixed Use (i.e., Residential and Commercial) by a single service line shall pay a single connection fee and inspection fee in accordance with the rate schedule above PLUS a tapping fee for each Equivalent Dwelling Unit (E.D.U.) of water consumption. For the purposes of calculating the applicable tapping fee, an E.D.U. shall be defined as the assumed water use of **222** gallons per day, or **6,660** gallons per month, as established in accordance with the procedures mandated by Act 57 of 2003. The initial tapping fee will be based on the estimated water usage for the development per the DEP-approved Sewage Facilities Planning Module. The tapping fee will subsequently be adjusted based on the actual metered average daily water usage after twelve (12) consecutive months of normal, full capacity operation.

BUTLER AREA SEWER AUTHORITY
Thomas D. Rockovich, Executive Director

Appendix F
Current Insurance Coverage

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THE CINCINNATI INSURANCE COMPANIES
Everything Insurance Should Be®

Mailing Address:
P.O. Box 145496
Cincinnati, OH 45250-5496

Street Address
6200 S. Gilmore Road
Fairfield, OH 45014-5141
513.870.2000

POLICY SUMMARY

Insured: BUTLER AREA SEWER AUTHORITY
Quote Number: 1740046 V1
Policy Number: ETD0455836
Policy Dates: 10/01/2020 - 10/01/2023
Trans Eff Date: 05/19/2022

PREMIUM SUMMARY	PREMIUM
Commercial Auto	$18,080.00
Property	$42,226.00
General Liability	$20,896.00
Inland Marine	$8,183.00
Cyber Risk Liability	$329.00
Umbrella	$9,280.00
Terrorism	$1,226.00
Installment Charge	$20.00
Total Annual Premium	$100,240.00

LOCATION SCHEDULE

Loc Number	Address	Bldg Number
28	519 NEGLEY AVE BUTLER PA 16001	6

PROPERTY	LIMIT	PREMIUM
ALL LOCATIONS		
Blanket Information		
Combined Blanket Building and BPP Insured & Others	$96,030,554	
Coinsurance: 90%		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
Margin Clause: No		
Bridge Endorsement		Included
Business Personal Property Extension Coverage		$374.00
Deductible: 2,500		
Property Off Premises (All Other)	$100,000	
Water Utilities Commercial Property Endorsement		$805.00
Blanket Coverage Limit	$1,000,000	
LOCATION 1 - 100 LITMAN RD, BUTLER, PA 16001		
BUILDING 1		
Building Coverage	$2,089,237	$715.00
Blanket: Yes		
Modernization: No		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
ACV Provision: No		
Cosmetic Exclusion: No		
Earthquake	$336,000	$31.00
Blanket: Yes		
Deductible: 25,000		
Flood	$1,000,000	$4,000.00
Blanket: Yes		
Deductible: 50,000		
Business Income - Coinsurance	$1,000,000	$220.00
Extra Expense: Yes		
Coinsurance: 90%		
Waiting Period Deductible: Zero		
Agreed Value: No		
BPP - Insured & Others	$588,020	$202.00
Blanket: Yes		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
Water Backup from Sewers, Drains, Septic Systems or Sump Pumps	$100,000	$158.00
Deductible: 2,500		
BUILDING 2		
Building Coverage	$6,447,410	$2,208.00
Blanket: Yes		
Modernization: No		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
ACV Provision: No		
Cosmetic Exclusion: No		
Earthquake	$100,000	$11.00
Blanket: Yes		
Deductible: 25,000		
BPP - Insured & Others	$5,869,511	$2,010.00

ACV Provision: No		
Cosmetic Exclusion: No		
Earthquake	$5,000	$1.00
Blanket: Yes		
Deductible: 25,000		
BPP - Insured & Others	$32,548	$12.00
Blanket: Yes		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
BUILDING 5		
Building Coverage	$2,776,855	$950.00
Blanket: Yes		
Modernization: No		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
ACV Provision: No		
Cosmetic Exclusion: No		
Earthquake	$5,000	$1.00
Blanket: Yes		
Deductible: 25,000		
BPP - Insured & Others	$32,548	$12.00
Blanket: Yes		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
BUILDING 6		
Building Coverage	$110,623	$38.00
Blanket: Yes		
Modernization: No		
Deductible: 2,500		
Valuation: Replacement Cost		
Agreed Value: Yes		
Inflation Guard: No		
ACV Provision: No		
Cosmetic Exclusion: No		
Earthquake	$5,000	$1.00
Blanket: Yes		
Deductible: 25,000		
Total Property Premium		$42,226.00

GENERAL LIABILITY	LIMIT	PREMIUM
Premises Operations And Products/Completed Operations		
Occurrence Limit: $1,000,000		
General Aggregate: $3,000,000		
Products Aggregate Limit: $3,000,000		
Personal and Advertising Injury Limit: $1,000,000		
Exclusion Personal and Advertising Injury: No		
Exclusion Damage to Premises Rented to You: No		
Exclusion Employees and Volunteer Workers as Insureds: No		
Medical Payments: $10,000		
Excess Med Pay: No		
ALL LOCATIONS		
Employee Benefit Liability	$1,000,000/$3,000,000	$222.00
Water Utilities Commercial General Liability Broadened Endorsement		$984.00
LOCATION 1 - 100 LITMAN RD, BUTLER, PA 16001		
Classification Description	Premium Basis	Premium
98810 SEWAGE DISPOSAL-PLANT OPERATIONS	Payroll	
Prem/Op Exposure: 606,341		$5,459.00
Prod/CO Exposure: Included		Included

Classification Description	Premium Basis	Premium
48039 SEWERS	Each	
Prem/Op Exposure: 230		$14,216.00
Prod/CO Exposure: Included		Included
Classification Description	**Premium Basis**	**Premium**
49451 VACANT LAND - OT NFP	Each	
Prem/Op Exposure: 13		$15.00
Prod/CO Exposure: Included		Included
Total General Liability Premium		$20,896.00

CYBER RISK LIABILITY	LIMIT	DEDUCTIBLE
Cincinnati Data Defender Coverage		
A. Response Expenses	$50,000	$1,000.00
Forensic Information Technology Review Sublimit	$25,000	
Legal Review Sublimit	$25,000	
Public Relations Services Sublimit	$25,000	
B. Defense and Liability	$50,000	$1,000.00
Regulatory Fines and Penalties Sublimit	$25,000	
Payment Card Industry Fines and Penalties Sublimit	$25,000	
C. Identity Recovery	$25,000	$250.00
Lost Wages and Child and Elder Care Sublimit	$5,000	
Mental Health Counseling Sublimit	$1,000	
Miscellaneous Unnamed Costs Sublimit	$1,000	
Retroactive Date: 10/01/2017		
CINCINNATI DATA DEFENDER COVERAGE PREMIUM		$87.00
Cincinnati Network Defender Coverage		
A. Computer Attack	$100,000	$1,000.00
Loss of Business Sublimit	$50,000	
Public Relations Sublimit	$50,000	
Cyber Extortion Sublimit	$10,000	$1,000.00
B. Network Security Liability and Electronic Media Liability	$100,000	$1,000.00
Retroactive Date: 10/01/2017		
CINCINNATI NETWORK DEFENDER COVERAGE PREMIUM		$242.00
Total Cyber Risk Liability Premium		$329.00

INLAND MARINE	LIMIT	PREMIUM
ALL LOCATIONS		
Contractors Equipment		
Scheduled Equipment	$186,363	$1,025.00
Deductible: 500 Flat		
Valuation: ACV		
Scheduled Equipment	$70,959	$390.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$183,865	$1,011.00
Deductible: 2,500 Flat		
Valuation: FRC		
Scheduled Equipment	$75,578	$416.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$126,274	$695.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$56,800	$312.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$82,200	$452.00
Deductible: 500 Flat		
Valuation: ACV		
Scheduled Equipment	$27,892	$153.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$25,114	$138.00
Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$31,137	$171.00

Deductible: 2,500 Flat		
Valuation: ACV		
Scheduled Equipment	$476,106	$2,619.00
Deductible: 2,500 Flat		
Valuation: ACV		
Coinsurance: 80%		
Equipment Leased or Rented From Others	$45,000	$200.00
Deductible: 500Flat		
Valuation: ACV		
Electronic Data Processing - Blanket		
Coverage A Blanket	$159,595	$351.00
Deductible: 1,000/1,000		
Transportation		
For Each Loss That Involves More Than One Railroad	$100,000	
Car, Vessel or Vehicle		
Deductible: 2,500		
You, On a Vehicle You Own, Lease or Hire		$250.00
LOCATION 1 - 100 LITMAN RD, BUTLER, PA 16001		
Total Inland Marine Premium		$8,183.00

COMMERCIAL AUTO	LIMIT	PREMIUM
Liability: CSL $1,000,000		
(PA)		
UM/UIM		
Limit Type: CSL $35,000 Non-Stacked		
UIM:		
Limit Type:CSL $35,000		
First Party Benefit Type: Basic (With WC)		
CinciPlus® Business Auto Expanded Coverage (XC®)		$275.00

Scheduled Vehicles

Vehicle	Liab	OTC DED	Collision DED	UM/UIM	Valuation-Cost New	Garage State	Premium
2000 JOHN DEERE BACKHOE (PA) 0000	x			x	$70,959	PA	$475.00
2015 GODWIN TRAILER Dri-Prime (PA) 0000	x			x	$56,800	PA	$541.00
1997 FORD H-SERIES (PA) 2683	x			x		PA	$1,105.00
2009 FORD F350 (PA) 5461	x	$500	$500	x	$28,285	PA	$674.00
2011 INTERNATIONAL 4000 (PA) 4074	x	$500	$500	x	$90,168	PA	$1,024.00
2011 FORD F450 (PA) 0806	x	$500	$500	x	$42,753	PA	$773.00
2011 FORD F550 (PA) 5499	x			x	$75,578	PA	$573.00
2011 FORD ECONOLINE (PA) 2208	x			x	$126,274	PA	$548.00
2011 FORD RANGER (PA) 1062	x	$500	$500	x	$25,015	PA	$729.00
2012 FORD ECONOLINE (PA) 3375	x	$500	$500	x	$30,445	PA	$838.00
2012 FORD F350 (PA) 4379	x	$500	$500	x	$36,808	PA	$795.00
2012 FORD F250 (PA) 6260	x	$500	$500	x	$38,030	PA	$895.00
2014 FORD F250 (PA) 9575	x	$500	$500	x	$32,715	PA	$902.00
2017 FORD EXPLORER (PA) 9225	x	$500	$500	x	$35,925	PA	$1,093.00
2001 VIKING TRAILER (PA) 8034	x	$500	$500	x	$9,100	PA	$131.00
2001 FOREST RIVER TRAILER (PA) 0796	x	$500	$500	x	$2,297	PA	$87.00
2011 VIKING TRAILER (PA) 8758	x	$500	$500	x	$6,290	PA	$114.00
2018 FORD F350 (PA) 2780	x	$500	$500	x	$43,015	PA	$1,058.00
2019 FORD TRANSIT (PA) 6700	x	$500	$500	x	$36,600	PA	$1,188.00
2020 FORD F250 (PA) 6177	x	$500	$500	x	$40,095	PA	$1,281.00
2022 FORD F350 (PA) 6669	x	$500	$500	x	$41,355	PA	$1,065.00

Vehicle	Liab	OTC DED	Collision DED	UM/UIM	Valuation-Cost New	Garage State	Premium
2022 WESTERN STAR/AUT CONVENTIONAL (PA) 0166	x			x	$476,106	PA	$1,316.00

Additional Auto Coverages

Coverage	Liab	Premium
Hired and Non-Owned Auto Liability	x	$600.00

Total Commercial Auto Premium	$18,080.00

UMBRELLA	LIMIT	PREMIUM
Commercial Umbrella		$9,280.00
Occurrence	$4,000,000	
Aggregate	$4,000,000	
Total Umbrella Premium		$9,280.00

DISCLAIMER: This summary is not a policy. For a complete statement of the coverages and exclusions, please see the policy contract. Any changes to the policy and use of scheduled credits or debits is subject to approval by the company.

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BUTLER AREA SEWER AUTHORITY
COMPARISON OF PROJECTED REVENUES AND EXPENSES FOR THE FISCAL YEAR ENDED JULY 31, 2022 WITH THE AMENDED 2022-2023 BUDGET SUMMARY
($5 INCREASE PER EDU PER MONTH EFFECTIVE JULY 1, 2022, LAST RATE INCREASE EFFECTIVE 1/1/2020)

DESCRIPTIONS	(cash basis) ADOPTED 2021-2022 BUDGET SUMMARY	(Unaudited - cash basis) PROJECTED 7/31/22 REVENUES & EXPENSES	(cash basis) AMENDED 2022-2023 BUDGET SUMMARY
OPERATING REVENUES:			
Sewer Service Charges	$ 10,194,250	$ 10,442,240	$ 11,791,250
Debt Surcharges	3,600	3,020	3,000
Industrial Waste Billing	320,200	343,480	365,900
Interest & Penalty Income	165,900	187,880	226,900
Sewer Tapping Fees	264,900	287,400	184,100
Inspection Fees	8,600	5,000	6,300
Sewer Connection Fees	1,650	4,050	2,850
Realty Transfer Inspection Fees	82,500	87,600	82,500
Other Income	174,300	180,490	89,200
TOTAL OPERATING REVENUES	**11,215,900**	**11,541,160**	**12,752,000**
OPERATING EXPENSES:			
Plant Wages	955,500	896,300	824,300
Plant Operation & Maintenance	1,038,400	984,950	1,050,900
Pump Station & Tank Wages	153,600	198,600	162,200
Pump Station & Tank Operation & Maintenance	302,780	308,960	322,900
Sewer Wages	651,200	651,400	668,100
Sewer Operation & Maintenance	156,800	82,240	139,300
Realty Transfer Inspections Wages	341,700	344,200	357,600
Realty Transfer Inspections Operation & Maintenance	11,700	9,830	12,000
Transportation	52,300	56,040	64,500
Pretreatment Wages	57,300	56,600	59,000
Pretreatment Expenses	9,800	12,290	8,900
Office Wages	343,700	342,500	355,500
Office Expenses	144,600	101,350	134,000
Administrative Wages	321,500	316,200	289,200
Administrative Expenses	184,250	152,560	233,150
Employment Benefits	1,275,400	1,206,660	1,283,300
Professional Services	187,200	166,530	229,120
TOTAL OPERATING EXPENSES	**6,187,730**	**5,887,210**	**6,193,970**
NET OPERATING REVENUES	**5,028,170**	**5,653,950**	**6,558,030**
OTHER EXPENSES & TRANSFERS:			
Capital Expenditures	1,382,870	1,202,780	1,468,260
Debt Service on Bonds	2,609,300	2,608,800	4,053,570
PENNVEST Principal & Interest	775,100	775,100	775,100
Transfer to Bond Improvement & Redemption Fund	260,900	812,350	261,100
TOTAL OTHER EXPENSES & TRANSFERS	**5,028,170**	**5,399,030**	**6,558,030**
INCREASE (DECREASE) IN REVENUE FUND BALANCE	**$ -**	**$ 254,920**	**$ -**

Butler Area Sewer Authority
Annual Wasteload Management Report

NPDES Permit No. PA0026697

January 25, 2022

Mason Miller
Pretreatment Coordinator

Butler Area Sewer Authority
100 Litman Road
Butler, Pa 16001-3256
(724) 282-1978
www.basapa.org

2021

Butler Area Sewer Authority

Municipal Wasteload Management Report
Operating Year 2021

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Butler Area Sewer Authority

Municipal Wasteload Management Report
Operating Year 2021

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Butler Area Sewer Authority

Municipal Wasteload Management Report
Operating Year 2021

Summary

This Municipal Wasteload Management Report has been prepared by the Butler Area Sewer Authority ("BASA" or Authority") to fulfill the requirements of Chapter 94, Municipal Wasteload Management of the Commonwealth of Pennsylvania Department of Environmental Protection's Rules and Regulations. The report describes the hydraulic and organic loadings placed on the BASA Wastewater Treatment Plant (WWTP) during the 2021 year and projects the future loadings on the treatment facilities to ensure that there is sufficient time to anticipate and plan for necessary sewage treatment facility expansions. In addition to evaluating plant loadings and forecasting necessary expansions, the annual Wasteload Management Report is also intended to indicate the need for sewer connection and extension limitations for systems that are currently overloaded or are projected to be overloaded in the near future.

Based on the Authority's billing records, the BASA WWTP served an average of 23,541 Equivalent Dwelling Units (EDUs) in 2021. The "New EDU" projected value of 227 EDUs/ year was based upon the historic five-year average EDU increase per year value (139) and the projected annual EDU value from approved development (88). The projected EDU value from approved development stemmed from 440 proposed EDUs from incoming development plans. BASA doesn't know if or when the additional EDUs will join the WWTP. For this reason, the future EDUs were evenly factored into the projected loading calculations.

Having the lowest flow of the past five years, the annual average daily flow during 2021 was 5.698 million gallons per day (MGD). During the past 5-year period, the monthly average daily flow exceeded the BASA's WWTP's permitted hydraulic capacity of 10.0 MGD six (6) times due to wet weather conditions. Three (3) of the occurrences occurred in 2018, two (2) in 2019 and one (1) in 2020. All hydraulic capacity exceedances were caused either or in part by heavy rainfall, snowmelt and ground saturation conditions. In spite of these high monthly flows, the permit capacity was not exceeded for three consecutive months at any time over the last five years. Based on the treatment plant flow data and EDU growth trend, the projected 2026 annual average daily flow is 7.182 MGD and maximum three-month average daily flow is 9.331 MGD.

The 2021 annual average daily organic loading value is 6,373 lbs BOD_5/day. Slightly higher than the annual average organic loading value, the 2026 projected annual average daily organic loading value is 6,546 lbs BOD_5/day with a projected maximum average of 7,627 lbs BOD_5/day. During the past 5-year period, the monthly average organic loading value hasn't exceeded the organic design capacity of 12,750 lbs BOD_5/day.

All of the projected hydraulic flows and organic loading values are well below the NPDES permit limits of 10 MGD and 12,750 lbs BOD_5/day. Given that the actual EDU trends from 2017 to 2021 were used to project future hydraulic and organic loadings, no treatment plant overloads, as defined by the Chapter 94 Regulations, are expected during the next five-year period.

Butler Area Sewer Authority

Municipal Wasteload Management Report
Operating Year 2021

Description of System and EDUs Serviced

The Butler Area Sewer Authority ("BASA" or "Authority") primarily serves the City of Butler, Butler Township, Center Township, Summit Township, and East Butler Borough, as well as a limited number of customers in Connoquenessing and Oakland Townships. The 32.5-mile sewer service area contains 23 sewage pumping stations and 230 miles of mainline sewer pipe to serve approximately 15,000 customers. The two-stage biological wastewater treatment plant (WWTP) currently has a permitted hydraulic capacity of 10.0 million gallons per day (MGD) and a permitted organic loading of 12,750 lbs BOD_5/day.

Table 1 presents historic and projected service area populations tributary to the Butler Area WWTP. The population estimates are presented as EDUs to represent contributions from residential, commercial, and industrial sources. The 2017 through 2021 figures are average EDU values based on quarterly and monthly customer billing records. Estimates for the years 2022 through 2026 were projected using the average annual increase of 139 EDUs experienced during the 2017 through 2021 period, plus an additional 88 EDUs/year from current development under construction.

Table 1
Butler Area Sewer Authority
Historic and Projected EDU's Serviced

Year	Average EDUs Served
2017	22,984
2018	23,678
2019	23,473
2020	23,108
2021	23,541
2022	23,768
2023	23,995
2024	24,222
2025	24,449
2026	24,676

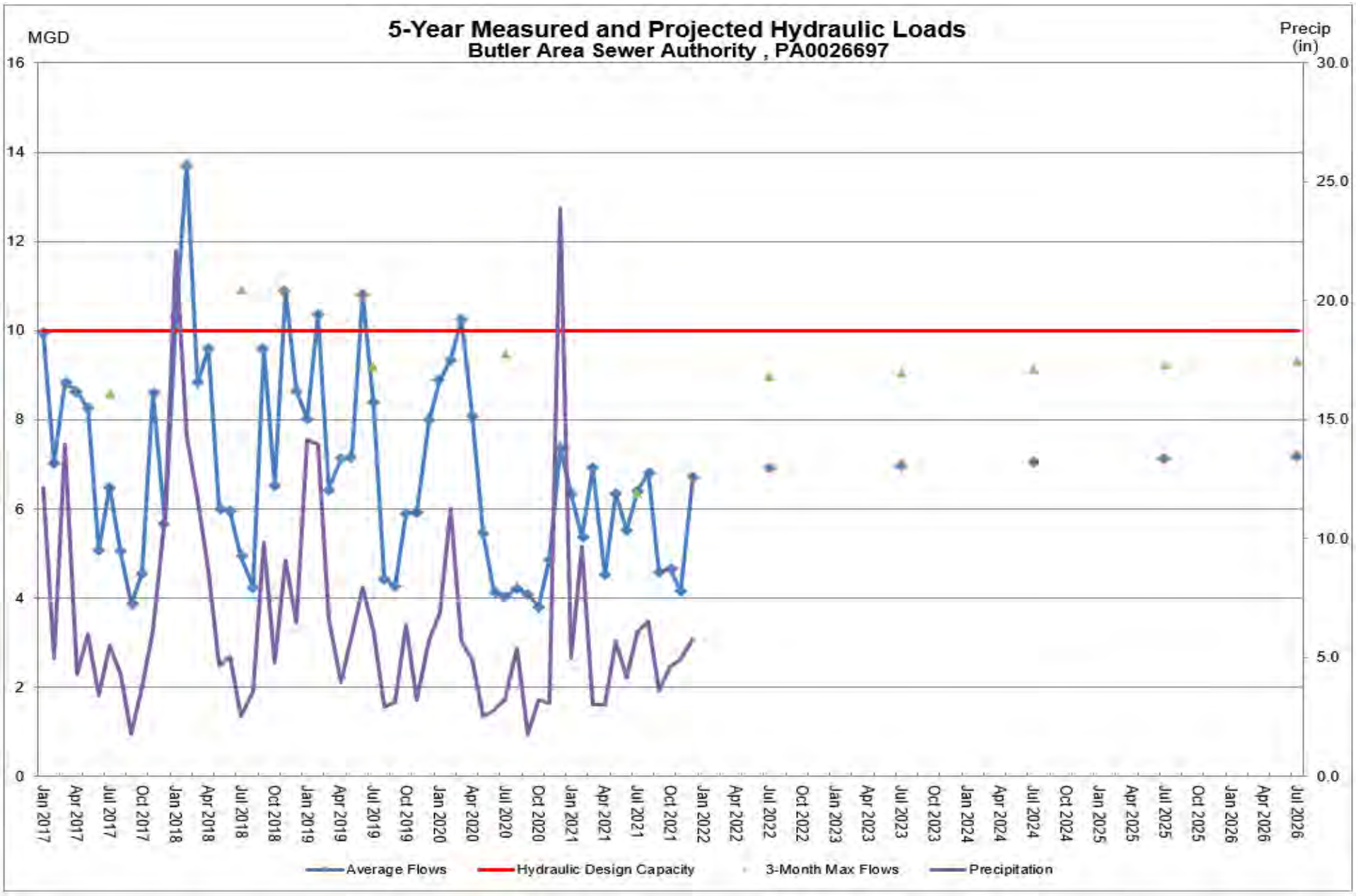
Section 1: Hydraulic & Organic Loading Graphs

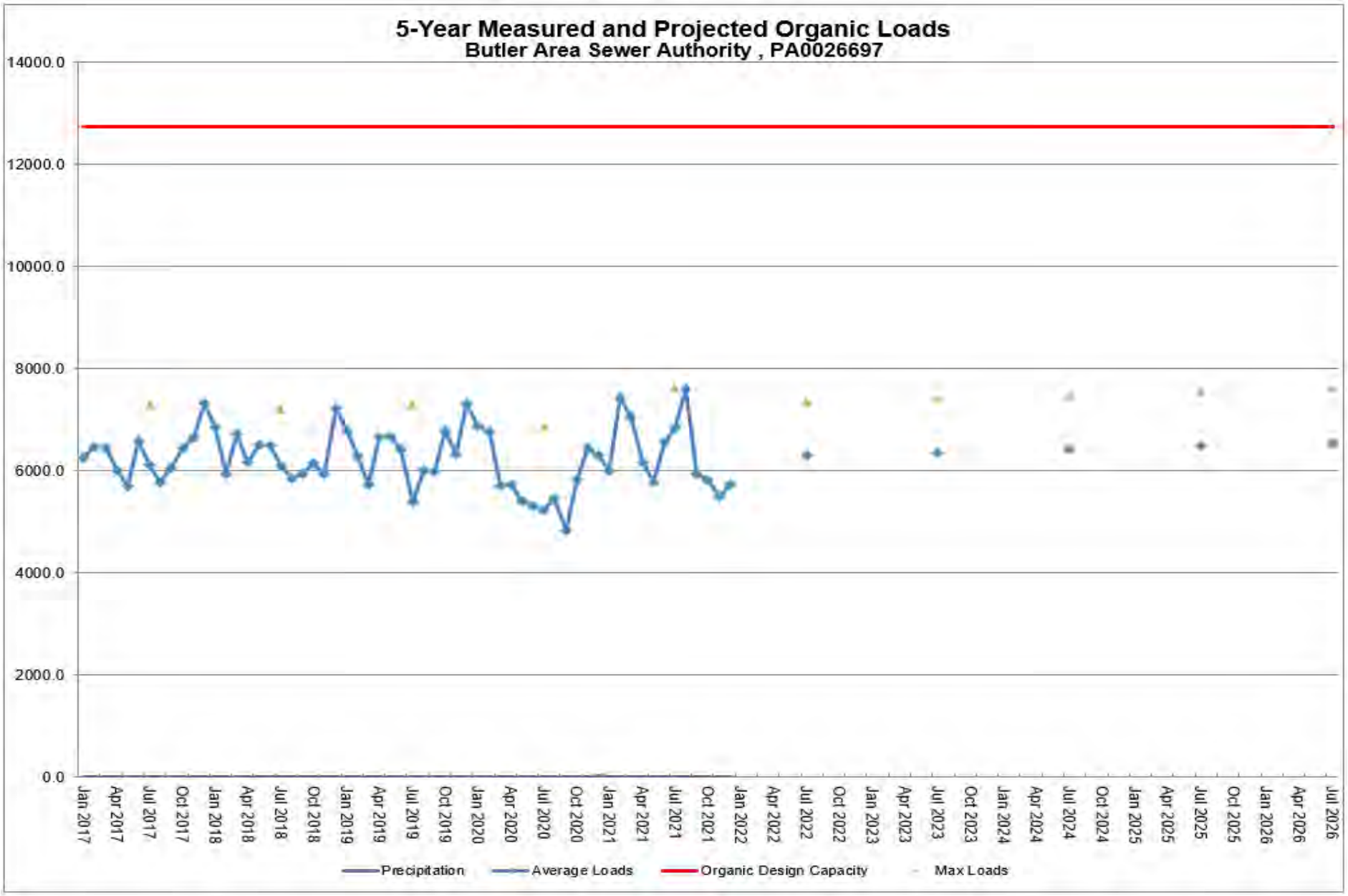
Figures 1 and 2 illustrate the historic and projected hydraulic and organic loadings at the BASA WWTP from 2017 to 2026. The historic flow and organic loading was obtained through plant operating records and monthly discharge monitoring reports, while the projected data for 2022-2026 was calculated using the PA DEP Chapter 94 Spreadsheet. Please find all supporting data and calculations in Appendix B.

The plant flows are continuously measured by a Parshall flume flow meter located in the effluent channel after the primary settling tanks. The metered recirculation flow from the sludge thickener to the primary tanks, which also passes through this Parshall flume flow meter, is subtracted from the Parshall flume flow to determine the reported NPDES Permit discharge flow. The Authority had been under a contract with Total Instrument Maintenance (TIM) of Elizabeth, Pennsylvania to service and calibrate all plant flow meters. After their last calibration visit on March 31, 2021, the Authority chose to begin calibrating all meters internally. Copies of the 2021 calibration work orders are attached in Appendix A.

The organic loading values, also known as biological oxygen demand (BOD_5), is collected daily at BASA's WWTP influent auto sampling station. Our operators prepare samples for our subcontracted laboratory, CWM Environmental, to pick up and analyze.

The BASA WWTP average annual flow (5.698 MGD) and max three-month average flow (6.355 MGD) was influenced by a low total rainfall value of 62.2 inches. Unaffected by rainfall, the 2021 annual organic loading value (6,373 lbs BOD_5/day) and max monthly average organic loading value (7,625 lbs BOD_5/day) were consistent with the past five years. As shown in Figures 1 and 2, all projected hydraulic flows and organic loadings between 2022-2026 are predicted to remain below the Butler Area WWTP's permitted capacity leading to the conclusion that the BASA WWTP isn't expected to be hydraulically or organically overloaded as defined under Chapter 94 of the DEP's Rules and Regulations through the year 2026.


5-Year Measured and Projected Hydraulic Loads
Butler Area Sewer Authority , PA0026697
MGD
Precip (in)
16
14
12
10
8
6
4
2
0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Jan 2017
Apr 2017
Jul 2017
Oct 2017
Jan 2018
Apr 2018
Jul 2018
Oct 2018
Jan 2019
Apr 2019
Jul 2019
Oct 2019
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
Oct 2022
Jan 2023
Apr 2023
Jul 2023
Oct 2023
Jan 2024
Apr 2024
Jul 2024
Oct 2024
Jan 2025
Apr 2025
Jul 2025
Oct 2025
Jan 2026
Apr 2026
Jul 2026
Average Flows
Hydraulic Design Capacity
3-Month Max Flows
Precipitation


5-Year Measured and Projected Organic Loads
Butler Area Sewer Authority , PA0026697
14000.0
12000.0
10000.0
8000.0
6000.0
4000.0
2000.0
0.0
Jan 2017
Apr 2017
Jul 2017
Oct 2017
Jan 2018
Apr 2018
Jul 2018
Oct 2018
Jan 2019
Apr 2019
Jul 2019
Oct 2019
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
Oct 2022
Jan 2023
Apr 2023
Jul 2023
Oct 2023
Jan 2024
Apr 2024
Jul 2024
Oct 2024
Jan 2025
Apr 2025
Jul 2025
Oct 2025
Jan 2026
Apr 2026
Jul 2026
Precipitation
Average Loads
Organic Design Capacity
Max Loads

Section 2: Industrial Wastes

A. Permitted Industrial User Summary

The Authority has an EPA-approved Industrial Pretreatment Program governed under the Chapter 400, Industrial Sewer Use Rules and Regulations, that can be accessed through the BASA website. The 2021, Annual Pretreatment Report can be found attached as Appendix C. Several attachments within the annual pretreatment report including: Attachment E2, "Permitted Industrial Users (part 2 of 2)"; Attachment F, "IU's in SNC During the Reporting Period"; Attachment G, "Modification History", weren't included in Appendix C as they didn't apply to the Authority in the 2021 reporting period.

As seen in Table 2 below, the Authority currently has permits with one (1) Categorical Industrial User (CIU), three (3) Significant Non-Categorical Industrial Users (SNIUs), and three (3) Non-Significant Industrial Users that discharge, or may discharge, process wastewater. Wastewater permits for North American Steel & Wire, as well as Serv-A-Care have been voided and the companies are no longer discharging process wastewater.

With the exception of JSP International and Pennsylvania American Water Company's monthly compliance reporting requirements, all other permitted users are required to submit quarterly compliance reports. Only two (2) minor Notice of Violations (NOV) were issued in 2021 with no permitted users falling into Significant Non-Compliance as defined by 40 CFR § 403.8. The first NOV was issued to JSP International on April 14, 2021 for a flow exceedance occurring the previous day. JSP demonstrated that flows retreated into the permit limits bringing them back into compliance. The second NOV was in response to MCE's late third quarterly report that has now been submitted. Both NOVs can be seen in Appendix C.

Facility inspections and compliance samples were completed for all IUs during the calendar year. All 2021 compliance samples conducted by the Authority were within the industrial users wastewater discharge permit limits. During inspections, chemical inventory, chemical quantities, chemical locations, hazardous materials, floor drains, production values, process wastewater sources, process water/wastewater generated, environmental permits, and ERP plans were discussed. In addition to the annual inspections held with permitted industrial users, 17 inspections were carried out to evaluate the community's industrial sources. None of the facilities aligned with the federal categorical industrial user definitions. Although

some of the facilities generated process wastewater, the contents and quantity were not of concern to the Authority at this time.

For more information on the Authority's Industrial Pretreatment Program, please find the "2021 Annual Industrial Pretreatment Report" attached as Appendix C.

B. Slug Discharges

The WWTP was receiving intermittent, high-strength BOD_5 slug discharges from an unidentified, industrial wastewater source, or sources from late 2019 to early 2021. Although we received high strength discharges, the WWTP maintained its ability to effectively treat the wastes. All monthly average organic loading values during the period in which BASA received slug discharges were well within the limitations of the plant's design capacity.

The Authority has taken several proactive measures to identify and suspend the continuous discharges including the development of ammonia-nitrogen local limit (value of 30 mg/L) as of January 1, 2021, pH monitoring of the collection system, and onsite inspections of various industry.

As of February, 2021, high-strength BOD_5 slug discharges have been suspended. In the case that the WWTP receives future slug discharges, the Authority will utilize the full powers of its EPA-approved pretreatment program to eliminate any illegal industrial waste discharges.

Table 2 Butler Area Sewer Authority 2021 Permited Industrial User List			
Categorical Industrial Users (CIUs)			
Metalized Ceramics For Electronics	119 Grant Avenue East Butler, Pa 16029	Permit Number: 0922014	Average Flow: 80 gal batch discharge in 2021
~~**North American Steel & Wire**~~	~~629 East Butler Road~~ ~~Butler, Pa 16002~~	~~Permit Number: 0622022~~ **Permit Voided 07/31/2021**	Average Process Flow: Zero Discharge
Significant Noncategorical Industrial Users (SNIUs)			
Cleveland Cliffs Steel Corporation	210 Pittsburgh Road Butler, Pa 16001	Permit Number: 1123011	Average Process Flow: Zero Discharge
JSP International, LLC	150 East Brook Land Butler, Pa 16002	Permit Number: 1224012	Average Process Flow: 29,133 gpd
Pennsylvania American water Co.	207 Oneida Valley Rd. Butler, Pa 16001	Permit Number: 1122005	Average Process Flow: 28,509 gpd
Non-Significant Industrial User			
Linde Gas North America, LLC	Inside Cleveland Cliffs Facility	Permit Number: 0521006	Average Process Flow: 4,957 gpd
Air Products and Chemicals	300 Schaffner Road Lyndora, Pa 16045	Permit Number: 0822009	Average Process Flow: 7,551 gpd
IDL Worldwide	500 Grant Avenue East Butler, Pa 16029	Permit Number: 0722019	Average Process Flow: 1,890
~~**Serv-A-Care**~~	~~431 E Jefferson Street~~ ~~Butler, Pa 16001~~	~~Permit Number: 1122007~~ **Permit Voided 04/01/2021**	Average Process Flow: Zero Discharge

Section 3: Sewer Extensions

Beginning in 2021 and continuing to the current date on this report there are two active sewer extensions under construction including Autmn Woods and Forest Edge. One other sewer extension, Highfield Trails, has been approved but has not begun construction. The Authority received and reviewed five (5) Sewage Facilities Planning Module Applications for new land development/subdivision plans in 2021 with a total of 39 DEP EDUs, based on 400 gpd/EDU, proposed to be added to the Authority's sewer system. As for the other EDUs as outlined in the Table 3, those respective planning modules were completed in prior years and are now being constructed. A map concerning the proposed land development/subdivision plans can be found in Appendix D. At this time, it is unclear when some of the development will take place.

Table 3
Butler Area Sewer Authority
2021 Planning Module Applications

Project Name		Proposed EDU's	DEP
Roberson		1	
Douthett		2	
Highfield Trails	Phase #1	76	
	Phase #2	24	
Duffy Highlands	Phase #1	5	
	Phase #2-4	81	
Benevan Square		17	
Autumn Woods		95	
Wyncrest Drive		5	
Butler CTY Comm. College		2	
Diehl Volkswagen		17	
Modwash Car Wash		18	
Popeyes		2	
East Butler Condominiums		6	
438 South Chestnut Street		2	
Forest Oaks		87	
Total Proposed EDU's		**440**	
***1 DEP EDU = 400 gal/day**		**176,000 gal/day**	

Section 4: Normal Sewer Inspection and Maintenance

Necessary inspection and maintenance of the sewer system is performed as required by a field supervisor and four sewer crew operators. When called upon, they are assisted by two additional general sewer crew positions. To ensure that adequate material selection and installation practices are taking place, new service lateral lines are inspected. Maintenance tasks performed by the crew include: isolated point, manhole, force main and service lateral repairs, as well as cleaning and flushing of mainline collection systems at 96 set locations or as needed. During 2021, the Authority received and responded to a total of 230 sewer calls regarding the public or private sewer collection system.

Due to the degradation and suboptimal performance of BASA's 2008 vactor sewer cleaner truck, the Authority has invested in a 2021 900 Eco Sewer Equipment of America Combination truck to aid in daily maintenance tasks. The new equipment offers a 4,400 CFM twin rotary lobe vacuum positive displacement pump, 1,300 gallons of water tank retention capacity, roughly 2,423 gallons of debris storage, 600 ft of 1-inch mainline jetting hose, and 200 ft of ½ inch lateral jetting hose. Along with the Authority's new vactor truck, the following equipment is utilized for normal sewer inspection and maintenance:

- 2021 900 Sewer Equipment of America Vactor Truck
- 2011 International Model 4400 5-ton dump truck
- 2011 Ford-450SD 1.5-ton dump truck
- 2011 Ford E-350 customized sewer televising van (Aries Pathfinder line camera system)
- 2011 Kubota KX121R3TA compact excavator
- 2011 Viking (14,000-pound GVWR) equipment trailer
- 2000 John Deer 310SE backhoe
- 1997 sewer cleaning truck
- Godwin Dri-Prime NC150 trailer-mounted 6-inch pump
- Seven (7) RIDGID 200-foot Mini-See Snake color sewer camera and reel systems
- Four (4) Navitrak locators

Section 5: Sewer System Monitoring and Rehabilitation

The Authority continually makes a conceded effort to sustain the sewer system by reducing inflow and infiltration (I/I) and/or by making necessary repair or replacement of the existing infrastructure. I/I is pursued by the Authority through manhole or mainline inspections, flow monitoring, and our realty inspection program. Necessary repairs, replacements or upgrades to the treatment or collection system are organized to account for aging infrastructure or expanding customer sewer taps.

A. Manhole Inspection

During 2021, a total of 117 manhole inspections were completed. 58 of the inspections were accomplished by BASA staff by utilizing a newly created GIS manhole inspection app. Contracted through the North Hills Council of Governments (NHCOG) bid, State Pipe Services was hired to inspect the remaining 59 manholes. Aside from these inspections, BASA Staff had prior data in the GBB & FBB CAP areas that identified several manholes with defects. In 2021, 122 of the manholes identified with underlying issues were repaired by State Pipe Services. State Pipe Services used sealing, coating, height adjustment and grouting techniques. They also cleaned and removed debris to allow for proper conveyance of wastewater. 113 of rehabilitated manholes were located within the GBB and FBB CAP areas. The Authority's manhole inspections were primarily focused on manholes within the western and northern portions of the sewer collection system known as the Deshon and Sullivan Run Sub-Basin, respectively. While these Sub-basins include the GBB and FBB CAP areas, they also took into account other sewer sheds.

In 2021, 587 manholes were converted from theoretical digitized points within the system to actual Global Positioning System (GPS) data points via the Authority's GPS surveying equipment. By identifying manhole locations, sewer mainline segments, lengths and locations were properly plotted. Accurate collection system information allows for the Authority to properly plan for rehabilitation projects and ensures the proper investment of funds. The Authority owns and utilizes the following GPS equipment to aid in the GIS sewer mapping:

- Trimble R2 Sub-Foot Rover – GPS/GLONASS, NMEA (4 inch)
- iPad 7th generation
- KeyNet VRS Mapping Grade Subscription

To help customers, outside contractors, and engineers to plan for sewer system connections and additions, a public GIS sewer system map is to be published on BASA's website by early 2022. The map will allow users to view the entire service area; show them municipal and Township boundaries; identify sewer main lines, manholes, pump stations (hereinafter referred to as PSs), and the treatment plant; indicate the difference between public and private manholes; and provide basic tools for measurement and site identification. By providing the basic data listed above the public will be better equipped to make informed decisions concerning the sewer system.

B. Flow Monitoring Programs

During an Internal staff meeting held at the beginning of the year, it was determined that flow monitoring equipment was to be placed in high I/I areas according to the staff's historical insight. Sewer sheds #55 and #25 were selected as the areas of interest. Sewer shed #55 collects all wastewater received by the Township Line PS located in southernmost portion of the system, while #25 correlates with the Cupps PS as mentioned in the previous section.

Four monitors were placed into sewer shed #55 between March and June. After internal review of the data, it was inconclusive as to the amount of I/I that was taking place in the localized lines. The monitors were transitioned to the base of sewer shed #25 until November of this year. In response to the flow monitoring data evaluation, the meters were moved further into the eastern mainline collection branch for further analysis. Once the high I/I areas are identified, the Authority intends to use outside contractors to televise the mainlines and schedule appropriate repair or replacement work.

C. Realty Inspection Program

The Authority realty inspection program is led by a program supervisor with a four-person sewer crew to proactively identify inflow and infiltration stemming from leaking lateral lines, sump pumps, downspouts and stormwater drainage. This is completed through the use of closed-circuit television inspections and dye testing. Under this program, the property owner must repair or replace any sources of inflow and infiltration prior to the ownership transfer of the home. The Authority requires that inspection tees are installed on all lateral line replacements or repairs such as property transfers, new construction or failing lateral lines that are identified through general inspections. The Authority also routinely installs inspection tees on service lines at the edge of the public right-of-way where recurring blockages and/or suspected infiltration and inflow problems are encountered.

In 2021, 587 reality inspections were completed. 341 inspections passed, while 246 failed. Of the 246 failures, 210 have made the necessary repairs to bring them into compliance and 131 were required to install inspection tees.

D. Sludge Thickener Repair

After inspection of the deteriorating sludge thickener and parts of the sludge thickener building, the Authority requested, and Hatch Engineers provided, a proposal to repair and/or replace sludge thickener equipment, ventilation and lighting and roof drain equipment. Specifically, the sludge thickener will have the existing walkway and center platform rebuilt. A new motor, mechanical rake and control panels will be installed. For future ease of maintenance, a davit crane will be installed close to the center platform.
The work was publicly bid February 19, 2021 for two separate contracts: general construction and electrical construction. Eight bids were received for the general contract and three bids were received for the electrical contract. Ray Showman, Jr. Excavating was awarded the general contract and Bronder Technical Services was awarded the electrical contract. Work is to begin sometime early in 2022 and scheduled to be completed by April of 2022.

While the sludge thickener is out of service, all sludge generated in the wastewater treatment process will be diverted to the primary sedimentation tanks where it will be collected and sent to BASA's rotary presses for dewatering. Internal testing confirmed that sludge cake derived from the primary sedimentation tanks was similar in water content to that of the sludge thickener after it passed through the rotary press.

E. Equalization Tank Inspections

BASA owns and operates seven equalization tanks totaling 22.6 million gallons worth of storage capacity. All seven tanks were constructed at approximately the same time and became operational in 2013. Initiative was taken in 2020 to have KTA-Tator inspect three (3) tanks at our Central Storage location to identify any structural issues and to inform us of any preventative maintenance practices that we should be taking. The remaining four (4) tanks linked to the Deshon and Monroe Street pump were completed in 2021. KTA-Tator's inspection reports showed all but one tank is in good condition. The outlier was one of our Deshon equalization tanks that was listed as fair condition. Common callouts for all of the tanks included exterior shotcrete layer flaking, rust and corrosion on the exterior steel piping and flanges and the need for toeboards on the railing system for each

of the tanks. Concrete cracking varied from tank to tank. BASA plans to repair the callouts for each equalization tank over the course of five years.

Section 6: Pump Stations

Appendix E presents the location of the Authority's 23 continuous-duty, sewage PSs and four (4) wet weather diversion PSs within the sewer service area. A SCADA monitoring system provides operating/alarm status, pump run times, and flows for the majority of the PSs. The PSs are routinely checked and maintained during normal weekdays by two dedicated PS operators. Additional operations and maintenance personnel are available and on-call to respond to alarm conditions detected by the SCADA monitoring system and perform scheduled preventative maintenance.

Table 4 lists the name and year each PS was originally constructed, design average capacity, estimated 2021 annual average daily flow, estimated percent utilization of the design average capacity and the projected 2-year maximum flows. The design capacity of each station was calculated by dividing the design peak flow capacity reported in the design modules for each PS by a design peaking factor of 2.5. The 2021 average daily flow for sixteen (16) PSs was determined by actual flow meter data; five (5) are based off of actual pump hours, one (1) uses pump power usage, and one (1) relies upon estimated flows from a small amount of homes. The Authority's historic five-year average annual flows for each PS, historic five-year EDU values, and future EDUs were used to calculate the 2023 projected daily flows. Similar to the method used to project the WWTP flows, the new EDU flow (0.0665 MGD) was added to each PS for each future year. The difference between the two calculation methods is that a percentage of the new EDU flow, rather than the whole new EDU flow, was applied to the individual PSs five-year average annual flow. The percentage was based upon the individual PSs five-year average annual flow contribution.

Although the projected average 2023 Daily flow value for all of the PSs are all within the design capacity listed for each PS, wet weather events, the possibility of incoming development and aging infrastructure has spurred the need for repair, replacement and/or an increase in design capacity at Rocklick, Greenwood, Benbrook, Bryson, Fisher Heights, Brewster and Brewster Booster PSs. See the following sections for further details concerning the repair, replacement and increase in design capacity at these locations.

Table 4
Butler Area Sewer Authority
Estimated 2021 and Projected 2023 Pump Station Flows

	Pump Station	Year Built	Design Capacity (GPM)	Design Capacity (GPD)	Estimated Average 2021 Daily Flow	Estimated Average Percent Utilization	Projected Average 2023 Daily Flow (GPD)
*	Brewster Road	1979-80	600	345,600	108,014	31.3%	212,264
*	Brewster Booster	1979-80	600	345,600	93,365	27.0%	154,418
*	Bryson Road	1979-80	500	288,000	227,809	79.1%	235,870
*	Center Avenue	1963	300	172,800	60,940	35.3%	109,218
*	Cupps Road	1979-80	400 (1) 700 (2)	576,000	305,038	53.0%	396,399
*	Deshon	1980	1,750 (2)	2,016,00	1,120,456	55.6%	1,429,941
*	Diamond Street	1975	100	57,600	21,529	37.4%	23,633
*	Fisher Heights	1979-80	250	144,000	14,984	10.4%	37,316
*	Greenwood Drive	1979-80	500	288,000	226,138	78.5%	202,293
*	Karns Crossing	1979-80	1,800 (2)	2,073,60	688,790	33.2%	760,248
*	Monroe Street	1979-80	2,250 (2)	2,592,00	1,262,204	48.7%	1,464,059
*	Negley Avenue	2018	420	241,920	85,156	35.2%	104,597
*	Northvue	1979-80	280	161,280	4,906	3.0%	7,776
*	Rock Lick	1979-80	550 (1) 1,050 (2)	892,800	335,380	37.6%	414,643
*	Township Line	1999	90 (2)	86,400	25,983	30.1%	35,829
*	Zeigler Avenue	2016	150	86,400	11,250	13.0%	12,854
°	Benbrook Road	1979-80	500	288,000	54,024	18.8%	120,544
°	Garden Grove	1972	320	184,320	21,746	11.8%	67,441
°	Pullman Center	2010	65	12,000	823	6.9%	2,274
°	September Drive	1988	75	43,200	2,962	6.9%	4,599
°	Sugar Creek	2005	80	46,080	1,454	3.2%	3,183
+	Links	1991	30	2,450	530	21.6%	535
◊	Foxcroft	2004	40	23,040	5,405	23.5%	10,175

* Based on Flow Metering Data

\+ Based on estimated flow from four existing homes (133 gpd/home)

◊ Based on kilowatt hours

° Based on actual pump operating hours

A. Rocklick Pump Station Repairs

Provoked by the aging infrastructure found at our Rocklick PS, as well as two mainline breaks that occurred in March and August of this year, the Authority has consulted with HRG Engineering to provide plans to restore the facility. Restoration of the facility includes an in-kind replacement of discharge piping, fittings, and appurtenances in the dry well; installation of a permanent bypass connection that will be used during a planned force main replacement; and to accommodate for a magnetic flow meter. The work was to be authorized in January, put out to bid in February and awarded in March.

By chance, Connoquenessing Twp. approached the Authority shortly after plans were being developed for the Rocklick PS to request an extension of the collection system in sewer shed #25 located in the Cupps PS collection area. Partially located in Connoquenessing Twp., the Cupps PS diverts all flow to the Rocklick PS. Connoquenessing Twp. requested 210 EDUs or an additional 50,400 gpd of wastewater flow. Initially, The Authority responded to Connoquenessing Twp.'s request advising them that the collection system in that area was lacking capacity. At a later date, the Authority offered a cost sharing option to increase the design capacity of the collection system, Rocklick PS and the receiving collection system if required and requested that Connoquenessing Twp. submits formal plans to the Authority. Connoquenessing Twp. was informed that it is the Authority's intent to move forward with the Rocklick PS repair and replacement project without increasing the design capacity if an agreement was not made. At that time, Connoquenessing Twp. notified the Authority that they couldn't meet the project's current timeline. With the unstable condition of the Rocklick PS and its force main, the repair and replacement project is to move forward without delay.

B. 2019 Corrective Action Plan (CAP):

In accordance with the DEP's Chapter 94 Regulations, the Authority submitted the 2019 Corrective Action Plan (CAP) on March 11, 2019 to the DEP to assess and address the recurring wet weather sanitary sewer overflows (SSOs) during the 2018 record rainfall year that were associated with six (6) of the Authority's sewage PSs. The DEP formally approved the plan on March 26, 2019 and required the Authority to submit quarterly progress reports within 30 days after the end of each calendar quarter, beginning with the second quarter of 2019. As of December 31, 2021, the Authority has submitted the required quarterly progress reports in a timely manner. Refer to these quarterly progress reports for the details and status of the individual corrective actions for each system.

The six (6) PSs outlined in the CAP include Fisher, Brewster, Brewster Booster (FBB) located in the northwest portion of the collection system and Greenwood, Benbrook, Bryson (GBB) found on the western edge. Apart from the two different locations in the collection system, FBB and GBB are similar in that the three PSs associated with each system directly influence one another by pumping wastewater from one to the next in the respective order that they are listed.

The Authority has hired Herbert Rowland & Grubic, Inc. (HRG) to assist with the design, permitting, bidding and construction for each of the systems. HRG submitted two separate design evaluation reports, in the third quarter 2020, one for FBB and one for GBB, that provided several building options to address wet weather situations. After review of the evaluation reports it was the Authority's decision to upgrade all PSs with the exception of the Benbrook PS located in the GBB system. Upgrades included new submersible and immersible pumps with higher flow capacity ratings, pump control systems, magnetic flow meters, valve vaults, bypass connections, discharge and force main piping, trash baskets, and cranes. Benbrook PS is to be demolished so that all flows from Greenwood PS are transferred directly to Bryson PS. In addition to the upgrades previously mentioned, three (3) wet weather equalization tanks; two (2) in the FBB system and one (1) in the GBB system will be installed. Details such as tank and pump sizes are currently being established.

As referenced in Appendix F, HRG has broken down the project into the design evaluation (Phase 1 & 2), Sewage Facilities Planning (Phase 3), Design and Permitting (Phase 4 & 5), and Bidding and Construction (Phase 6). Currently, the design evaluation (Phase 1 & 2) and Sewage Facilities Planning (Phase 3) have been completed. Phase 3 called for the preparation and submission of the planning modules to BASA, the planning commissioners, Butler and Center Township, and DEP. Approval from all organizations was received by the third quarter 2021. As part of Phase 4, HRG completed all survey work and wetland delineation. Currently, permit application preparation is taking place and BASA is awaiting the 60% design drawings.

C. Pump Station Flow Monitoring Data

To improve the accuracy of our PS flow records, BASA began a flow meter standardization project in 2021. Prior to the initiative, our twenty-three continuous-duty PSs were gathering flow data using five (5) different types of wastewater meters, pump run times, and electricity usage. The aim of the project was to only use magnetic flow meters where applicable. Magnetic flow meters were chosen as the standard; because historically, they have proven that they require less maintenance and provide accurate wastewater flow

readings. As seen in Table 5, only seven (7) of the PSs had magnetic flow meters prior to the standardization project. By the end of 2021, new magnetic flow meters were installed into Center Avenue, Diamond Street and Sugar Creek PS. While the majority of the future meter replacements will be completed by internal staff, Rocklick, Fisher Heights, Brewster, Brewster Booster, Greenwood Drive and Bryson will be changed by contractors during the time of the PS upgrades. Unfortunately, the small force main line size and limited flow at the Foxcroft and Links PS will disable BASA from installing meters at those locations.

In unison with the flow meter standardization project, the Authority is having its supervisory control and data acquisition (SCADA) system updated by an outside contractor called Process and Data Automation. The update focuses on treatment plant and PS processes. In relation to the PS processes, the new SCADA system will track real time flows from the magnetic flow meters as they are replaced and will provide the ability to create flow meter reports. Currently, BASA is reliant upon field staff to gather the flow data from data loggers at each of the PSs. The data is then manually processed and reported. The current method is time consuming and can be problematic when periodic PS flow monitoring or data logging errors occur. Once the SCADA system is operational, the data will be stored in two locations eliminating data loss.

Table 5 Butler Area Sewer Authority Pump Station Flow Meter Replacement Schedule				
Pump Station	Meter Model	Replaced 2021	Meter Replacement Priority	Tentative Replacement Year
Center Avenue	Toshiba Mag	✓	#1	2021
Diamond Street	Toshiba Mag	✓	#2	2021
Sugar Creek	Toshiba Mag	✓	#3	2021
Rocklick	SIGMA2410		#4	2022-2023
Cupps Road	SIGMA950		#5	2022-2023
Garden Grove	No Meter		#6	2022-2023
September Drive	No Meter		#7	2022-2023
Northvue	FL1500		#8	2022-2023
Fisher Heights	FL1500		#9	2023-2024
Brewster Road	FL1500		#10	2023-2024
Brewster Booster	FL1500		#11	2023-2024
Greenwood Drive	FL1500		#12	2023-2024
Bryson	FL1500		#13	2023-2024
Negley Avenue	Toshiba Mag	-	-	-
Zeigler Avenue	Toshiba Mag	-	-	-
Monroe Street	Toshiba Mag	-	-	-
Deshon	Toshiba Mag	-	-	-
Karns Crossing	Toshiba Mag	-	-	-
Township Line	Alternative Mag meter	-	-	-
Pullman Center	Alternative Mag meter	-	-	-
Foxcroft	No Meter	-	Unable to install Mag Meter	-
Links	No Meter	-	Unable to install Mag Meter	-
Benbrook Road	No Meter	-	PS Demolition 2024-2025	-

Section 7: Solids Management Inventory:

The BASA WWTP generates sludge from our primary and secondary sedimentation tanks, as well as our final clarifiers. All of these waste sludge/solids flows are combined and thickened in a single, gravity sludge thickener. The thickened sludge solids are dewatered using a rotary press and chemically stabilized with granular lime. Finally, the lime stabilized/dewatered biosolids are hauled to a permitted sanitary landfill for disposal. All lime-stabilized, dewatered sewage sludge generated by the Butler Area WWTP in 2021 was transported to Carbon Limestone Landfill in Lowellville, Ohio. As seen in Table 6, a total of 4,942 wet tons or 1,369 dry tons of lime stabilized, dewatered biosolids were taken to Carbon Limestone Landfill via DBA Republic Services of Youngstown.

Table 6
Butler Area Sewer Authority
2021 Sludge Production and Disposal

Month		Total Sludge Produced/ Landfilled (Wet Tons)	Monthly Average Dry Solids (% Solids)	Total Sludge Production (Dry Tons)	Total Sludge Production (Dry Metric Tons)
January	*	380.05	29.04	110.94	101
February	*	346.02	27.47	92.34	84
March	*	393.13	28.91	56.71	51
April	*	440.75	27.48	120.00	109
May	*	502.87	26.58	133.21	121
June	*	439.00	29.67	123.18	112
July	*	427.31	29.15	124.33	113
August	*	536.09	30.58	161.39	146
September	*	387.75	30.11	116.94	106
October	*	353.56	32.18	113.83	103
November	*	349.98	31.17	109.58	99
December	*	385.02	29.54	106.69	97
Total	*	4,941.53	----	1,369.14	1,242.1
Average	*	411.79	29.32	114.10	103.5

* Contract No. 2020-04 with Browning-Ferris Industries of Ohio, Inc, dba Republic Services of Youngstown, Carbon Limestone Landfill, Lowellville, OH

Signature Requirements

Responsible Official Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Duane E. McKee	Duane E. McKee
Name of Responsible Official	Signature
724-282-1978	02/01/2022
Telephone No.	Date

Preparer Certification

I certify under penalty of law that this document and all attachments were prepared by me or otherwise under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Mason Miller	Mason Miller
Name of Responsible Official	Signature
724-282-1978 Ext 120	02/01/2022
Telephone No.	Date

Appendix A

Supporting Data

2021 Plant Flow Meter Calibration Work Orders

Customer Service Report

Total Instrument Maintenance
423 Stoneybrook Drive • Elizabeth, PA 15037
412-384-3818

TIM

INVOICE # _____

BILL TO ADDRESS	SITE ADDRESS
	B.A.S.A.
	PHONE # _____ / _____

REQUESTED SERVICE:

PO # / SO # _____
MODEL # _____
SERIAL # _____

OTHER _____

DESCRIPTION / CAUSE OF PROBLEM: P.M.

CORRECTIVE ACTION / WORK PERFORMED: Cleaned, checked the 5 recorders (13) inputs in the M.C.P. Checked the Plant Influent ultrasonic flow xmtr. Checked the Trickling Filter remote flow indicator + the Return Sludge flow converter. Checked outputs + indications at 0-25-50-75-100%. No adjustments needed.

QTY	PART/PRODUCT NUMBER	AMOUNT

[A] PARTS TOTAL		➤	
LABOR (REG)	HRS @	/HR	
LABOR (O.T.)	HRS @	/HR	
TRAVEL	HRS @	/HR	
[B] LABOR TOTAL		➤	
EXPENSES (TOLLS,ROOMS,MEALS)			
MILEAGE	MILES @	/MILE	
AIR AND/OR CAR RENTAL			
[C] EXPENSE TOTAL		➤	
[D] SHIPPING CHARGES		➤	
TOTAL [A] + [B] + [C] + [D]		➤	
C. A. CODE	[	]	
SALES TAX OR TAX ID #	[	]	
COUNTY TAX OR TAX ID #	[	]	
FINAL AMOUNT DUE		➤	

FUTURE ACTION/WORK REQUIRED: YES ☐ NO ☐ % COMP ☐

TERMS: NET 30 DAYS

I HEREBY ACCEPT AND APPROVE ALL WORK AS DEFINED ABOVE.

TECH (PRINT)	TECH (SIGNATURE)	DATE	CUSTOMER (PRINT)	CUSTOMER (SIGNATURE)	DATE
Ryboyski	Jim Pavlish	3/31/0831	Dennis Mike		3/31/0831

10/04

Calibration Certification

Equipment ID	FIT 724-01 Final Cenifer sludge	Site	BASA
Type Of Meter	Vega Level Transmitter converter weir	Location	Plant Sludge metering room
Manufacturer	VEGA	Unit Status	Activated
Model No.	861	Techician	Rich DiBias
Size/ Range			
Cal. Date	9/15/21	Frequency	Semi Annual
Due Date	Mar 22	Visual Codition	good / New

Remarks: Installed 9-14-21

Input Type	Output Type
(Physical) Signal or Both: Physical Verified	Physical (Signal) or Both: _____ Verified
Equipment Used: Pole ruler (Tape Measure)	Equipment Used: Fluke Amp meter
% Error Found: 1.2%	% Error Found: @ < .5%
Adjustment : (YES) NO	Adjustment : YES (NO)
% Error Post: < 1%	% Error Post: _____
Notes: Error was in set up measurement	Notes:

Calibrator Signature: [signature] Date: 9-15-21

Calibration Certification

Equipment ID: FIT 724-05 Waste sludge Flow
Site: BASA
Type Of Meter: Radar Level Transmitter on weir
Location: Plant Sludge Metering Room
Manufacturer: VEGA
Unit Status: Activated
Model No.: Puls C21 w/ BMET 861
Techician: Rich DiBiase
Size/ Range:

Cal. Date: 9/15/21
Frequency: Semi Annual
Due Date: Mar. 2022
Visual Codition: New

Remarks: Installed 9-14-21

Input Type: Radar to 4-20 mA
Output Type: 4-20 mA

Physical, Signal or Both: Physical Verified
Physical, Signal or Both: Signal Verified

Equipment Used	Equipment Used
Tape measure and pole	Fluke multi meter

% Error Found: < 1%
% Error Found: < .5%

Adjustment : YES (NO)
Adjustment : YES (NO)

% Error Post:
% Error Post:

Notes:	Notes:

Calibrator Signature: [signature]
Date: 9-15-21

Calibration Certification

FIT

Equipment ID 724-03 Trade sewage EFF

Site BASA

Type Of Meter Radar Level Transmitter weir Flow

Location Plant Sludge metering room

Manufacturer VEGA

Unit Status Active

Model No. Pulcz1 w/ MET 861

Techician Rich DiBiase

Size/ Range

Cal. Date 9-15-21

Frequency Semi Annual

Due Date Mar 22

Visual Codition New

Remarks Installed 9-14

Input Type Radar Level 4-20mA

Output Type 4-20 mA out

Physical, Signal or Both ~~Physical~~ Signal Verified

Physical, Signal or Both Signal Verified

Equipment Used

Equipment Used

% Error Found < 1%

% Error Found < .5%

Adjustment : YES NO

Adjustment : YES NO

% Error Post

% Error Post

Notes:

Notes:

Calibrator Signature

Date 9-15-21

Calibration Certification

Equipment ID 724-02 Primary Sludge Level Radar transmitter

Site BASA

Type Of Meter ~~VEGA C21 w/ Vegamet 861~~ Liquid Flow

Location Plant Sludge metering room

Manufacturer VEGA

Unit Status Activated

Model No. Puls 6C21 w/ Vegamet 861

Techician R.ch D. Biase

Size/ Range

Cal. Date 9-15-21

Frequency Semi Annual

Due Date Mar. 22

Visual Codition New

Remarks Installed 9-14-21

Input Type

Physical, Signal or Both ~~Physical~~ Verified

Equipment Used: Tape measure and pole

% Error Found 5.0 %

Adjustment : (YES) NO

% Error Post < 1 %

Notes: Error in setup measurement

Output Type

Physical, (Signal) or Both Signal Verified

Equipment Used: Fluke multi meter

% Error Found

Adjustment : YES NO

% Error Post

Notes:

Calibrator Signature R. D. Biase Date 9-15-21

Calibration Certification

Equipment ID	FIT 724-04 Waste Mix liquor	Site	BASA
Type Of Meter	Radar Level on weir	Location	Plant Sludge meter room
Manufacturer	VEGA	Unit Status	Activated
Model No.	Pulse C21 w/ MET 861	Techician	Rich DiBiase
Size/ Range			
Cal. Date	9-15-21	Frequency	Semi Annual
Due Date	Mar 2022	Visual Codition	New

Remarks: Installed 9-14-21

Input Type		Output Type	
~~Physical~~, Signal or Both	Physical Verified	Physical, Signal or Both	Verified
Equipment Used	Tape measure and pole	Equipment Used	
% Error Found	6.7 %	% Error Found	< 1.5 %
Adjustment :	(YES) NO	Adjustment :	YES NO
% Error Post	< 1 %	% Error Post	
Notes:	Error in setup measurement	Notes:	

Calibrator Signature: R. DiBiase Date: 9-15-21

Calibration Certification

Equipment ID: FIT 733-01
Site: BASA
Type Of Meter: ~~FLOW~~ Open Channel Flowmeter
Location: Plant outfall chamber
Manufacturer: HACH
Unit Status: Operational
Model No.: FL1500
Techician: Rich D. Base / Bob Vormack
Size/ Range:
Cal. Date: 9-21-21
Frequency: Qtrly 4 Times /yr
Due Date: January 22
Visual Codition: Good

Remarks: Installed on 9-21-21

Input Type
Physical, Signal or Both: Physical Verified

Equipment Used: Measure stick, Computer

% Error Found: $\frac{13-13}{13} = 7.6\%$

Adjustment : (YES) NO

% Error Post: 1.5 %

Notes: Initial setup adj

Output Type: No output
Physical, Signal or Both: _____ Verified

Equipment Used:

% Error Found:

Adjustment : YES NO

% Error Post:

Notes:

Calibrator Signature: [signature] Date: 9/21/21

Calibration Certification

Equipment ID: FIT 723-01 Trickler Flow
Site: BASA
Type Of Meter: Level probe w/display Weir
Location: Plant 100 Litmas Rd Butler PA
Manufacturer: Vega
Unit Status: Active
Model No.: Vega Pulse c21 / Vegamet 861
Techician: Richard DiBiase
Size/ Range: -
Cal. Date: 10-14-21
Frequency: Annual
Next Due Date: 10/22
Visual Codition: New

Remarks: Installed in July

Input Type: radar to 4-20mA
Output Type: 0-20mA
Physical, Signal or Both: Both
Physical, Signal or Both: Signal

Equipment Used: Transmation meter and Fluke multi meter and tape measure
Equipment Used: Transmation meter Fluke multimeter

% Error Found: 0.9 %
% Error Found: 1 %
Adjustment : YES (NO)
Adjustment : YES (NO)
% Error Post: 0.9 %
% Error Post: 1 %

Notes:
Notes:

Calibrator Signature: [signature]
Date: 10/14/21

Calibration Certification

Equipment ID: LIT 703-01 Main Pump level

Site: BASA

Type Of Meter: Level Transducer and display

Location: Plant

Manufacturer: VEGA

Unit Status: Operating / Going Active

Model No.: vegpuls c21 & vegamet 861

Techician: Richard DiBiase

Size/ Range: 0 to 25 ft

Cal. Date: 10/15/2021

Frequency: Annual

Due Date: 22-Oct

Visual Codition: New

Remarks: New install to replace bubbler control This month.

Input Type: Radar /4-20mA

Physical, Signal or Both: Both Verified

Equipment Used: Transmation meter, Fluke meter and Tape Measure

% Error Found: < 1%

Adjustment : NO

% Error Post: < 1%

Notes: New Install

Output Type: 4-20mA

Physical, Signal or Both: Signal Verified

Equipment Used: Transmation meter, Fluke meter.

% Error Found: <1%

Adjustment : NO

% Error Post: <1%

Notes: New Install

Calibrator Signature: [signature] Date: 10-15-21

Appendix B

Supporting Data

2021 Loading Calculation

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spread:
Sewage Treatment Pl

Reporting Year: 2021

Facility Name: Butler Area Sewer Authority

Permit No.: PA0026697

Persons/EDU: 3.5

Existing Hydraulic Design Capacity:	10	MGD	**Existing Organic Design Capacity:**	12,750	lbs BOD5/day
Upgrade Planned in Next 5 Years?	NO	**Year:**	**Upgrade Planned in Next 5 Years?**	NO	**Year:**
Future Hydraulic Design Capacity:		MGD	**Future Organic Design Capacity:**		lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2017	2018	2019	2020	2021
January	9.946	10.285	8.026	8.894	6.335
February	7.019	13.696	10.357	9.328	5.365
March	8.839	8.821	6.438	10.251	6.931
April	8.631	9.599	7.137	8.064	4.517
May	8.261	6.005	7.164	5.459	6.342
June	5.095	5.962	10.818	4.132	5.523
July	6.492	4.932	8.369	4.02	6.398
August	5.053	4.26	4.416	4.213	6.827
September	3.877	9.6	4.261	4.076	4.582
October	4.566	6.534	5.899	3.811	4.675
November	8.608	10.909	5.92	4.863	4.174
December	5.666	8.664	7.977	7.364	6.709
Annual Avg	6.838	8.272	7.232	6.206	5.698
Max 3-Mo Avg	8.601	10.934	9.2	9.491	6.355
Max : Avg Ratio	1.26	1.32	1.27	1.53	1.12
Existing EDUs	22,984.0	23,678.0	23,473.0	23,108.0	23,541.0
Flow/EDU (GPD)	297.5	349.4	308.1	268.6	242.0
Flow/Capita (GPD)	85.0	99.8	88.0	76.7	69.2
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Monthly Average BOD5 Loads for Past Five Years (lbs/day)

Month	2017	2018	2019	2020	2021
January	6,271	6,863	6,803	6,883	6,002
February	6,460	5,949	6,284	6,767	7,440
March	6,441	6,728	5,734	5,717	7,067
April	6,003	6,161	6,656	5,734	6,166
May	5,701	6,522	6,683	5,408	5,789
June	6,579	6,496	6,426	5,314	6,558
July	6,119	6,095	5,386	5,232	6,839
August	5,791	5,840	6,009	5,465	7,625
September	6,063	5,932	5,990	4,841	5,939
October	6,449	6,148	6,782	5,819	5,815
November	6,662	5,938	6,338	6,458	5,496
December	7,320	7,223	7,311	6,304	5,742
Annual Avg	6,322	6,325	6,367	5,829	6,373
Max Mo Avg	7,320	7,223	7,311	6,883	7,625
Max : Avg Ratio	1.16	1.14	1.15	1.18	1.20
Existing EDUs	22,984	23,678	23,473	23,108	23,541
Load/EDU	0.275	0.267	0.271	0.252	0.271
Load/Capita	0.079	0.076	0.077	0.072	0.077
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Projected Flows for Next Five Years (MGD)

	2022	2023	2024	2025	2026
New EDUs	227.0	227.0	227.0	227.0	227.0
New EDU Flow	0.0665	0.0665	0.0665	0.0665	0.0665
Proj. Annual Avg	6.916	6.9825	7.049	7.1155	7.182
Proj. Max 3-Mo Avg	8.986	9.072	9.159	9.245	9.331
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Projected BOD5 Loads for Next Five Years (lbs/day)

	2022	2023	2024	2025	2026
New EDUs	227	227	227	227	227
New EDU Load	60.670	60.670	60.670	60.670	60.670
Proj. Annual Avg	6,304	6,364	6,425	6,486	6,546
Proj. Max Avg	7,344	7,415	7,486	7,557	7,627
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Show Precipitation Data on Hydraulic Graph?

Total Monthly Precipitation for Past Five Years (Inches)

Month	2017	2018	2019	2020	2021
January	12.15	22.09	14.17	6.88	4.99
February	4.98	14.31	13.95	11.25	9.68
March	13.97	11.7	6.61	5.71	3.05
April	4.3	8.62	3.97	4.88	3.05
May	6.0	4.66	5.92	2.52	5.68
June	3.41	5.06	7.94	2.8	4.16
July	5.5	2.53	6.11	3.23	6.06
August	4.35	3.59	2.92	5.38	6.52
September	1.8	9.83	3.13	1.78	3.62
October	3.79	4.82	6.39	3.23	4.62
November	6.15	9.07	3.24	3.06	4.94
December	10.97	6.46	5.75	23.84	5.79

Appendix C

2021 Annual Pretreatment Report


EPA Region 3
Industrial Pretreatment Program
Annual Report of POTW Implementation
Last Updated: 11-22-2021
Disclaimer
This model is intended to be used as a tool to submit the Pretreatment Annual Report of the EPA Region 3 Industrial Pretreatment Program. All other uses are strictly prohibited. Unless specified otherwise, enter data for the reporting year.
Exit
Disclaimer accepted on 1/19/2022 12:53:40 PM by Usermmiller

Reporting Period

January 1 to December 31 of year	2021

POTW Contacts

Control Authority Name	Butler Area STP
NPDES Permit No	PA0026697
Permit Issuance Date	9/1/2018
Permit Expiration Date	10/31/2023
Facility Name	Butler Area Sewer Authority
Facility Address1	100 Litman Road
Facility Address2	
Facility City	Butler
Facility State	PA
Facility Zip	16001

Pretreatment Contact(s) - List all Pretreatment Personnel

Name	Title	Email
Mason Miller	Pretreatment Coordinator	mmiller@basapa.org

Permit Signatory	Mason Miller
Permit Signatory Title	Pretreatment Coordinator

Contact Phone	724- 282-1978
Contact Email	mmiller@basapa.org
POTW Site Address	100 Litman Road, Butler, Pa 16001

Additional Information

POTW Information

NPDES Effluent Violations?	Yes	Parameter(s)	
Date of Violations	05/10/2021 06/11/2021 07/18/2021 08/31/2021		
Cause of NPDES permit violations?	05/10/2021 - Fecal coliform exceedance from 1.83 inches of heavy rainfall occurring on the same day. 06/11/2021 - Fecal coliform exceedance from 1.6 inches of heavy rainfall occurring on the same day. 07/18/2021 - Fecal coliform exceedance from 1.35 inches of heavy rainfall occurring on the previous day. 08/31/2021 - Fecal coliform exceedance. Although there was 0.5 inches of rainfall the previous day The Authority suspects a lab error.		
Sludge Disposal Method 1	LANDFILL		
Sludge Disposal Method 2			
Sludge Disposal Method 3			
Highest Treatment Level	Secondary		

Treatment Types

Primary Clarification?	Yes	Lagoon?	No
Secondary Clarification?	Yes	Anaerobic Digestion?	No
Activated Sludge?	Yes	Aerobic Digestion?	Yes
Trickling Filter?	Yes	Chlorination?	Yes
Oxidation Ditch?	No	Dechlorination?	No
Biotowers?	No	UV Disinfection?	No
Rotating Biological Contacts?	No	BNR?	No
Other?			

POTW Design Flow (mgd)	10	
POTW Actual Flow (mgd)	5.698	
Total SIU Flow (mgd)	0.108	
% Industrial Flow	2.3	%
POTW Organic (BOD) Design Capacity (lbs/day)	12750	
POTW TSS Design Capacity (lbs/day)	15,000	
POTW Ammonia (NH3) Design Capacity (lbs/day)	1,251	
Actual or Estimated total Flow for Commercial (Non-SIU) Dischargers (mgd)	0.07713	

Additional Information

Program Implementation

Number of Permitted Industrial Users as of December 31

CIUs	1	
Total SIUs	4	*includes CIUs + SIUs*
Other Permitted IUs	3	
Zero-Discharge CIUs	0	
Permitted Zero-Discharge CIUs	0	
Middle-Tier CIUs	0	
Non-Significant CIUs	0	

SIUs with No/Expired Permit as of December 31	0
SIUs with Administratively Extended Permits >180 Days	0
Number of SIUs with current control mechanisms	4
Number of NSCIUs that have violated any pretreatment standard	0

Number of SIUs in significant non-compliance (SNC) as of December 31

	CIUs	Non Categorical SIUs	Total SIUs
SNC Self-monitoring	0	0	0
SNC Reporting	0	0	0
SNC PT Standards	0	0	0
SNC Prohibitions	0	0	0
SNC Compliance Schedule	0	0	0
SNC Pass Through/Interference	0	0	0
SNC Other SNC Violations	0	0	0

Number of SIUs in significant non-compliance (SNC) at any time	0
Number of non-SIUs in significant non-compliance (SNC) at any time	0
Number of SIUs in SNC during the previous calendar year	0
SNC during the July to December period	0

# Permitted Non-SIUs With Unknown Compliance Status	0
# SIUs With Unknown Compliance Status	0
Does the ERP include escalating enforcement actions for SNC	Yes

	CIUs	Non Categorical SIUs	Total SIUs
Number of SIUs with compliance schedule as of December 3	0	0	0

Additional Information

Enforcement Actions

	Non-SIUs	SIUs	CIUs
Number of NOVs	0	2	1
Number of Formal Enforcement Actions	0	0	0
Number of different IUs with Formal Enforcement Actions	0	0	0
Number of SIUs on formal compliance schedule	0	0	0

Formal actions include Administrative Orders, show cause hearings, out-of-court settlements that are formal settlements, termination of service, formal compliance schedules, penalty actions EXCEPT civil or criminal suits.

	Civil	Criminal	Total
Number of suits filed against SIUs	0	0	0

	Non-SIUs	SIUs
Number of Different IUs From Whom Penalties Were Collect	0	0
Total Penalties Collected		

Number of IUs Published As Being In SNC	0

Additional Information

Compliance Monitoring

	Non-SIU	SIU
Number of individual permits issued	3	5
Number of general permits issued	0	0
Number of inspections in the reporting year	3	4

Overview description of Non-SIU inspections	Linde Gas of America, Air Products and Chemicals, and iDL Worldwide were inspected on 11/02/2021, 10/20/2022 and 12/15/2022 respectively. Linde Gas uses fractional distillation of air to produce oxygen, nitrogen, and crude argon. Air Products and Chemicals is a hydrogen production facility. IDL Worldwide designs, prints, manufactures and fabricates point-of-purchase displays for major U.S. brand name companies. Business name, location, production/operation information, wastewater types and quantities, environmental permits, ERP plans, and hazardous materials were all discussed and updated as needed during the
Number of SIUs not inspected during the reporting year	1
Number of SIUs that submitted required Self-Monitoring Reports	5
Number of SIUs not sampled during the reporting year	1
Number of SIUs in SNC With Self-Monitoring Requirements That Were Not Inspected or Samp	0

Additional Information

National American Steel and Wire (NASW), a CIU in the metal finishing category, no longer creates process wastewater. Therefore, the Authority voided the wastewater permit 07/31/2021. This is why one inspection and sampling event weren't completed during the reporting year.

Program Implementation - Resources

Number of Pretreatment FTEs	1
Significant Changes (+/- 20%) to The POTW's Pretreatment Program Budget or Staffing	No
Source of Budget	Account 10538
Total Pretreatment Program Budget	$ 37,946

Number of Jurisdictions Covered By Pretreatment Program	8
Adequate delegation in each jurisdiction?	Yes
Miscellaneous Developments and Special Initiatives?	No

Additional Information

Program Implementation - Hauled Waste

Does the POTW receive any discharges of

Receive Groundwater From Hydrocarbon Cleanup Site?	No
Receive Hauled Septage (Domestic Only)?	No
Receive Hauled Waste From Industrial Sources?	No
Receive Hauled Waste From Commercial Sources?	No
Receive Hauled Categorical Waste?	No
Receive Hauled Grease Interceptor/Trap Waste?	No
Receive Landfill Leachate?	No
Receive CERCLA Cleanup Wastes?	No
Receive Hazardous (RCRA) Waste?	No
RV Dump Stations in Service Area?	No
Receive Other Unique Waste?	No
Receive Oil & Gas Waste from Stripper wells?	No

If you accept any trucked or hauled waste, indicate all of the following that apply to your

Legal Authority To Control Hauled Waste?	Yes
POTW Issues Permits For Hauled Wastes?	Yes
POTW Has A Designated Disposal Site For Hauled Wastes?	Yes
POTW Controls Access At The Designated Disposal Station?	Yes
POTW Uses A Manifest System To Track/Control Hauled Wastes?	Yes
POTW Believes That Illegal Dumping May Be Occurring In Its Jurisdiction?	No

What parameter if any do you surcharge

Surcharge for BOD?	Yes
Surcharge for TSS?	Yes
Surcharge for Oil and Grease?	No
Surcharge for Flow?	No
Surcharge for Ammonia?	No
Surcharge for COD?	No
Surcharge for TKN?	No
Surcharge for Other Parameters?	No

Additional Information

Program Implementation - Pass/INTF

Instances Of Interference At The POTW?	Yes
Instances Of Pass Through At The POTW?	No

Receive Notification Of The Discharge Of Any Hazardous Waste	No

If so, names of IUs

Additional Information

Please see Attachment C, "Additional Information".

Attachment A: List of CIUs/SIUs

	PERMIT INFO					SIU Info															
SIU	Issued	Effective	Expires	Permit Type	Address	Sampled	Inspected	MRS	# of self-monitorings conducted/ required	Limits Type	MWG	Jurisdiction	SIC Code1	SIC Code2	Categorical Standard	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	MTCIU or NSCIU?	Justification	Discharge Status	Description	SNC?
Metalized Ceramics	2/23/2021	3/9/2021	9/30/2022	IP	119 Grant Street, East Butler, Pa 16029	10/26/2021	10/26/2021	4	1/1	Concentration-based		East Butler Borough	3417		Metal Finisher	3.8	44			Active	Manufacture Ceramic to met	No
North American Ste	2/23/2021	3/9/2021	7/31/2021	IP	629 East Butler Road, Butler, Pa 16002	Zero Discharg	11/25/2020	7	0/0	Concentration-based		Summit Township	3315	3471	Metal Finisher	0	204			Zero Discharge	Staple Manufacturer. CIU und	No
Pa American Water	2/23/2021	3/9/2021	11/30/2022	IP	207 Oneida Valley Road, Butler, Pa 1600	11/3/2021	11/3/2021	12	12/12	Concentration-based		Oakland Township	4941			28,119	28,420			Active	Public water supply treatmen	No
JSP International , L	2/23/2021	3/9/2021	12/31/2024	IP	150 East Brook Lane, Butler, Pa 16002	11/23/2021	11/23/2021	12	26/26	Concentration-based		Summit Township	3086			29,133	33,078			Active	Extrusion of polypropylene p	No
Cleveland-Cliffs Ste	3/2/2021	3/2/2021	11/30/2023	IP	210 Pittsburgh Road, Butler, Pa 16001	Zero Discharg	10/13/2021	4	0/0	Concentration-based		Butler Township	3,312	3316		0	46,205			Zero Discharge	& electrical steel from scrap	No

Attachment B: Copy of Newspaper Notice of SNC

Provide a copy of the newspaper notice identifying all IUs which were in SNC during the reporting period. The notice must show the name of the paper and the date of publication.

Copy of Newspaper Notice of SNC submitted? No

Additional Information

No 2021 SNC

Attachment C: Description of Each Incidence of Pass Through or Interferen

Provide a description of each incidence of Pass Through or Interference at the wastewater treatment plant or collection system during the year, the cause if determined, and any actions taken by the POTW in response to the Pass Through or Interference.

Description of Pass Through/Interference

Intermittent high -strength slug loadings of ammonia nitrogen from January to February, 2021.

Additional Information

The WWTP was receiving intermittent, high-strength BOD5 slug discharges from an unidentified, industrial wastewater source, or sources from late 2019 to early 2021. Although we received high strength discharges, the WWTP maintained its ability to effectively treat the wastes. All monthly average organic loading values during the period in which BASA received slug discharges were well within the limitations of the plants design capacity. The Authority has taken several proactive measures to identify and suspend the continuous discharges including the development of ammonia-nitrogen local limit (value of 30 mg/L) as of January 1, 2021, pH monitoring of the collection system, and onsite inspections of various industry. As of February, 2021, high-strength BOD5 slug discharges have been suspended. In the case that the WWTP receives future slug discharges the Authority will utilize the full powers of its EPA-approved pretreatment program to eliminate any illegal industrial waste discharges.

Attachment D: Description of Significant Change in Program Funding/Staff

An explanation of any significant decrease (20% or greater) in pretreatment funding or staffing of the POTW's Pretreatment Program.

Description of Significant Change in Program Funding/Staffing

No program funding changes have occurred.

Attachment E1: Permitted Industrial Users (part 1 of 2)

Provide a printout or listing of all permitted non-SIUs

	Permitted Non-SIUs	Rationale for permitting these non-SIUs
01	Linde Gas of America	The amount of process wastewater discharged, 4,957 gpd average and the pollutant concentrations produced by the closed loop cooling tower blowdowns, compressor condensate, sand filter backwashes, and periodic wastewater from the draining and cleaning of the cooling tower recirculation basins were BASA's motive to permit this facility. Pollutants of concern covered under their wastewater permit include copper and zinc. All permit limits correspond to local limit values and specific prohibitions found in BASA's rules and regulations.
02	Air Products and Chemicals	The amount of process wastewater discharged, 7,068 gpd average and the pollutant concentrations produced by the boiler feed system and cooling tower blowdown wastewater was BASA's motive to permit this facility. Pollutants of concern covered under their wastewater permit include copper, zinc and pH. All permit limits correspond to local limit values and specific prohibitions found in BASA's rules and regulations.
03	iDL Worldwide	The pollutant concentrations produced by the former film development process and the current screen printing/reclamation processes was BASA's motive to permit this facility. Pollutants of concern covered under their wastewater permit include BOD, TSS, silver, copper, and zinc. All permit limits correspond to local limit values and specific prohibitions found in BASA's rules and regulations.
04	Serv-A-Care	Permit Voided 04/01/2021. The amount of process/domestic wastewater previously discharged, 2,379 gpd average and the pollutant concentrations produced by cleaning and regeneration of water softener tanks, iron and carbon filter tanks, and neutralization tanks was BASA's motive to permit this facility. Pollutants of concern covered under their wastewater permit include copper, zinc, and pH. All permit limits coorospond to local limit values and specific prohibitions found in BASA's rules and regulations.
05		
06		
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Add more rows

Additional Information

Attachment H: Influent/Effluent and Biosolids Monitori

Influent Monitoring Results Submitted or Attached	Yes
Effluent Monitoring Results Submitted or Attached	Yes
Biosolids Monitoring Results Submitted or Attache	Yes

Additional Information

Facility Name:	BUTLER AREA SEWER AUTHORITY																		
Facility ID:	PAP026697	**UNITS:**	MG/L																
Location:	**INFLUENT**			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
	Pollutant	Goals	Frequency	1/18/2021	1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/17/2021	5/31/2021	6/30/2021	7/26/2021	7/31/2021	8/31/2021	9/30/2021	10/4/2021	10/31/2021	11/30/2021	12/31/2021
01002	ARSENIC- TOTAL	0.0138	4	0.0028					0.003			0.005				0.0004			
00310	BOD- 5-DAY	211.42	1		136	177	132	168		122	153		148	148	165		159	160	110
01027	CADMIUM- TOTAL	0.0046	4	0.00013					<0.0005			<0.0005				<0.0005			
01034	CHROMIUM- TOTAL	0.9157	4	0.0024					0.007			0.006				0.006			
01042	COPPER- TOTAL	0.1465	4	0.0599					0.06			0.068				0.056			
00720	CYANIDE- TOTAL	0.052	4	<0.0050					<0.010			<0.005				<0.005			
01051	LEAD- TOTAL	0.0587	4	0.002					0.002			0.003				0.004			
71900	MERCURY- TOTAL	0.0004	4	<.000066					0.0002			<0.0002				<0.0002			
01062	MOLYBDENUM- TOTAL	0.0434	4	0.0014					0.001			0.003				0.003			
01067	NICKEL- TOTAL	0.1534	4	0.0042					0.004			0.006				0.005			
00610	NITROGEN- AMMONIA	20.744	4		14	16.8	13	15.6		11.64	12.4		10.9	11.2	10.5		12.3	13.6	11.6
04166	PCB- TOTAL	Monitor	1	<0.00015															
00665	PHOSPHORUS- TOTAL	8.4605	1		2.14	2.73	2.17	2.72		1.9	2.53		2.48	2.6	2.7		2.51	2.44	2.03
01147	SELENIUM- TOTAL	0.0298	4	0.00065					<0.002			<0.002				<0.002			
01077	SILVER- TOTAL	0.0459	4	<0.0002					<0.0005			<0.0005				<0.0005			
00530	SOLIDS- TOTAL SUSPENDED	248.729	1		143	158.1	127	174		145	213		166						
01092	ZINC- TOTAL	0.2338	4	0.0962					0.077			0.116				0.09			
				Non-detect "J" values															

Facility Name:	BUTLER AREA SEWER AUTHORITY																
Facility ID:	PAP026697	**UNITS:**	MG/L														
Location:	**EFFLUENT**			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
	Pollutant	Goals	Frequency	1/19/2021	5/18/2021	7/27/2021	10/5/2021										
01002	ARSENIC- TOTAL	0.041	4	<0.0045	<0.001	0.002	0.002										
00310	BOD- 5-DAY	No Goal	0														
01027	CADMIUM- TOTAL	0.0015	4	<0.00034	<0.0005	<.0005	<0.0005										
01034	CHROMIUM- TOTAL	Monitor	4	<0.00098	0.0005	0.002	0.0008										
01042	COPPER- TOTAL	0.0425	4	0.0104	0.01	0.018	0.012										
00720	CYANIDE- TOTAL	0.0213	4	0.012	<0.010	0.007	<0.005										
01051	LEAD- TOTAL	0.0215	4	<0.0024	<0.0005	0.0008	<0.0005										
71900	MERCURY- TOTAL	0.0002	4	<0.00003	<0.0002	<.0002	<0.0002										
01062	MOLYBDENUM- TOTAL	Monitor	4	<0.0011	0.001	0.003	0.002										
01067	NICKEL- TOTAL	0.2984	4	<0.0035	0.003	0.004	0.002										
00610	NITROGEN- AMMONIA	1.999	4		<0.800												
04166	PCB- TOTAL	No Goal	0														
00665	PHOSPHORUS- TOTAL	2.0001	1														
01147	SELENIUM- TOTAL	0.0205	4	<0.0038	<0.002	<.002	<0.002										
01077	SILVER- TOTAL	0.0156	4	<0.0011	<0.0005	<.0005	<0.0005										
00530	SOLIDS- TOTAL SUSPENDED	No Goal	0														
01092	ZINC- TOTAL	0.3506	4	0.0308	0.023	0.032	0.014										
				Non-detect "J" values													

Facility Name:	BUTLER AREA SEWER AUTHORITY															
Facility ID:	PAP026697	**UNITS:**	MG/KG													
Location:	**SLUDGE**		DRY WT	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
	Pollutant	Goals	Frequency	1/19/2021	5/19/2021	7/28/2021	8/25/2021	10/6/2021								
01002	ARSENIC- TOTAL	41	4	10.2	7.19	9.03		9.07								
00310	BOD- 5-DAY	No Goal	0													
01027	CADMIUM- TOTAL	39	4	1.1	<0.087	<1.57		<1.53								
01034	CHROMIUM- TOTAL	Monitor	4	17	27.8	25		24.7								
01042	COPPER- TOTAL	1500	4	232	233	139		201								
00720	CYANIDE- TOTAL	Monitor	4	<2.2	<2.3	1.47		2.85								
01051	LEAD- TOTAL	300	4	15.7	16.7	13.2		16.6								
71900	MERCURY- TOTAL	17	4	<0.31	0.944	0.160283		0.625								
01062	MOLYBDENUM- TOTAL	75	4	<4.0	<0.534	9.3		3.28								
01067	NICKEL- TOTAL	420	4	12.8	13.2	18.4		10.5								
00610	NITROGEN- AMMONIA	Monitor	4		1290	245	6830	869								
04166	PCB- TOTAL	Monitor	1	<13.52												
00665	PHOSPHORUS- TOTAL	No Goal	0													
01147	SELENIUM- TOTAL	100	4	<2	<1.92	<6.27		<6.14								
01077	SILVER- TOTAL	Monitor	4	<0.34	<0.278	<1.57		<1.53								
00530	SOLIDS- TOTAL SUSPENDED	No Goal	0													
01092	ZINC- TOTAL	2800	4	340	315	264		324								
				Non-detect "J" values												

Email File to EPA Region 3

The signature certification page must be printed, signed, and sent in hard copy to US EPA Region 3 at the following address:

Pretreatment Coordinator
US EPA Region 3
Mail Code 3WD41
1650 Arch Street
Philadelphia, PA 19103-2029

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

#NAME?

Mason Miller — 01/20/2022

Authorized Signatory Official — **Date**

Mason Miller: Pretreatment Coordinator

Print or type name and title

Note: The Signatory Official is the person authorized by the POTW to sign the Annual Report (see 40 CFR Section 403.12(m)).

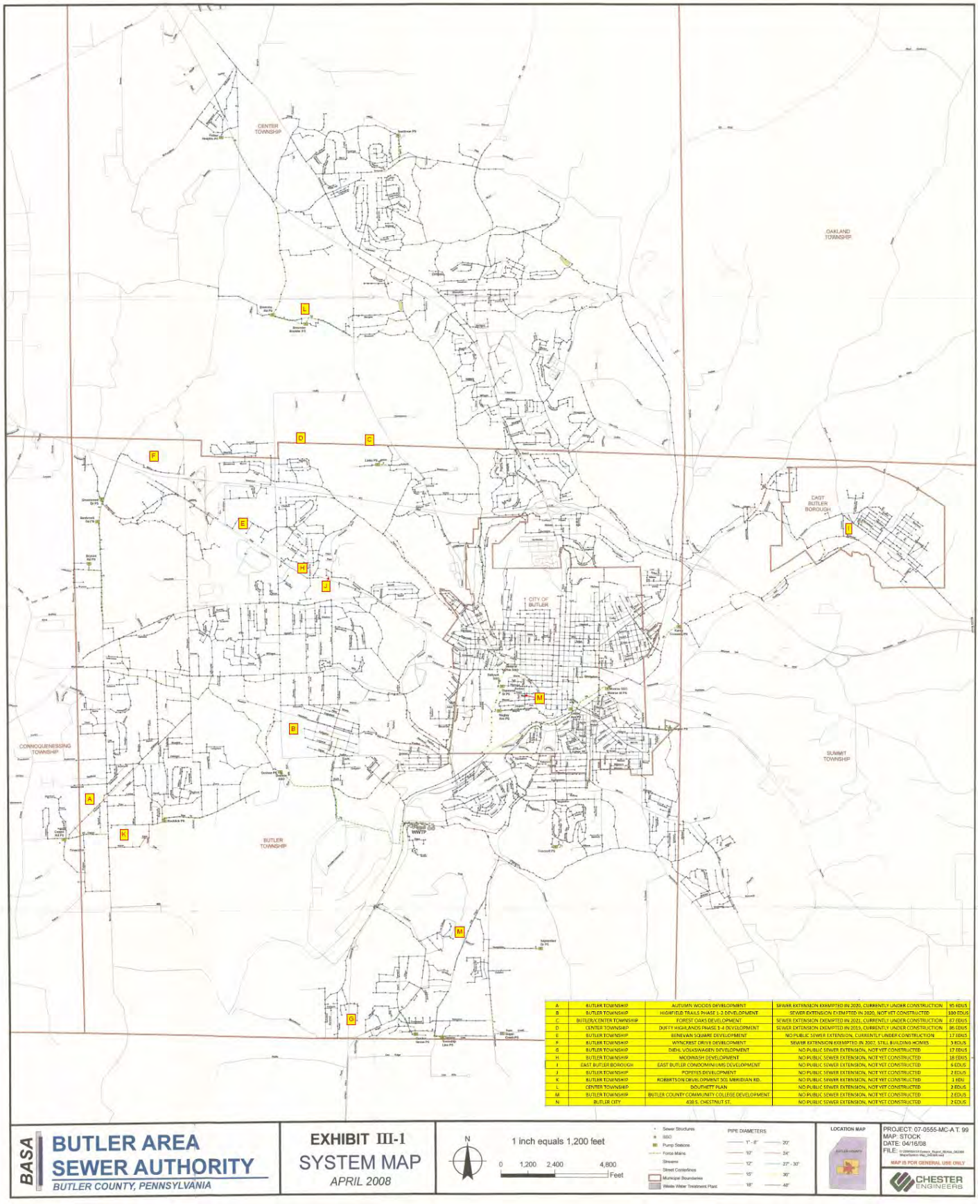
The following documents may be attached to the email or hard copies can be mailed to US EPA Region 3

1. A copy of the newspaper notice identifying all IUs which were in SNC during the reporting period. The notice must show the name of the paper and the date of publication.
2. The results of all influent monitoring results that were performed as required in the Pretreatment section of your state issued NPDES permit. The results must include the name of the pollutant, measured concentration, analytical method used, detection
3. The results of all effluent monitoring results from the monitoring required by the Pretreatment section of your state issued NPDES permit. Provide monitoring results for those pollutants that were reported above the detection limit. The results must include the
4. The results of all monitoring results for biosolids (sludge) monitoring for any pollutants listed in 40 CFR Part 122, Appendix D, Table II, III, and V. This is for final sludge to disposal only. This monitoring may have been required by your state issued NPDES permit, or

Time Stamp:
User Stamp:

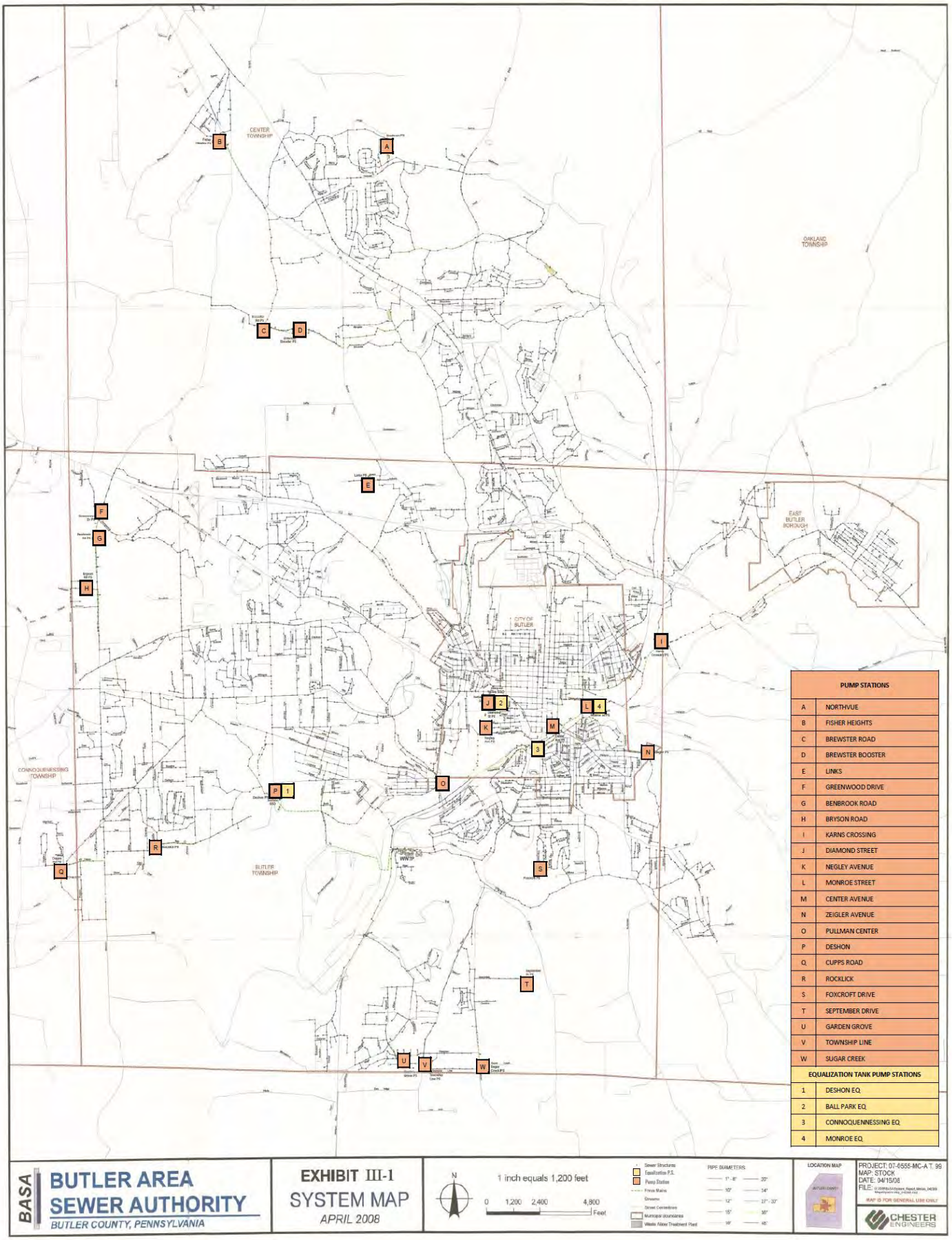
Appendix D

2021 Planning Module Land Development Map


CENTER TOWNSHIP
OAKLAND TOWNSHIP
EAST BUTLER BOROUGH
CITY OF BUTLER
CONNOQUENESSING TOWNSHIP
BUTLER TOWNSHIP
SUMMIT TOWNSHIP
WWTP
A BUTLER TOWNSHIP AUTUMN WOODS DEVELOPMENT SEWER EXTENSION EXEMPTED IN 2020, CURRENTLY UNDER CONSTRUCTION 95 EDUS
B BUTLER TOWNSHIP HIGHFIELD TRAILS PHASE 1-2 DEVELOPMENT SEWER EXTENSION EXEMPTED IN 2020, NOT YET CONSTRUCTED 100 EDUS
C BUTLER/CENTER TOWNSHIP FOREST OAKS DEVELOPMENT SEWER EXTENSION EXEMPTED IN 2021, CURRENTLY UNDER CONSTRUCTION 87 EDUS
D CENTER TOWNSHIP DUFFY HIGHLANDS PHASE 3-4 DEVELOPMENT SEWER EXTENSION EXEMPTED IN 2019, CURRENTLY UNDER CONSTRUCTION 86 EDUS
E BUTLER TOWNSHIP GLENEVAN SQUARE DEVELOPMENT NO PUBLIC SEWER EXTENSION, CURRENTLY UNDER CONSTRUCTION 17 EDUS
F BUTLER TOWNSHIP WYNCREST DRIVE DEVELOPMENT SEWER EXTENSION EXEMPTED IN 2007, STILL BUILDING HOMES 3 EDUS
G BUTLER TOWNSHIP DIEHL VOLKSWAGEN DEVELOPMENT NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 17 EDUS
H BUTLER TOWNSHIP MCDONNISH DEVELOPMENT NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 18 EDUS
I EAST BUTLER BOROUGH EAST BUTLER CONDOMINIUMS DEVELOPMENT NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 4 EDUS
J BUTLER TOWNSHIP POPEYES DEVELOPMENT NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 2 EDUS
K BUTLER TOWNSHIP ROBERTSON DEVELOPMENT 501 MERIDIAN RD. NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 1 EDU
L CENTER TOWNSHIP DOUTHETT PLAN NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 2 EDUS
M BUTLER TOWNSHIP BUTLER COUNTY COMMUNITY COLLEGE DEVELOPMENT NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 2 EDUS
N BUTLER CITY 438 S. CHESTNUT ST. NO PUBLIC SEWER EXTENSION, NOT YET CONSTRUCTED 2 EDUS
BASA
BUTLER AREA SEWER AUTHORITY
BUTLER COUNTY, PENNSYLVANIA
EXHIBIT III-1
SYSTEM MAP
APRIL 2008
N
1 inch equals 1,200 feet
0 1,200 2,400 4,800 Feet
Sewer Structures
SSO
Pump Stations
Force Mains
Streams
Street Centerlines
Municipal Boundaries
Wastewater Treatment Plant
PIPE DIAMETERS
8" 20"
10" 24"
12" 27" - 30"
15" 36"
18" 48"
LOCATION MAP
PROJECT: 07-0555-MC-A.T. 99
MAP: STOCK
DATE: 04/16/08
FILE:
MAP IS FOR GENERAL USE ONLY
CHESTER ENGINEERS

Appendix E

Pump Station Map

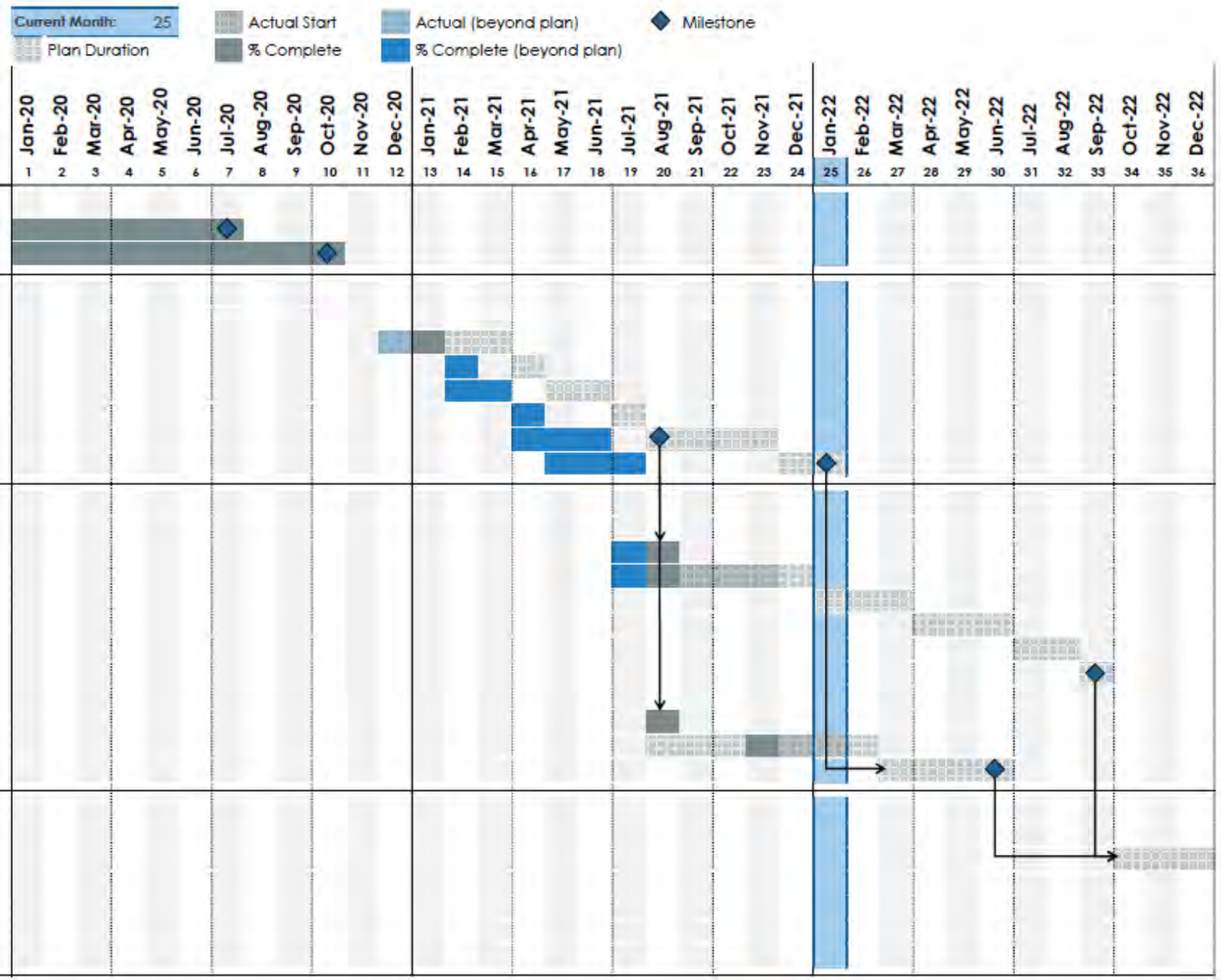

CENTER TOWNSHIP
OAKLAND TOWNSHIP
EAST BUTLER BOROUGH
CITY OF BUTLER
CONNOQUENESSING TOWNSHIP
BUTLER TOWNSHIP
WWTP
PUMP STATIONS
A NORTHVUE
B FISHER HEIGHTS
C BREWSTER ROAD
D BREWSTER BOOSTER
E LINKS
F GREENWOOD DRIVE
G BENBROOK ROAD
H BRYSON ROAD
I KARNS CROSSING
J DIAMOND STREET
K NEGLEY AVENUE
L MONROE STREET
M CENTER AVENUE
N ZEIGLER AVENUE
O PULLMAN CENTER
P DESHON
Q CUPPS ROAD
R ROCKLICK
S FOXCROFT DRIVE
T SEPTEMBER DRIVE
U GARDEN GROVE
V TOWNSHIP LINE
W SUGAR CREEK
EQUALIZATION TANK PUMP STATIONS
1 DESHON EQ.
2 BALL PARK EQ.
3 CONNOQUENNESSING EQ.
4 MONROE EQ.
BASA
BUTLER AREA SEWER AUTHORITY
BUTLER COUNTY, PENNSYLVANIA
EXHIBIT III-1
SYSTEM MAP
APRIL 2008
N
1 inch equals 1,200 feet
0 1,200 2,400 4,800 Feet
Sewer Structures
Facilities P.S.
Pump Station
Force Mains
Gravity
Street Centerlines
Municipal Boundaries
Waste Water Treatment Plant
PIPE DIAMETERS
LOCATION MAP
PROJECT: 07-6555-MC-A T. 99
MAP: STOCK
DATE: 04/15/08
FILE:
MAP IS FOR GENERAL USE ONLY
CHESTER ENGINEERS

Appendix F

CAP Progress Schedule

Project Schedule

CAP Pump Stations Upgrade
Butler Area Sewer Authority



TASK	PERCENT COMPLETE
Design Evaluation	
1 Fisher-Brewster-Booster Design Evaluation	100%
2 Greenwood-Benbrook-Bryson Design Evaluation	100%
Sewage Facilities Planning	
3 Planning Modules for FBB and GBB	
A *Preparation*	100%
B *Submit to BASA for review*	100%
C *Public Comment Period, Planning Commissions Review Period*	100%
D *Butler and Center Twps Adoption and Resolution*	100%
E *DEP submission and review*	100%
F *Address DEP comments and DEP Approval*	100%
Design and Permitting	
4 Design	
A *Survey*	100%
B *Preliminary*	50%
C *60% Design*	
D *90% Design*	
E *100% Design and Project Manual*	
F *Authority Final Approval*	
5 Permits	
A *Wetlands Delineation*	100%
B *Application(s) Preparation*	30%
C *Regulatory Agency submission and review*	
Bidding and Construction	
6 FBB Contract	
A *Bidding*	
B *Construction*	
7 GBB Contract	
A *Bidding*	
B *Construction*	

Project Schedule

CAP Pump Stations Upgrade
Butler Area Sewer Authority

Current Month: 19 | Plan Duration | Actual Start | % Complete | Actual (beyond plan) | % Complete (beyond plan) | Milestone

TASK	PERCENT COMPLETE	Jan-23 37	Feb-23 38	Mar-23 39	Apr-23 40	May-23 41	Jun-23 42	Jul-23 43	Aug-23 44	Sep-23 45	Oct-23 46	Nov-23 47	Dec-23 48	Jan-24 49	Feb-24 50	Mar-24 51	Apr-24 52	May-24 53	Jun-24 54	Jul-24 55	Aug-24 56	Sep-24 57	Oct-24 58	Nov-24 59	Dec-24 60	Jan-25 61	Feb-25 62	Mar-25 63	Apr-25 64	May-25 65	Jun-25 66	Jul-25 67	Aug-25 68	Sep-25 69	Oct-25 70	Nov-25 71	Dec-25 72
Design Evaluation																																				
1 Fisher-Brewster-Booster Design Evaluation	100%																																			
2 Greenwood-Benbrook-Bryson Design Evaluation	100%																																			
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3 Planning Modules for FBB and GBB																																				
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A *Bidding*																																				
B *Construction*																																				

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY

ENGINEER'S ASSESSMENT STUDY FOR: BUTLER AREA SEWER AUTHORITY SANITARY SEWER SYSTEM

Submitted to:
PA AMERICAN WATER
ATTN: Mr. Scott Fogelsanger
852 Wesley Drive
Mechanicsburg, PA 17055

BUTLER AREA SEWER AUTHORITY
ATTN: Mr. Duane McKee
100 Litman Road
Butler, PA 16001

R001358.0600

Submitted by:
HERBERT, ROWLAND & GRUBIC, INC.
220 West Kensinger Drive, Suite 100
Cranberry Township, PA 16066
724.779.4777

Date:
January 19, 2023

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Other Assets....5

Vehicles....5

Grinder Pumps....5

Office Equipment....6

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Appendix 2 –WWTP Improvements/Assets List

Appendix 3 –Pump Station Improvements/Assets List

Appendix 4 – Sewer Collection/Conveyance System Map

Appendix 5 –Sewer Main Assets

Appendix 6 –Manhole Assets

Appendix 7 –Service Connection Assets

Appendix 8 –Collection System Flow Monitoring Assets

Appendix 9 –Property Inventory

Appendix 10 –Vehicle Assets

Appendix 11 –Grinder Pump Assets

Appendix 12 –Office Equipment Assets

PROFESSIONAL ENGINEER'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: _____ Date: JAN. 19, 2023

Chad E. Hanley, PE

Group Manager | Water & Wastewater



Registration Number: PE-063046

Commonwealth of Pennsylvania

ENGINEER'S ASSESSMENT STUDY

Introduction

Herbert, Rowland & Grubic (HRG) was contracted by Pennsylvania American Water Company (PAWC) and Butler Area Sewer Authority (BASA) to prepare an Engineer's Assessment (EA) of all wastewater infrastructure for the purchase of Butler Area Sewer Authority's Wastewater Treatment Plant (WWTP), collection and conveyance systems by PAWC.

Infrastructure includes facilities, equipment and real estate to be purchased by PAWC in the sale of BASA. Assets include original project costs (including project soft costs) for the construction of each asset. Where no data existed for original construction costs, HRG developed a project cost estimate for the asset and indexed the cost back to the estimated date of construction. The Handy Whitman index was used with the appropriate NARUC account numbers when construction costs were indexed back historically.

BASA's wastewater treatment, collection and conveyance system consists of one (1) WWTP, twenty-three (23) continuous duty pump stations, four (4) wet weather diversion pump stations, and seven (7) equalization tanks as well as approximately 224 miles of gravity sewer and eight (8) miles of force main. Gravity sewers range from 6-inch diameter to 48-inch in diameter. A summary of the original project costs of all in-service BASA owned sewer system infrastructure and associated easements and rights-of-way is shown in Table 1 below.

Table 1: Summary of In-service BASA Sewer Infrastructure: Original Project Costs

NARUC Account No.	Facility Description	Original Project Cost
Various	Treatment Plant	$36,886,933
Various	Conveyance System	$44,836,906
361/363	Collection System	$59,398,645
353	Land & Land Rights	$592,541
391/395	Vehicles	$1,918,342
371	BASA Owned Grinder Pumps	$38,624
390	Office Equipment	$99,340
Total		$143,771,331

Table 1A below shows a summary of work-in-progress projects currently underway in BASA's sewer system. The costs associated with these projects are separate from in-service projects listed in Table 1. A detailed table for all work-in-progress can be found in Appendix 3, note the only work in progress within BASA's system are for pump stations.

Table 1A: Summary of Work-In-Progress Projects: Completed to Date and Anticipated Total Cost

NARUC Account No.	Facility Description	Costs Incurred to Date	Anticipated Total Cost
Pump Stations			
354	Pump Stations	$802,548	$9,984,241
Total Work-In-Progress		$802,548	$9,984,241

Source Documents

HRG utilized a variety of historical documents from BASA's paper archives. Documents utilized to complete this study include the following:

- Annual Engineering Reports (1964-1968 and 1991-2022).
- Developer's Agreements (1999 to 2022).
- Project Contract Documents.
- Public Property Records as obtained from Butler County Recorder's office.
- Vehicle List as obtained from BASA.
- Grinder Pump Stations as obtained from BASA.
- 1980's (approximately) Environmental Protection Agency Audit Info.
- BASA's GIS Database.
- Construction payment applications.
- Summary Revaluation Report – Insurance Values as prepared by Industrial Appraisal Company of Pittsburgh, PA. Valuation date was as of June 1, 2022.
- BASA's Annual Wasteload Management Reports from 1998-2021 (Chapter 94 Reports).

Methodology

This assessment was prepared following review of historical documents provided by BASA. HRG was given access to all BASA files and documents. HRG staff, in cooperation with BASA staff, reviewed the files for relevant documents. Accurate records were not maintained by BASA until April 1965. As a result, documentation of assets prior to 1965 were not found.

In preparation of this Engineer's Assessment, each of BASA's Annual Engineering Reports were reviewed. The annual reports provided general information on improvements made during each calendar year. With major improvements identified from the Annual Engineer's Reports, a file review of all available construction contract documents was completed to help fill in holes and add additional information. Where information was still unavailable for infrastructure assets, particularly for the collection system, a cost estimate was developed in 2022 dollars based upon generally accepted Engineering practice. Then, the Handy Whitman Index for water systems was used to "index back" current construction costs to the estimated year of original construction.

Wastewater Treatment Plant

The City of Butler and Butler Township created the Butler Area Sewer Authority (BASA) in 1962 to address sewage issues in the surrounding areas. The existing wastewater treatment plant (WWTP) located at 100 Litman Road, Butler PA 16001 was included in the transfer of assets in 1962. The appraised value of the WWTP at the time of transfer was $463,081 which included the plant, land

and equipment. The WWTP began operation under BASA's management on October 27, 1964. At that time the WWTP consisted of the following:

- Screenings and Grit Chambers
- Primary and Final Clarifiers
- Sludge Digester and Sludge Digester Control Building
- Open and Covered Sludge Beds
- Trickling Filters
- Pump House and Motor Building
- Old Pump House
- Garage

Following acquisition of the treatment facility, BASA completed numerous improvements to the original WWTP and collection system. BASA's WWTP currently serves an average of 23,541 EDUs with average annual flows in 2021 of 5.7-MGD. The WWTP operates under NPDES Permit No. PA0026697 with a permitted flow capacity of 10.0-MGD. A simplified process flow diagram of the existing plant is found in Appendix 1. Processes listed on this appendix correspond to processes outlined in Appendix 2 for the plant.

Although portions of the WWTP are aging, BASA has maintained the plant in good working order and condition. The assets of the WWTP are in good to fair condition.

A summary of WWTP assets and their original project costs are shown below in Table 2. Significant improvements to the original WWTP are identified within Appendix 2, which includes Project Description, Original Construction Cost (or purchase price), and the approximate date which the new assets were placed into operation or service.

Table 2: Summary of WWTP Assets and Original Project Cost

NARUC Account No.	Facility Description	Original Project Cost
354	Structures & Improvements	$18,861,945
355	Power Generation Equipment	$590,907
371	Pumping Equipment	$428,950
380	Treatment & Disposal Equipment	$15,729,810
382	Outfall Sewer Lines	$25,662
389	Other Plant & Misc. Equipment	$78,430
396	Communication Equipment	$1,111,618
397	Misc. Equipment	$59,611
Total		$36,886,933

Sewer Collection and Conveyance Systems

PUMP STATIONS

BASA's conveyance system consists of twenty-three (23) continuous duty pump stations, four (4) wet weather diversion pump stations: Ballpark, Connoquenessing, Monroe Street, and Deshon, and seven (7) flow equalization tanks: three (3) at the Central Storage Facility, two (2) at Monroe

Street, and two (2) at Deshon. BASA's system also contains approximately eight (8) miles of sanitary force main.

As demonstrated on the map in Appendix 4, both the Monroe Street PS and Deshon PS sites contain continuous duty pump stations, wet weather diversion pump stations, and two (2) equalization tanks. The remaining three (3) equalization tanks are located at the Central Storage Facility. The Ballpark and Connoquenessing wet weather pump stations pump to the Central Storage Facility.

As a whole, the conveyance system pump stations are in fair to good condition. A summary of pump station and conveyance system assets are shown below in Table 3.

Table 3: Summary of Pump Station and Conveyance System Assets and Original Project Cost

NARUC Account No.	Facility Description	Original Project Cost
354	Structures & Improvements	$29,543,058
355	Power Generation Equipment	$1,112,785
360	Collection Sewers – Force	$4,551,561
371	Pumping Equipment	$6,954,252
380	Treatment & Disposal Equipment	$2,675,250
Total		$44,836,906

A detailed list of pump station assets compiled by HRG can be found in Appendix 3. A map of BASA's pump stations is found in Appendix 4.

SEWER COLLECTION SYSTEM

BASA's sewer collection system consists of approximately 224 miles of gravity sewer ranging from 6- to 48-inch diameter sewer. The sewer collection system is in fair to excellent condition. New mains are in excellent condition while older mains are in fair condition. HRG included construction costs of laterals included in project documents since these laterals were likely extended to the right-of-way line.

A summary of collection system assets is shown below in Table 4.

Table 4: Summary of Collection System Assets and Original Project Cost

NARUC Account No.	Facility Description	Original Project Cost
361	Sewer Mains	$42,602,048
361	Manholes	$7,927,849
363	Service Connections	$8,568,748
364	Flow Measuring Devices	$300,000
Total		$59,398,645

A detailed list of sewer collection system assets compiled by HRG can be found in Appendix 5-8. A map of BASA's collection system is found in Appendix 4.

Property Inventory

Property and right-of-way assets were compiled by BASA staff. BASA purchased property and rights-of-way assets in 1964 from local municipalities during the creation of the Authority. Throughout the years since 1964, BASA has acquired other property and right-of-way assets. A list of BASA owned property pulled from Butler County Courthouse records by BASA is shown in Appendix 9. A summary of property assets owned by BASA is show in Table 5 below.

Table 5: Summary of Property Assets

NARUC Account No.	Vehicle Description	Original Project Cost
353	Land & Land Rights	$592,541
Total		$592,541

Other Assets

In addition to the BASA's WWTP, collection/conveyance, and property assets, HRG also compiled and assessed vehicles, BASA owned grinder pumps, and office supplies.

VEHICLE ASSETS

HRG attained a vehicle list from BASA outlining all vehicular assets and original purchase price. A summary of BASA owned vehicles per NARUC account number is shown in Table 6 below. A detailed list of all BASA owned vehicles, original purchase price and model year is found in Appendix 10. BASA owned vehicles are in good condition.

Table 6: Summary of BASA Vehicle Assets

NARUC Account No.	Description	Original Project Cost
391	Transportation Equipment	$784,172
395	Power Operated Equipment	$1,134,170
Total		$1,918,342

GRINDER PUMPS

HRG attained a list of BASA owned grinder pump units from BASA. The list includes the date of grinder pump replacement. A detailed list of BASA owned grinder pumps is shown in Appendix 11. BASA owned grinder pumps are in good condition.

Table 7: Summary of BASA Owned Grinder Pumps

NARUC Account No.	Description	Original Project Cost
371	Grinder Pumps	$38,624
Total		$38,624

OFFICE EQUIPMENT

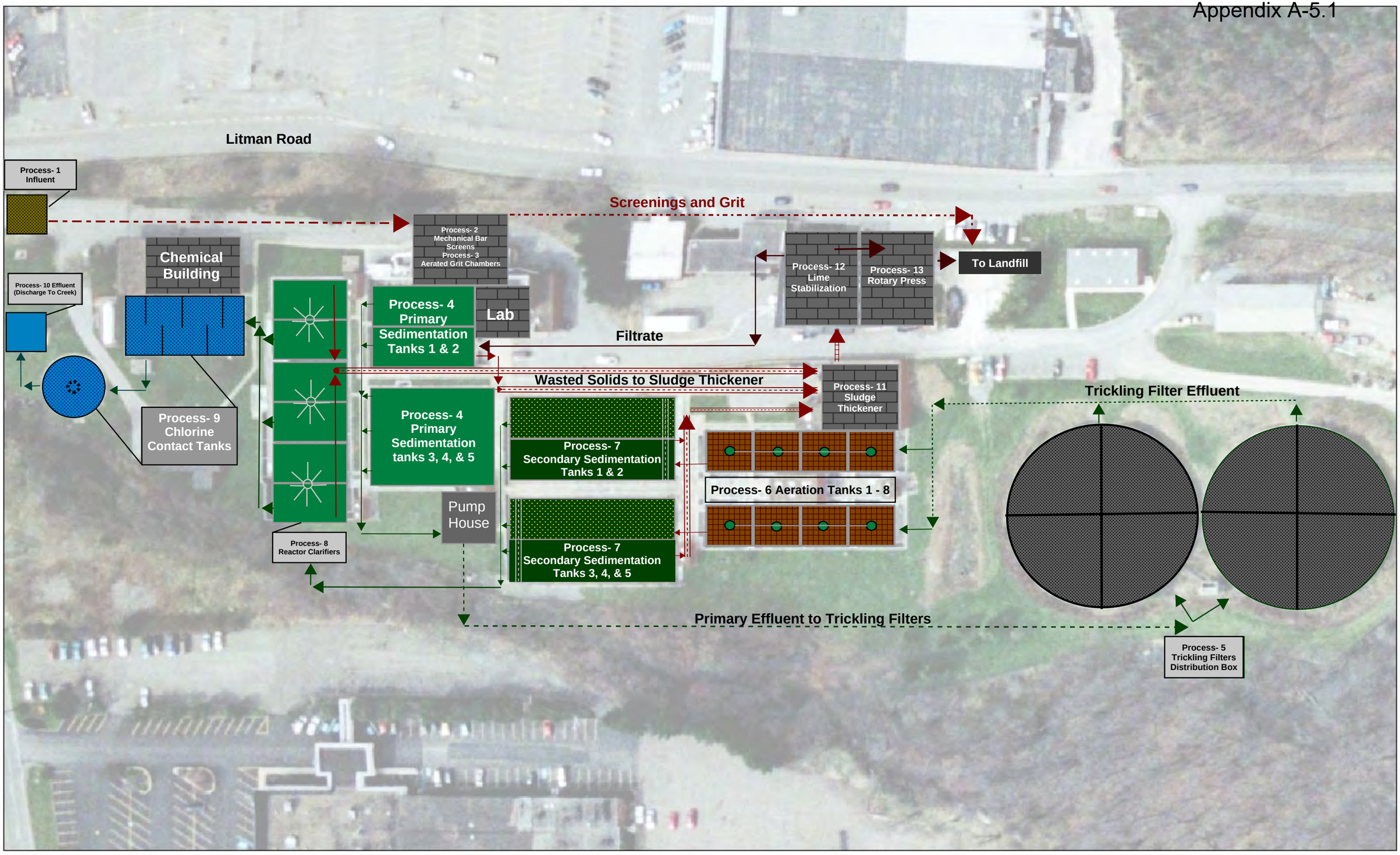
BASA supplied a list of office equipment which includes computers, printers, envelope stuffers and mail openers. This list includes the name of the piece of office equipment as well as the original purchase price and date. A detailed list of BASA owned office equipment in provided in Appendix 12. A summary is shown in Table 8 below. Office supplies owned by BASA are in good condition.

Table 8: Summary of BASA Office Equipment

NARUC Account No.	Description	Original Project Cost
390.1	Computer Equipment	$43,961
390.2	Printers	$43,201
390.3	Misc. Office Equipment	$12,178
Total		$99,340

A1

Appendix 1:
Simplified WWTP Process Flow Diagram


Litman Road
Process- 1 Influent
Screenings and Grit
Process- 2 Mechanical Bar Screens
Process- 3 Aerated Grit Chambers
Chemical Building
Process- 10 Effluent (Discharge To Creek)
Process- 12 Lime Stabilization
Process- 13 Rotary Press
To Landfill
Process- 4 Primary Sedimentation Tanks 1 & 2
Lab
Filtrate
Wasted Solids to Sludge Thickener
Process- 11 Sludge Thickener
Trickling Filter Effluent
Process- 9 Chlorine Contact Tanks
Process- 4 Primary Sedimentation tanks 3, 4, & 5
Process- 7 Secondary Sedimentation Tanks 1 & 2
Process- 6 Aeration Tanks 1 - 8
Pump House
Process- 8 Reactor Clarifiers
Process- 7 Secondary Sedimentation Tanks 3, 4, & 5
Primary Effluent to Trickling Filters
Process- 5 Trickling Filters Distribution Box

A2

Appendix 2:
WWTP Improvements/Assets List

Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	TOTAL PROJECT COST
354	General / Undefined Plant Improvements:	
	GENERAL/UNDEFINED PLANT IMPROVEMENTS TOTAL	$ 1,267,577
354	Administration Buildings:	
	ADMINISTRATION BUILDING TOTAL	$ 6,115,527
355	Power Generation:	
	POWER GENERATION TOTAL	$ 590,907
396	SCADA / Controls:	
	SCADA/CONTROLS TOTAL	$ 518,728
380	Process 1 - Influent:	
	PROCESS 1 - INFLUENT TOTAL	$ 954,480
380	Process 2 - Mechanical Bar Screen:	
	PROCESS 2 - MECHANICAL BAR SCREEN TOTAL	$ 450,800
380	Process 3 - Aerated Grit Chamber:	
	PROCESS 3 - AERATED GRIT CHAMBER TOTAL	$ 1,727,078
380	Process 4 - Primary Sedimentation:	
	PROCESS 4 - PRIMARY SEDIMENTATION TOTAL	$ 1,640,066
380	Process 5 - Trickling Filters:	
	PROCESS 5 - TRICKLING FILTERS TOTAL	$ 340,784
380	Process 6 - Aeration Tanks:	
	PROCESS 6 - AERATION TANKS TOTAL:	$ 3,581,954
380	Process 7 - Secondary Sedimentation:	
	PROCESS 7 - SECONDARY SEDIMENTATION TOTAL	$ 4,834,208
380	Process 8 - Reactor Clarifiers:	
	PROCESS 8 - REACTOR CLARIFIERS TOTAL:	$ 3,200,950
380	Process 9 - Chlorine Contact Tanks:	
	PROCESS 9 - CHLORINE CONTACT TANKS TOTAL:	$ 1,471,869
380	Pump House - Recirculation & Emergency Bypass:	
	PUMP HOUSE - RECIRCULATION & EMERGENCY BYPASS TOTAL:	$ 854,075
380	Process 10 - Effluent to Creek:	
	PROCESS 10 - EFFLUENT TO CREEK TOTAL:	$ 68,787
380	Process 11 - Sludge Thickening:	
	PROCESS 11 - SLUDGE THICKENING TOTAL	$ 5,489,347
380	Process 12 - Lime Stabilization:	
	PROCESS 12 - LIME STABILIZATION TOTAL	$ 768,336
380	Process 13 - Rotary Sludge Press:	
	PROCESS 13 - ROTARY SLUDGE PRESS TOTAL	$ 575,501
380	Process 14 - Compost Facility:	
	PROCESS 14 - COMPOST FACILITY TOTAL:	$ 2,435,958
GRAND TOTAL ENTIRE PLANT		$ 36,886,933

Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
354	General / Undefined Plant Improvements:		
354	WWTP Purchase By BASA	10/27/1964	
	WWTP Purchase By BASA Total (in-service):		$ 231,541
354	WWTP General Construction	Dec-65	
	WWTP General Construction Total:		$ 748,793
354	WWTP Plumbing	Dec-65	
	WWTP Plumbing Total:		$ 8,877
354	WWTP Heating	Dec-65	
	WWTP Heating Total:		$ 22,776
354	WWTP Electrical	Dec-65	
	WWTP Electrical Total:		$ 75,660
354	WWTP - Heating System Improvements	1994	
	WWTP - Heating System Improvements Total:		$ 158,950
354	WWTP Heating and Air Conditioning Improvements and Repairs	2007	
	WWTP Heating and Air Conditioning Improvements and Repairs Total:		$ 20,982
	GENERAL/UNDEFINED PLANT IMPROVEMENTS TOTAL		$ 1,267,577
354	Administration Buildings:		
354	Billing Office General Construction	10/31/1966	
	Billing Office General Construction Total:		$ 68,822
354	Billing Office HVAC and Electrical	10/31/1966	
	Billing Office HVAC and Electrical Total:		$ -
354	WWTP Improvements	1982	
	Site Improvements - Asphault Paving		$ 123,000
	WWTP Improvements Total:		$ 947,151
354	WWTP Improvements - Paving Maintenance Project	10/1/1995	
	WWTP Improvements - Paving Maintenance Project Total:		$ -
354	WWTP Improvements - Re-Roofing Project	4/5/1995	
	WWTP Improvements - Re-Roofing Project Total:		$ -
354	Heating Sytem Maintenance & Repair - Admin Building	7/1/2000	
	Heating Sytem Maintenance & Repair - Admin Building Total:		$ -
354	Employee Locker Room Facility	11/6/2003	
	Employee Locker Room Facility Total:		$ 445,625
354	Refurbushing Office AC System	2006	
	Refurbushing Office AC System Total:		$ -
354	Maintenance Building and Sewer Crew Garage - General Construction	10/1/2012	
	Maintenance Building and Sewer Crew Garage - General Construction Total:		$ 349,668
354	Maintenance Building and Sewer Crew Garage - Plumbing Construction	9/1/2012	
	Maintenance Building and Sewer Crew Garage - Plumbing Construction Total:		$ 48,927
354	Maintenance Building and Sewer Crew Garage - HVAC Construction	9/1/2012	
	Maintenance Building and Sewer Crew Garage - HVAC Construction Total:		$ 85,380
354	Maintenance Building and Sewer Crew Garage - Electrical Construction	10/1/2012	
	Maintenance Building and Sewer Crew Garage - Electrical Construction Total:		$ 140,344
354	Adminstrative Office Building - General Construction	6/1/2013	
	Adminstrative Office Building - General Construction Total:		$ 756,678
354	Adminstrative Office Building - Plumbing Construction	6/1/2013	
	Adminstrative Office Building - Plumbing Construction Total:		$ 56,804
354	Adminstrative Office Building - HVAC Construction	7/1/2013	
	Adminstrative Office Building - HVAC Construction Total:		$ 484,806
354	Adminstrative Office Building - Electrical Construction	6/1/2013	
	Adminstrative Office Building - Electrical Construction Total:		$ 269,472
354	Four Roofs Replacement Project	11/1/2013	
	Four Roofs Replacement Project Total:		$ 171,838

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Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
354	BASA Roofing Projects	12/1/2013	
	BASA Roofing Projects Total:		$ 124,545
354	BASA Roofing Projects	11/1/2015	
	BASA Roofing Projects Total:		$ 106,663
397	Plant Security and Door Hardware	-	
	Plant Security and Door Hardware Total:		$ 56,551
354	WWTP Paving Maintenance Project	-	
	WWTP Paving Maintenance Project Total:		$ 413,455
354	Energy Performance Contract (Phase I Improvements)	9/1/2011	
	Energy Performance Contract (Phase I Improvements) Total:		$ 875,563
354	Energy Performance Contract (Phase II Improvements)	-	
	Energy Performance Contract (Phase II Improvements) Total:		$ 557,967
354	Roofing Projects	8/11/2016	
	Roofing Projects Total:		$ 119,387
354	WWTP Security Camera Replacement Total:	-	
	WWTP Security Camera Replacement Total:		$ 27,729
354	Roof Restoration Project	2020	
	Roof Restoration Project Total:		$ 8,152
	ADMINISTRATION BUILDING TOTAL		$ 6,115,527
355	Power Generation:		
355	WWTP Standby Generator System	9/1/2001	
	WWTP Standby Generator System Total:		$ 523,244
355	WWTP Generator ATS	-	
	WWTP Generator ATS Total:		$ 67,663
	POWER GENERATION TOTAL		$ 590,907
396	SCADA / Controls:		
396	Plant SCADA Upgrade - Phase 1	-	
	Plant SCADA Upgrade - Phase 1 Total:		$ 192,050
396	Plant SCADA Upgrade - Phase 2	-	
	Plant SCADA Upgrade - Phase 2 Total:		$ 301,048
396	PS SCADA Integration with New Plant SCADA	-	
	PS SCADA Integration with New Plant SCADA Total:		$ 25,630
	SCADA/CONTROLS TOTAL		$ 518,728
380	Process 1 - Influent:		
380	WWTP - Headworks Improvements - General Construction	5/9/1991	
	WWTP - Headworks Improvements - General Construction Total:		$ -
380	WWTP Headworks Improvements	2019	
	WWTP Headworks Improvements Total:		$ 954,480
	PROCESS 1 - INFLUENT TOTAL		$ 954,480
380	Process 2 - Mechanical Bar Screen:		
380	WWTP General Construction	12/1/1965	
	WWTP General Construction Total:		$ -
380	WWTP - Headworks Improvements - General Construction	5/9/1991	
	WWTP - Headworks Improvements - General Construction Total:		$ -
380	WWTP Headworks Improvements	2019	
	WWTP Headworks Improvements Total:		$ 450,800
	PROCESS 2 - MECHANICAL BAR SCREEN TOTAL		$ 450,800

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Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
380	Process 3 - Aerated Grit Chamber:		
354	WWTP General Construction	12/1/1965	
	WWTP General Construction Total:		$ -
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 76,733
380	WWTP - Headworks Improvements - General Construction	5/9/1991	
	WWTP - Headworks Improvements - General Construction Total:		$ -
354	WWTP Improvements - Re-Roofing Project	4/5/1995	
	WWTP Improvements - Re-Roofing Project Total:		$ 34,390
380	WWTP - Grit Building Odor Control	10/1/2000	
	WWTP - Grit Building Odor Control Total:		$ 365,592
389	Rebuild/Replace Grit Machine Cross-Collector Screw and Trough	6/27/2005	
	Rebuild/Replace Grit Machine Cross-Collector Screw and Trough Total:		$ 6,018
396	WWTP Grit Building MCC Replacements	12/1/2016	
	WWTP Grit Building MCC Replacements Total:		$ 194,345
380	WWTP Headworks Improvements	2019	
	WWTP Headworks Improvements Total:		$ 1,050,000
	PROCESS 3 - AERATED GRIT CHAMBER TOTAL		$ 1,727,078
380	Process 4 - Primary Sedimentation:		
354	WWTP General Construction	12/1/1965	
	WWTP General Construction Total:		$ -
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 1,534,669
380	Primary Sludge Collection Equipment Replacement	7/1/1992	
	Primary Sludge Collection Equipment Replacement Total:		$ 32,985
389	Equipment Replacement at Primary Tanks 1 & 2	-	
	Equipment Replacement at Primary Tanks 1 & 2 Total:		$ 72,412
	PROCESS 4 - PRIMARY SEDIMENTATION TOTAL		$ 1,640,066
380	Process 5 - Trickling Filters:		
380	Trickling Filter Improvements (trickling filter gravel, new lime feed system, etc.)	7/12/1966	
	Trickling Filter Improvements Total:		$ 79,060
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 230,000
354	WWTP Improvements - Re-Roofing Project	4/5/1995	
	WWTP Improvements - Re-Roofing Project Total:		$ 31,724
	PROCESS 5 - TRICKLING FILTERS TOTAL		$ 340,784
380	Process 6 - Aeration Tanks:		
354	WWTP General Construction	12/1/1965	
	WWTP General Construction Total:		$ -
380	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 2,455,471
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 76,733
354	Odor Control System Additions	5/20/2011	
	Odor Control System Additions Total:		$ 328,013
380	Energy Performance Contract (Phase I Improvements)	9/1/2011	
	Energy Performance Contract (Phase I Improvements) Total:		$ 721,738
	PROCESS 6 - AERATION TANKS TOTAL:		$ 3,581,954
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Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
	Process 7 - Secondary Sedimentation:		
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 4,834,208
	PROCESS 7 - SECONDARY SEDIMENTATION TOTAL		$ 4,834,208
	Process 8 - Reactor Clarifiers:		
380	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 2,762,405
380	New Chains for Grit and Clairfiers	-	
	New Chains for Grit and Clairfiers Total:		$ 40,000
396	WWTP Automation Project	12/1/2005	
	WWTP Automation Project Total:		$ 398,545
	PROCESS 8 - REACTOR CLARIFIERS TOTAL:		$ 3,200,950
	Process 9 - Chlorine Contact Tanks:		
354	WWTP General Construction	Dec-65	
	WWTP General Construction Total:		$ -
354	WWTP Improvements	1982	
	Chlorine Contact Tanks		$ 750,653
	WWTP Improvements Total:		$ 1,400,386
380	Chlorine Contact Tank Improvements	-	
	Chlorine Contact Tank Improvements Total:		$ 71,483
	PROCESS 9 - CHLORINE CONTACT TANKS TOTAL:		$ 1,471,869
	Pump House - Recirculation & Emergency Bypass:		
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 230,200
380	WWTP - Switchgear Upgrade	5/24/1999	
	WWTP - Switchgear Upgrade Total:		$ 194,925
371	WWTP - Pump Station Upgrade	8/4/1999	
	WWTP - Pump Station Upgrade Total:		$ 428,950
	PUMP HOUSE - RECIRCULATION & EMERGENCY BYPASS TOTAL:		$ 854,075
	Process 10 - Effluent to Creek:		
382	Reconstruction of Plant Effluent Line Project	3/9/1965	
	Reconstruction of Plant Effluent Line Project Total:		$ 25,662
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 43,125
	PROCESS 10 - EFFLUENT TO CREEK TOTAL:		$ 68,787

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Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
	Process 11 - Sludge Thickening:		
354	WWTP Improvements	1982	
	Sludge Thickening Building Total:		$ 239,792
354	WWTP Improvements - Re-Roofing Project	4/5/1995	
	WWTP Improvements - Re-Roofing Project Total:		$ -
380	WWTP - Odor Control - Sludge Holding Tanks	8/6/1998	
	WWTP - Odor Control - Sludge Holding Tanks Total:		$ 358,366
371	Thickener Sludge Pump	5/1/2001	
	Thickener Sludge Pump Total:		$ -
354	Sludge Loading Area Replacement	2007	
	Sludge Loading Area Replacement Total:		$ 55,419
354	Solids Building Roof Replacement	6/13/2006	
	Solids Building Roof Replacement Total:		$ -
380	Press Area Sludge Pit Blowers Rebuild	2006	
	Press Area Sludge Pit - Blowers Rebuild Total:		$ -
354	Concrete Paving Project - Sludge Storage Area	7/5/2007	
	Concrete Paving Project - Sludge Storage Area Total:		$ 48,000
380	Sludge Aeration Tank Blowers		
	Sludge Aeration Tank Blowers Total:		$ -
380	Sludge Dewatering Improvements - General Construction	8/13/2019	
	Sludge Dewatering Improvements - General Construction Total:		$ 3,905,400
354	Sludge Dewatering Improvements - Electrical	5/24/2019	
	Sludge Dewatering Improvements - Electrical Total:		$ 317,761
354	Solids Building Roof Replacement Project	12/1/2017	
	Solids Building Roof Replacement Project Total:		$ 142,304
380	Sludge Thickener Upgrade Project - General Construction	9/8/2022	
	Sludge Thickener Upgrade Project - General Construction Total:		$ 364,735
354	Sludge Thickener Upgrade Project - Electrical Construction	9/8/2022	
	Sludge Thickener Upgrade Project - Electrical Construction Total:		$ 57,569
	PROCESS 11 - SLUDGE THICKENING TOTAL		$ 5,489,347
	Process 12 - Lime Stabilization:		
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 575,501
380	Lime Dust Control Equipment	11/30/2020	
	Lime Dust Control Equipment Total:		$ 192,835
	PROCESS 12 - LIME STABILIZATION TOTAL		$ 768,336
380	**Process 13 - Rotary Sludge Press:**		
354	WWTP Improvements	1982	
	WWTP Improvements Total:		$ 575,501
	PROCESS 13 - ROTARY SLUDGE PRESS TOTAL		$ 575,501

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Butler Area Sewer Authority
Wastewater Treatment Plant - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	DESCRIPTION	ESTIMATED COMPLETION DATE	TOTAL PROJECT COST
	Process 14 - Compost Facility:		
380	Compost Handling Facility - General Construction	3/9/1993	
	Compost Handling Facility - General Construction Total:		$ 1,564,791
354	Compost Handling Facility - Electrical	3/9/1993	
	Compost Handling Facility - Electrical Total:		$ 318,021
380	Batch Mixers	7/30/1991	
	Batch Mixers Total:		$ 164,744
397	High Pressure Cleaner	7/29/1991	
	High Pressure Cleaner Total:		$ 3,060
354	Energy Performance Contract (Phase I Improvements)	9/1/2011	
	Energy Performance Contract (Phase I Improvements) Total:		$ 385,342
	PROCESS 14 - COMPOST FACILITY TOTAL:		$ 2,435,958
	GRAND TOTAL ENTIRE PLANT		$ 36,886,933

A3

Appendix 3:
Pump Station Improvements/Assets List

Butler Area Sewer Authority
Conveyance System Summary - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	FACILITY NAME	DESCRIPTION		TOTAL COST
360.1	2013	Ballpark WW PS	Forcemain	$	694,002
371.1	2013	Ballpark WW PS	Pumps, Piping, electrical connections, VFDs	$	321,913
355.1	2013	Ballpark WW PS	Generator	$	44,755
380.1	2014	Ballpark WW PS	Screening Equipment	$	1,064,000
354.3	2014	Ballpark WW PS	Structures	$	1,917,135
			Ballpark Diversion Structure and WW Pump Station Total	**$**	**4,041,805**
371.1	1980	Benbrook PS	Package Pump Station	$	201,138
360.1	1980	Benbrook PS	Force main	$	38,613
371.1	1981	Benbrook PS	Electrical connections	$	78,404
355.1	2009	Benbrook PS	Automatic Transfer Switch	$	8,854
354.3	2010	Benbrook PS	Roof replacement	$	7,934
371.1	2018	Benbrook PS	Pump and valve replacement	$	67,483
			Benbrook PS Total	**$**	**402,427**
371.1	1980	Brewster Booster PS	Package Pump Station	$	187,871
360.1	1980	Brewster Booster PS	Force main	$	84,767
371.1	1981	Brewster Booster PS	Electrical connections	$	78,404
371.1	2009	Brewster Booster PS	Automatic Transfer Switch	$	8,854
354.3	2010	Brewster Booster PS	Roof replacement	$	7,934
			Brewster Booster PS Total	**$**	**367,830**
360.1	1979	Brewster PS	Force main	$	107,538
371.1	1980	Brewster PS	Package Pump Station	$	180,518
371.1	1981	Brewster PS	Electrical connections	$	78,404
371.1	2009	Brewster PS	Automatic Transfer Switch	$	8,854
354.3	2010	Brewster PS	Roof replacement	$	7,934
371.1	2011	Brewster PS	Pump VFDs	$	88,775
371.1	2019	Brewster PS	(1) Pump Replacement	$	26,278
			Brewster PS Total	**$**	**498,301**
371.1	1980	Bryson PS	Package Pump Station	$	188,942
360.1	1980	Bryson PS	Force main	$	69,979
371.1	1981	Bryson PS	Electrical connections	$	78,404
371.1	2009	Bryson PS	Automatic Transfer Switch	$	8,909
354.3	2010	Bryson PS	Roof replacement	$	7,934
371.1	2015	Bryson PS	(1) Pump Replacement	$	36,475
			Bryson PS Total	**$**	**390,643**
371.1	1964	Center Ave PS	Pumps, piping, electrical	$	35,420
360.1	1964	Center Ave PS	Force main	$	4,600
371.1	2018	Center Ave PS	Pump and valve replacement	$	56,933
			Center Ave PS Total	**$**	**96,953**
354.3	2013	Central Storage Facility	EQ Tank, Structures	$	9,084,555
371.1	2013	Central Storage Facility	Electrical connections	$	183,334
			Central Storage Facility EQ Tanks (3) Total	**$**	**9,267,889**
360.1	2013	Connoquenessing WW PS	Forcemain	$	1,349,022
371.1	2013	Connoquenessing WW PS	Pumps, Piping, electrical connections, VFDs	$	321,913
355.1	2013	Connoquenessing WW PS	Generator	$	44,755
380.1	2014	Connoquenessing WW PS	Screening Equipment	$	850,000
354.3	2014	Connoquenessing WW PS	Structures	$	2,982,888
			Connoquenessing Diversion Structure and WW Pump Station Total	**$**	**5,548,578**
371.1	1980	Cupps PS	Package Pump Station	$	180,134
360.1	1980	Cupps PS	Force main	$	139,731
371.1	1981	Cupps PS	Electrical connections	$	78,404
371.1	2009	Cupps PS	Automatic Transfer Switch	$	8,855
354.3	2010	Cupps PS	Roof replacement	$	8,818
			Cupps PS Total	**$**	**415,942**

[1] Negley Ave, Township Line, and Zeigler Ave Pump Stations have had full replacement projects.

The first line under each of these pump stations reflects the original year of construction for reference.

Butler Area Sewer Authority
Conveyance System Summary - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	FACILITY NAME	DESCRIPTION		TOTAL COST
371.1	1979	Deshon PS	Package Pump Station	$	248,507
360.1	1980	Deshon PS	Force main	$	843,391
354.3	2013	Deshon PS	EQ Tanks (2)	$	2,786,485
354.3	2013	Deshon PS	Structures	$	4,216,884
355.1	2013	Deshon PS	Electrical, generator	$	626,685
380.1	2014	Deshon PS	Screening Equipment	$	721,000
			Deshon PS, EQ Tanks (2), WW Pump Station Total	**$**	**9,442,953**
371.1	1969	Diamond Street PS	Pumps, electrical	$	204
354.3	1969	Diamond Street PS	Structures	$	14,751
371.1	1969	Diamond Street PS	Piping	$	397
360.1	1969	Diamond Street PS	Force main	$	9,998
			Diamond Street PS Total	**$**	**25,350**
360.1	1979	Fisher Heights PS	Force main	$	30,613
371.1	1980	Fisher Heights PS	Package Pump Station	$	152,956
371.1	1981	Fisher Heights PS	Electrical connections	$	68,178
371.1	2009	Fisher Heights PS	Automatic Transfer Switch	$	7,699
354.3	2010	Fisher Heights PS	Roof replacement	$	6,900
			Fisher Heights PS Total	**$**	**266,345**
354.3	1972	Garden Grove PS	Structures	$	3,829
371.1	1972	Garden Grove PS	Pumps, piping, electrical	$	23,245
360.1	1972	Garden Grove PS	Force main	$	22,642
355.1	2000	Garden Grove PS	Generator	$	81,604
			Garden Grove Total	**$**	**131,320**
371.1	1980	Greenwood PS	Package Pump Station	$	187,415
360.1	1980	Greenwood PS	Force main	$	66,921
371.1	1981	Greenwood PS	Electrical connections	$	68,178
371.1	2009	Greenwood PS	Automatic Transfer Switch	$	7,699
354.3	2010	Greenwood PS	Roof replacement	$	6,900
371.1	2011	Greenwood PS	Pump VFDs	$	77,196
			Greenwood PS Total	**$**	**414,308**
360.1	1979	Karns Crossing PS	Force main	$	66,947
371.1	1981	Karns Crossing PS	Package Pump Station	$	956,225
371.1	2009	Karns Crossing PS	Automatic Transfer Switch	$	11,244
371.1	2011	Karns Crossing PS	Pump VFDs	$	133,163
354.3	2012	Karns Crossing PS	Roof replacement	$	42,959
			Karns Crossing PS Total	**$**	**1,210,538**
371.1	1964	Monroe St Pump Station	Package Pump Station	$	201,601
360.1	1979	Monroe St Pump Station	Force main	$	248,532
371.1	1981	Monroe St Pump Station	Pump Station Upgrade	$	159,626
371.1	1981	Monroe St Pump Station	Pump Station Upgrade- Electrical	$	1,705
354.3	1992	Monroe St Pump Station	Pump Station Rehab	$	339,487
371.1	2004	Monroe St Pump Station	Pump Rebuild	$	11,585
354.3	2012	Monroe St PS and EQ Facility	Roof replacement (PS)	$	42,959
354.3	2013	Monroe St PS and EQ Facility	EQ Tanks (2)	$	3,893,381
371.1	2013	Monroe St PS and EQ Facility	Pumps, Piping, electrical connections (EQ)	$	321,913
355.1	2013	Monroe St PS and EQ Facility	Generator (EQ)	$	44,755
360.1	2013	Monroe St PS and EQ Facility	Force main (EQ)	$	191,349
371.1	2013	Monroe St PS and EQ Facility	Pumps, pipes (EQ)	$	744,488
355.1	2014	Monroe St PS and EQ Facility	Electrical, Generator (PS)	$	48,300
354.3	2014	Monroe St PS and EQ Facility	Structures Rehab	$	731,400
354.3	2014	Monroe St PS and EQ Facility	Pump Station Structures	$	1,703,506
			Monroe St Pump Station and EQ Tanks (2)/WW Pump Station Total	**$**	**8,684,588**
	1960	Negley Ave PS[1]	Negley Ave PS	$	-
371.1	2005	Negley Ave PS	Addition of standby pump	$	6,257
371.1	2018	Negley Ave PS	Pumps, piping, electrical	$	117,300
380.1	2018	Negley Ave PS	Sodium Hypo Equipment	$	16,100
354.3	2018	Negley Ave PS	Structures	$	713,151
355.1	2018	Negley Ave PS	Electrical, generator	$	31,050
360.1	2018	Negley Ave PS	Force main	$	172,854
			Negley Ave PS Total	**$**	**1,056,712**

[1] Negley Ave, Township Line, and Zeigler Ave Pump Stations have had full replacement projects.
The first line under each of these pump stations reflects the original year of construction for reference.

Butler Area Sewer Authority
Conveyance System Summary - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	FACILITY NAME	DESCRIPTION		TOTAL COST
360.1	1979	Northvue PS	Force main	$	13,843
371.1	1980	Northvue PS	Package Pump Station	$	165,759
371.1	1981	Northvue PS	Electrical connections	$	78,404
371.1	2009	Northvue PS	Automatic Transfer Switch	$	8,854
354.3	2010	Northvue PS	Roof Replacement	$	7,934
			Northvue PS Total	**$**	**274,794**
354.3	2010	Pullman PS	Structures	$	342,321
371.1	2010	Pullman PS	Pumps, Piping, Electrical, VFDs	$	102,350
355.1	2010	Pullman PS	Generator	$	19,550
360.1	2010	Pullman PS	Force main	$	35,547
			Pullman PS Total	**$**	**499,767**
371.1	1980	Rock Lick PS	Package Pump Station	$	213,508
360.1	1980	Rock Lick PS	Force main	$	208,554
371.1	1981	Rock Lick PS	Electrical connections	$	78,404
371.1	2009	Rock Lick PS	Automatic Transfer Switch	$	11,223
354.3	2010	Rock Lick PS	Roof Replacement	$	8,818
			Rock Lick PS Total	**$**	**520,507**
360.1	2005	Sugar Creek PS	Force main	$	68,213
355.1	2005	Sugar Creek PS	Electrical and Generator	$	54,510
371.1	2005	Sugar Creek PS	SCADA	$	14,904
371.1	2005	Sugar Creek PS	Pumps, piping	$	20,089
354.3	2005	Sugar Creek PS	Structures	$	46,874
			Sugar Creek PS Total	**$**	**204,589**
	1972	Township Line PS[1]		$	-
360.1	1972	Township Line PS	Force main	$	12,401
354.3	1999	Township Line PS	Structures	$	82,172
371.1	1999	Township Line PS	Pumps, piping, electrical	$	29,611
355.1	1999	Township Line PS	Pump Station Generator	$	25,734
371.1	2019	Township Line PS	Pumps (2) replacement	$	15,852
			Township Line PS Total	**$**	**165,769**
	1960	Zeigler Ave PS[1]		$	-
354.3	2016	Zeigler Ave PS	Structures	$	527,212
355.1	2016	Zeigler Ave PS	Generator	$	82,235
360.1	2016	Zeigler Ave PS	Force main	$	71,505
380.1	2016	Zeigler Ave PS	Sodium Hypo Equipment	$	24,150
371.1	2016	Zeigler Ave PS	Pumps, piping, electrical	$	203,895
			Zeigler Ave PS Total	**$**	**908,997**
			Pump Stations Grand Total (Various Accounts)	**$**	**44,836,906**

[1] Negley Ave, Township Line, and Zeigler Ave Pump Stations have had full replacement projects.
The first line under each of these pump stations reflects the original year of construction for reference.

Butler Area Sewer Authority
Conveyance System Summary - Various Accounts
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

FACILITY NAME		TOTAL COST
Ballpark Diversion Structure and WW Pump Station Total	$	4,041,805
Benbrook PS Total	$	402,427
Brewster Booster PS Total	$	367,830
Brewster PS Total	$	498,301
Bryson PS Total	$	390,643
Center Ave PS Total	$	96,953
Central Storage Facility EQ Tanks (3) Total	$	9,267,889
Connoquenessing Diversion Structure and WW Pump Station Total	$	5,548,578
Cupps PS Total	$	415,942
Deshon PS, EQ Tanks (2), WW Pump Station Total	$	9,442,953
Diamond Street PS Total	$	25,350
Fisher Heights PS Total	$	266,345
Garden Grove Total	$	131,320
Greenwood PS Total	$	414,308
Karns Crossing PS Total	$	1,210,538
Monroe St Pump Station and EQ Tanks (2)/WW Pump Station Total	$	8,684,588
Negley Ave PS Total	$	1,056,712
Northvue PS Total	$	274,794
Pullman PS Total	$	499,767
Rock Lick PS Total	$	520,507
Sugar Creek PS Total	$	204,589
Township Line PS Total	$	165,769
Zeigler Ave PS Total	$	908,997
Pump Stations Grand Total (Various Accounts)	**$**	**44,836,906**

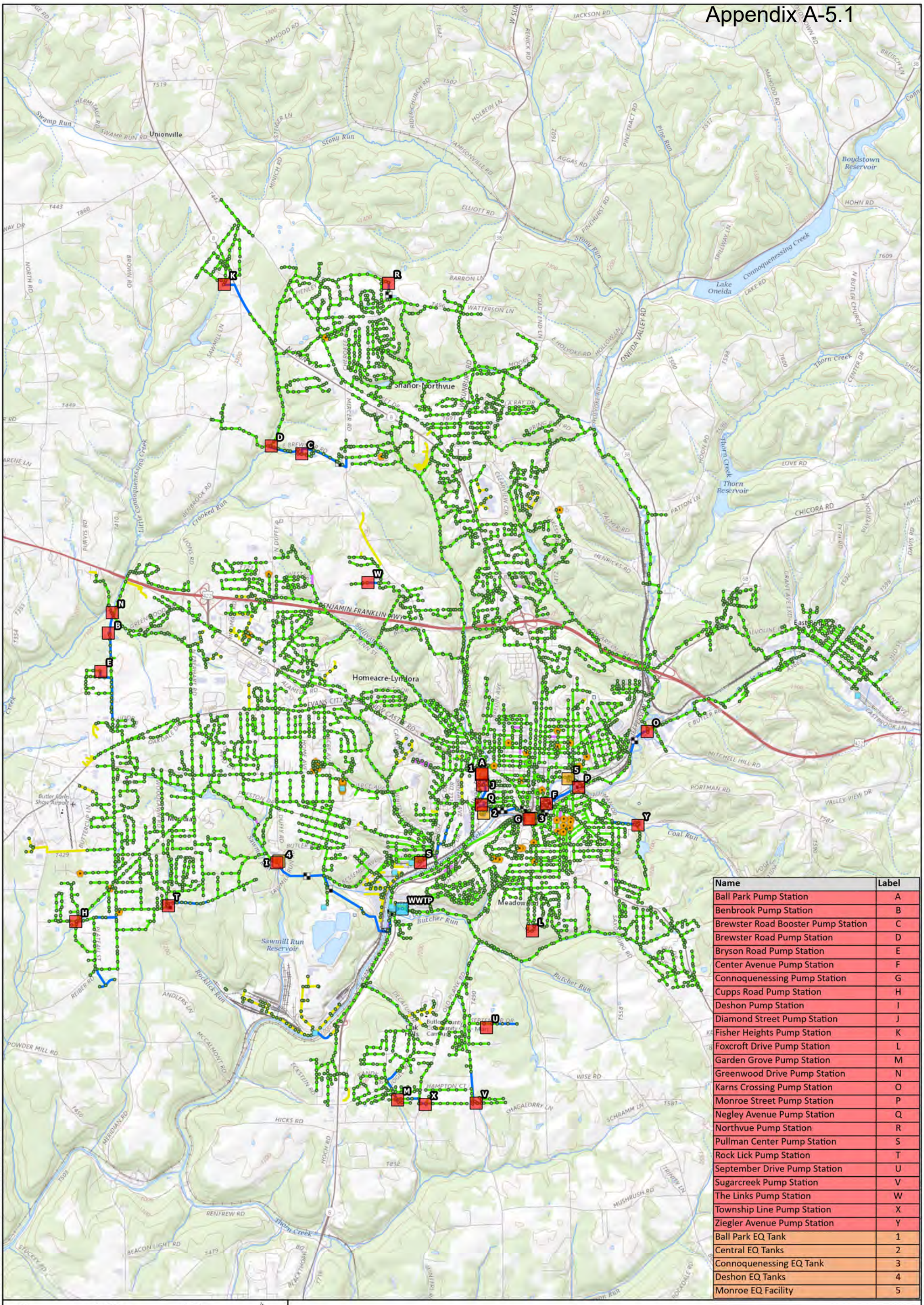
Butler Area Sewer Authority
Conveyance System Summary - Various Accounts
Current Work in Progress

NARUC ACCT #	EST. COMPLETION YEAR	FACILITY NAME	Upgrade Type	COSTS INCURRED TO DATE	ANTICIPATED TOTAL COSTS[1]
354.3	2026	Benbrook PS	Proposed upgrade	$ 124,858	
		Benbrook PS Total			**$ 343,618**
354.3	2025	Brewster Booster PS	Proposed upgrade	$ 124,858	
		Brewster Booster PS Total			**$ 845,861**
354.3	2025	Brewster PS	Proposed upgrade	$ 124,858	
		Brewster PS Total			**$ 2,276,158**
354.3	2026	Bryson PS	Proposed upgrade	$ 124,858	
		Bryson PS Total			**$ 1,203,558**
354.3	2025	Fisher Heights PS	Proposed upgrade	$ 124,858	
		Fisher Heights PS Total			**$ 1,877,358**
354.3	2026	Greenwood PS	Proposed upgrade	$ 124,858	
		Greenwood PS Total			**$ 2,552,688**
354.3	2023	Rock Lick PS	Pump Station Upgrade	$ 21,400	$ 252,000
360.1	2024	Rock Lick PS	Proposed Force Main Replacement	$ 32,000	$ 633,000
		Rock Lick PS Total			**$ 885,000**
		Pump Stations Grand Total (Various Accounts)		**$ 802,548**	**$ 9,984,241**

[1] Anticipated total costs are inclusive of costs incurred to date.

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Appendix 4:
Sewer Collection/Conveyance System Map


Unionville
Stony Run
Swamp Run
Shanor-Northvue
Homeacre-Lyndora
Meadowood
Boydstown Reservoir
Lake Oneida
Connoquenessing Creek
Thorn Creek
Thorn Reservoir
Sawmill Run Reservoir
Butler Farm Show Airport
Coal Run
Butcher Run
Crooked Run
Rocklick Run
Little Connoquenessing Creek
BENJAMIN FRANKLIN HWY
ONEIDA VALLEY RD
MAHOOD RD
JACKSON RD
ELLIOTT RD
BARRON LN
WATTERSON LN
E HOLYOKE RD
HOLLOW LN
ROADS END LN
MERCER RD
MOORE RD
PRINGLE RD
CHICORA RD
HOHN RD
LOVE RD
PORTMAN RD
MITCHELL HILL RD
VALLEY VIEW DR
WISE RD
HICKS RD
RENFREW RD
MUSHRUSH RD
SCHRAMM LN
POWDER MILL RD
MCCALMONT RD
BEACON LIGHT RD
STUCKEY RD
ANDLERS LN
REIBER RD
BUTTERCUP LN
BROWN RD
NORTH RD
SAWMILL LN
HERMITAGE RD
SWAMP RUN RD
MINICH RD
STEIGER LN
RIDER-CHURCH RD
HOLBEIN LN
JAMISONVILLE RD
AGGAS RD
PINE TRACT RD
Pine Run
PINEHURST RD
SPILLWAY LN
RENICK RD
W SUNBURY RD
N BUTLER CHURCH RD
CENTER DR
BRIESCH LN
HOON RD
PATTON LN
HENRICKS RD
GRANT AVE EXT
EASTBROOK LN
E BUTLER RD
OLD PLANK RD
SCHAFFER RD
DECATUR ST
WENDEL RD
FICKSTEIN RD
HAMPTON CT
SHAGALORRY LN
TRINITY LN
ROSEDALE RD
PURVIS RD
DAVIS RD
SILVERTON RD
T519
T642
T502
T602
T517
T609
T598
T600
T500
T443
T860
T449
T1691
T1429
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T1410
T1472
T1532
T1599
T1587
T1490
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T1505
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T1496

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Appendix 5:
Sewer Main Assets

Butler Area Sewer Authority
Account 361- Collection Sewers- Sanitary Sewer Pipes
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	TYPE OF WORK	SEWER SIZE (IN)	TOTAL LENGTH (LF)	TOTAL PROJECT COST
361.1	1928	Original Sewers	Sanitary Sewer	6-36	54,475	$ 283,551
361.1	1935	Original Sewers	Sanitary Sewer	6-36	57,679	$ 285,219
361.1	1945	Original Sewers	Sanitary Sewer	6-36	48,066	$ 325,250
361.1	1954	Meadowood Area	Sanitary Sewer	8	24,000	$ 323,683
361.1	1955	Original Sewers	Sanitary Sewer	6-36	70,497	$ 972,413
361.1	1960	Original Sewers	Sanitary Sewer	6-36	89,723	$ 1,587,885
361.1	1963	Main interceptor, Lyndora siphon, ARMCO siphon, main siphon	Sanitary Sewer	48	5,200	$ 272,007
361.1	1963	Main interceptor, Lyndora siphon, ARMCO siphon, main siphon	Sanitary Sewer	36	1,051	$ 34,910
361.1	1964	Butler Interceptor Sewers	Sanitary Sewer	36	2,741	$ 170,231
361.1	1964	Butler Interceptor Sewers	Sanitary Sewer	24	1,964	$ 50,287
361.1	1964	Butler Interceptor Sewers	Sanitary Sewer	15	968	$ 21,488
361.1	1964	Butler Interceptor Sewers	Sanitary Sewer	12	4,256	$ 16,627
361.1	1964	Butler Interceptor Sewers	Sanitary Sewer	10	250	$ 2,200
361.1	1964	Interceptor Sewer in Tunnel	Sanitary Sewer	36	3,049	$ 351,868
361.1	1965	Hull Plan Sewers	Sanitary Sewer	8	5,980	$ 44,103
361.1	1965	24" Sewer on West Penn Street	Sanitary Sewer	24	380	$ 10,755
361.1	1967	Route 8 main interceptor	Sanitary Sewer	15	3,993	$ 58,421
361.1	1967	Route 8 main interceptor	Sanitary Sewer	12	2,554	$ 23,975
361.1	1967	Route 8 main interceptor	Sanitary Sewer	8	252	$ 4,689
361.1	1967	Route 8 main interceptor extension	Sanitary Sewer	8	3,300	$ 35,332
361.1	1970	Connoquenessing interceptor	Sanitary Sewer	24	3,255	$ 135,114
361.1	1970	Fifth Street interceptor	Sanitary Sewer	15	1,445	$ 68,291
361.1	1970	Fifth Street interceptor	Sanitary Sewer	12	153	$ 2,203
361.1	1970	Three Degree Road Sewer	Sanitary Sewer	8	5,548	$ 68,190
361.1	1970	North Butler Area Sewers	Sanitary Sewer	8	6,910	$ 243,913
361.1	1972	Alameda Road Sewer	Sanitary Sewer	18	2,730	$ 63,153
361.1	1972	Furnishing of Pipe for Alameda Park Road Sewer	Sanitary Sewer	18	2,740	$ 25,205
361.1	1973	Construction of 1,210 feet of 8-inch San Sewer on Schaffner Road	Sanitary Sewer	8	1,210	$ 11,827
361.1	1973	Construction of 879 feet of 10-inch San Sewer on Home Avenue	Sanitary Sewer	10	879	$ 13,627
361.1	1974	3,000 feet of 8-inch San Sewer in Alameda Commercial Park	Sanitary Sewer	8	3,000	$ 1,248
361.1	1979	North Butler Interceptor Sewers	Sanitary Sewer	8-21	13,710	$ 695,670
361.1	1979	Lick Hill Area Sewers	Sanitary Sewer	8-10	21,250	$ 628,326
361.1	1979	Bessmer Main	Sanitary Sewer	8-21	14,100	$ 766,831
361.1	1979	Northvue Force main	Sanitary Sewer	8	1,160	$ 9,268
361.1	1979	Windward Heights, Timberly Heights, Rt 308, Northvue Farms, Drainage Areas	Sanitary Sewer	8-15	65,221	$ 1,708,429
361.1	1979	Spring Run, Hull Plan Drainage Areas	Sanitary Sewer	8,12	29,330	$ 1,000,652
361.1	1979	East Butler Service Area	Sanitary Sewer	8-18	21,105	$ 838,269
361.1	1979	East Butler Service Area	Sanitary Sewer	8,10	25,532	$ 828,083
361.1	1980	Beech Road Sewers	Sanitary Sewer	8	19,410	$ 551,207
361.1	1980	Butcher Run Sewers	Sanitary Sewer	8-12	50,005	$ 1,510,504
361.1	1980	Deshon Service Area and Forcemains	Sanitary Sewer	8-18	9,939	$ 564,705
361.1	1980	Sullivan Run Drainage Area	Sanitary Sewer	8-15	47,570	$ 1,920,349
361.1	1980	Crooked Run Drainage Area	Sanitary Sewer	8,12	53,530	$ 1,547,456
361.1	1980	Mercer Road Area	Sanitary Sewer	8-18	22,795	$ 981,765
361.1	1980	Meridian Service Area	Sanitary Sewer	8-24	59,475	$ 1,816,905
361.1	1980	Meridian Service Area	Sanitary Sewer	8-15	32,449	$ 1,059,496
361.1	1980	Meridian Service Area	Sanitary Sewer	8-12	21,522	$ 810,644
361.1	1980	Greenwood Village Area	Sanitary Sewer	8,10	32,659	$ 1,231,673
361.1	1979	Forest Heights (72 units)	Sanitary Sewer	8	10,250	$ 185,725
361.1	1985	Sanitary Sewer Realignment LR 73- Route 8	Sanitary Sewer	8	664	$ 27,013
361.1	1986	Sanitary Sewer Replacement Elm Street and Third Street	Sanitary Sewer	12	772	$ 43,260
361.1	1986	Sanitary Sewer Replacement Elm Street and Third Street	Sanitary Sewer	16	97	$ 3,922
361.1	1991	Sanitary Sewer Construction Brown, Morton, Whippo and White Avenues	Sanitary Sewer	8	1,410	$ 59,586
361.1	1991	Sanitary Sewer Construction Brown, Morton, Whippo and White Avenues	Sanitary Sewer	6	246	$ 6,316
361.1	1993	Alva Hill Subdivision	Sanitary Sewer	8	576	$ 18,109
361.1	1993	Clearview Meadows	Sanitary Sewer	8	335	$ 10,532
361.1	1993	Deer Run Plan	Sanitary Sewer	8	2,079	$ 65,363
361.1	1993	Hillcrest Townhomes	Sanitary Sewer	8	297	$ 9,338
361.1	1993	Ietto Estate Ph 3	Sanitary Sewer	8	550	$ 17,292
361.1	1993	Moraine Commons	Sanitary Sewer	8	1,641	$ 51,593
361.1	1993	Moraine Pointe Plaza	Sanitary Sewer	8	3,001	$ 94,351
361.1	1993	Southgate Ph 1	Sanitary Sewer	8	1,235	$ 38,828
361.1	1993	Stirling Glen Ph 2	Sanitary Sewer	8	1,629	$ 51,215
361.1	1993	Timberidge Ph 6	Sanitary Sewer	8	1,895	$ 59,578
361.1	1993	Pullman Center	Sanitary Sewer	8-10	2,297	$ 72,217
361.1	1994	Carriage Place	Sanitary Sewer	8	1,388	$ 44,454
361.1	1994	Coretsky Subdivision	Sanitary Sewer	8	477	$ 15,277
361.1	1994	Musko Subdivision	Sanitary Sewer	8	85	$ 2,722
361.1	1994	Sunrise Village	Sanitary Sewer	8	300	$ 9,608
361.1	1994	Timberidge Ph 7	Sanitary Sewer	8	1,495	$ 47,881
361.1	1994	Heather Drive Sewer Extension	Sanitary Sewer	8	3,100	$ 146,733
361.1	1997	Bean Street Sewer Project	Sanitary Sewer	8	2,321	$ 91,947
361.1	1997	Emily Brittain School Sewer	Sanitary Sewer	8	680	$ 24,544
361.1	1999	East Jefferson Street Sewer Project	Sanitary Sewer	8	926	$ 19,437
361.1	1999	Heartland Estates Ph 2	Sanitary Sewer	8	1,280	$ 25,600
361.1	2000	Highfield Youth Baseball Association	Sanitary Sewer	8	741	$ 24,618

CONTINUED ON NEXT PAGE

Butler Area Sewer Authority
Account 361- Collection Sewers- Sanitary Sewer Pipes
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	TYPE OF WORK	SEWER SIZE (IN)	TOTAL LENGTH (LF)	TOTAL PROJECT COST
361.1	2000	Highfield Youth Baseball Association	Sanitary Sewer	6	65	$ 5,000
361.1	2000	Hidden Meadows	Sanitary Sewer	8	2,612	$ 98,610
361.1	2000	Kovach Subdivision	Sanitary Sewer	8	377	$ 5,877
361.1	2000	Stone Ridge Estates Ph 2	Sanitary Sewer	8	513	$ 21,013
361.1	2001	Heartland Estates Ph 2B	Sanitary Sewer	8	866	$ 23,530
361.1	2002	Sullivan Run Interceptor Realignment	Sanitary Sewer	27	135	$ 25,933
361.1	2002	Blossom Ridge	Sanitary Sewer	8	1,000	$ 28,747
361.1	2002	Meridian Pines Ph 1	Sanitary Sewer	8	805	$ 11,055
361.1	2002	Ken Fab and Weld	Sanitary Sewer	8	400	$ 16,500
361.1	2002	Meadowview	Sanitary Sewer	8	460	$ 5,500
361.1	2002	Shady Lane Farms Ph 1	Sanitary Sewer	8	2,915	$ 53,277
361.1	2002	Stratford Heights Ph I-II	Sanitary Sewer	8	5,138	$ 118,907
361.1	2003	Diehl Automotive	Sanitary Sewer	8	400	$ 6,724
361.1	2003	Sheetz (Ritenour)	Sanitary Sewer	8	370	$ 17,437
361.1	2003	Shady Farms Ph II and IV	Sanitary Sewer	8	2,125	$ 35,258
361.1	2004	Cherrywood Springs	Sanitary Sewer	8	2,100	$ 77,607
361.1	2004	Butler Commons	Sanitary Sewer	6	1,413	$ 68,159
361.1	2004	Butler Commons	Sanitary Sewer	8	515	$ 22,720
361.1	2004	Meridian Pines Ph 2	Sanitary Sewer	8	2,082	$ 53,796
361.1	2004	Heartland Estates Ph 2C	Sanitary Sewer	8	1,200	$ 15,715
361.1	2005	Pine Needles Estates	Sanitary Sewer	8	265	$ 5,088
361.1	2005	Sugar Creek- gravity	Sanitary Sewer	8	2,845	$ 73,618
361.1	2006	Sanitary Sewer Relocation- Washington Street Crossover	Sanitary Sewer	8	245	$ 68,346
361.1	2006	Fairways at Krendale Ph1	Sanitary Sewer	8	1,220	$ 48,761
361.1	2006	Meridian Pines Ph 3	Sanitary Sewer	8	563	$ 12,426
361.1	2006	Afton Residential Development	Sanitary Sewer	8	1,500	$ 45,595
361.1	2006	Ritenour Commercial Dev. Ph 1	Sanitary Sewer	8	922	$ 34,290
361.1	2006	Joseph Gray Residential Development	Sanitary Sewer	8	197	$ 7,736
361.1	2007	Cedarwood- Butler Crossing	Sanitary Sewer	8	2,250	$ 111,375
361.1	2008	Gatto Subdivision	Sanitary Sewer	8	97	$ 8,762
361.1	2008	Wyncrest Estates	Sanitary Sewer	8	3,023	$ 95,759
361.1	2009	Bessemer Alton Storm and Sanitary Sewer	Sanitary Sewer	8	825	$ 184,691
361.1	2009	Comer Subdivision	Sanitary Sewer	8	300	$ 23,709
361.1	2010	Dutchtown Road Sanitary Sewer Project	Sanitary Sewer	8	828	$ 61,648
361.1	2010	Pullman Center Business Park- gravity	Sanitary Sewer	8	3,345	$ 125,505
361.1	2010	ED Elliot Plan	Sanitary Sewer	8	410	$ 19,800
361.1	2011	Fairways at Krendale Ph 2	Sanitary Sewer	8	312	$ 15,443
361.1	2012	CSR Development	Sanitary Sewer	8	730	$ 37,230
361.1	2013	Ballpark Pipelines and Appurtenances	Sanitary Sewer	48	129	$ 85,140
361.1	2013	Monroe Pipelines and Appurtenances	Sanitary Sewer	18	92	$ 33,396
361.1	2013	Monroe Pipelines and Appurtenances	Sanitary Sewer	24	538	$ 236,720
361.1	2014	Sullivan Run Interceptor Improvements	Sanitary Sewer	36	2,836	$ 1,587,284
361.1	2014	Sullivan Run Interceptor Improvements	Sanitary Sewer	24	4,108	$ 2,039,823
361.1	2015	Sheetz Store 217R	Sanitary Sewer	8	217	$ 17,292
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	48	11	$ 6,257
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	30	521	$ 142,616
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	24	16	$ 3,681
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	15	265	$ 67,109
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	8	230	$ 55,387
361.1	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer	-	70	$ 195,417
361.1	2016	Zeigler Avenue PS Replacement GRAVITY	Sanitary Sewer	8	365	$ 22,560
361.1	2018	Negley Avenue PS Replacement GRAVITY	Sanitary Sewer	24	252	$ 34,265
361.1	2018	Negley Avenue PS Replacement GRAVITY	Sanitary Sewer	15	135	$ 28,050
361.1	2018	Negley Avenue PS Replacement GRAVITY	Sanitary Sewer	8	33	$ 36,300
361.1	2018	VA Butler Healthcare Facility	Sanitary Sewer	8	207	$ 27,644
361.1	2020	Duffy Highlands Ph 1	Sanitary Sewer	8	3,836	$ 177,015
361.1	2021	Autumn Woods Ph 1	Sanitary Sewer	8	1,500	$ 50,912
361.1	2021	The Villas at Forest Oaks	Sanitary Sewer	8	2,764	$ 234,552
361.1	2022	Highfield Trails Ph 1	Sanitary Sewer	8	5,651	$ 365,564
361.1	2000	Rehabilitation of Westwood Manor 1	Sewer Rehab	8	6,250	$ 30,774
361.1	2002	Rehabilitation of Westwood Manor 3	Sewer Rehab	8	6,380	$ 232,020
361.1	2007	Rehabilitation of Cunningham Street	Sewer Rehab	8	1,260	$ 53,198
361.1	2007	Rehabilitation of Cunningham Street	Sewer Rehab	12	823	$ 37,442
361.1	2007	Old Deshon Sewer Rehab	Sewer Rehab	8-18	38,998	$ 5,521,797
361.1	2012	NW Area Sanitary Sewer Rehabilitation Project	Sewer Rehab	12	1,870	$ 99,873
361.1	2012	NW Area Sanitary Sewer Rehabilitation Project	Sewer Rehab	8	59,114	$ 2,999,340
361.1	2012	NW Area Sanitary Sewer Rehabilitation Project	Sewer Rehab	6	394	$ 17,336
361.1	2012	Butcher Run Interceptor Improvements	Sewer Rehab	12	3,656	$ 664,370
361.1	2014	Sullivan Run Interceptor Improvements	Sewer Rehab	18	1,179	$ 169,776
361.1	2018	Negley Avenue PS Replacement GRAVITY	Sewer Rehab	15	404	$ 79,992
361.1	2018	Upper Sullivan Run Sewer Rehab	Sewer Rehab	8	162	$ 193,234
361.1	2018	Upper Sullivan Run Sewer Rehab	Sewer Rehab	12	37	$ 13,574
361.1	2019	Center Ave Sewer Repair	Sewer Rehab	16	44	$ 100,917
361.1	2022	2020-2021 CAP Sewer Rehab (to date)	Sewer Rehab	8	12	$ 5,320
Collecting Sewers - Gravity Total (Acct # 361) - Linear Feet					**1,180,488**	**$ 42,602,048**
Collecting Sewers - Gravity Total (Acct # 361) - Miles					**224**	

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Appendix 6:
Manhole Assets

Butler Area Sewer Authority
Account 361- Collection Sewers- Manholes
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	TYPE OF WORK	QUANTITY	TOTAL PROJECT COST
361.2	1928	Original Manholes	Manholes	273	$ 38,503
361.2	1935	Original Manholes	Manholes	289	$ 38,722
361.2	1945	Original Manholes	Manholes	241	$ 44,187
361.2	1954	Meadowood Area	Manholes	123	$ 44,237
361.2	1955	Original Manholes	Manholes	353	$ 131,934
361.2	1960	Original Manholes	Manholes	449	$ 215,309
361.2	1963	Main interceptor, Lyndora siphon, ARMCO siphon, main siphon	Manholes	25	$ 35,750
361.2	1964	Interceptor Sewers and Force mains	Manholes	32	$ 14,410
361.2	1964	Interceptor Sewer in Tunnel	Manholes	4	$ 87,967
361.2	1965	Hull Plan Sewers	Manholes	18	$ 7,165
361.2	1965	24" Sewer on West Penn Street	Manholes	3	$ 1,147
361.2	1967	Route 8 main interceptor	Manholes	25	$ 8,745
361.2	1967	Route 8 main interceptor extension	Manholes	14	$ 4,059
361.2	1970	Connoquenessing interceptor	Manholes	13	$ 7,600
361.2	1970	Fifth Street interceptor	Manholes	10	$ 7,064
361.2	1970	Three Degree Road Sewer	Manholes	21	$ 6,580
361.2	1970	North Butler Area Sewers	Manholes	24	$ 81,304
361.2	1972	Alameda Road Sewer	Manholes	7	$ 2,604
361.2	1973	Construction of 1,210 feet of 8-inch San Sewer on Schaffner Road	Manholes	6	$ 2,066
361.2	1973	Construction of 879 feet of 10-inch San Sewer on Home Avenue	Manholes	4	$ 3,471
361.2	1979	North Butler Interceptor Sewers	Manholes	55	$ 149,072
361.2	1979	Lick Hill Area Sewers	Manholes	85	$ 134,641
361.2	1979	Bessmer Main	Manholes	57	$ 164,321
361.2	1979	Northvue Force main	Manholes	5	$ 1,986
361.2	1979	Windward Heights, Timberly Heights, Rt 308, Northvue Farms, Drainage Areas	Manholes	261	$ 366,092
361.2	1979	Spring Run, Hull Plan Drainage Areas	Manholes	118	$ 214,425
361.2	1979	East Butler Service Area	Manholes	85	$ 179,629
361.2	1979	East Butler Service Area	Manholes	103	$ 177,446
361.2	1979	Forest Heights (72 units)	Manholes	47	$ 34,065
361.2	1980	Beech Road Sewers	Manholes	78	$ 118,116
361.2	1980	Butcher Run Sewers	Manholes	201	$ 323,679
361.2	1980	Deshon Service Area and Forcemains	Manholes	40	$ 121,008
361.2	1980	Sullivan Run Drainage Area	Manholes	191	$ 411,503
361.2	1980	Crooked Run Drainage Area	Manholes	215	$ 331,598
361.2	1980	Mercer Road Area	Manholes	92	$ 210,378
361.2	1980	Meridian Service Area	Manholes	238	$ 389,337
361.2	1980	Meridian Service Area	Manholes	130	$ 227,035
361.2	1980	Meridian Service Area	Manholes	87	$ 173,709
361.2	1980	Greenwood Village Area	Manholes	131	$ 263,930
361.2	1985	Sanitary Sewer Realignment LR 73- Route 9	Manholes	11	$ 27,226
361.2	1986	Sanitary Sewer Replacement Elm Street and Third Street	Manholes	4	$ 7,170
361.2	1991	Sanitary Sewer Construction Brown, Morton, Whippo and White Avenues	Manholes	9	$ 12,304
361.2	1993	Alva Hill Subdivision	Manholes	4	$ 5,030
361.2	1993	Clearview Meadows	Manholes	3	$ 3,773
361.2	1993	Deer Run Plan	Manholes	8	$ 10,061
361.2	1993	Hillcrest Townhomes	Manholes	3	$ 3,773
361.2	1993	Ietto Estate Ph 3	Manholes	3	$ 3,773
361.2	1993	Moraine Commons	Manholes	7	$ 8,803
361.2	1993	Moraine Pointe Plaza	Manholes	17	$ 21,379
361.2	1993	Southgate Ph 1	Manholes	4	$ 5,030
361.2	1993	Stirling Glen Ph 2	Manholes	8	$ 10,061
361.2	1993	Timberidge Ph 6	Manholes	10	$ 12,576
361.2	1993	Pullman Center	Manholes	11	$ 13,833

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Butler Area Sewer Authority
Account 361- Collection Sewers- Manholes
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	TYPE OF WORK	QUANTITY	TOTAL PROJECT COST
361.2	1994	Carriage Place	Manholes	7	$ 8,968
361.2	1994	Coretsky Subdivision	Manholes	2	$ 2,562
361.2	1994	Musko Subdivision	Manholes	1	$ 1,281
361.2	1994	Sunrise Village	Manholes	1	$ 1,281
361.2	1994	Timberidge Ph 7	Manholes	8	$ 10,249
361.2	1994	Heather Drive Sewer Extension	Manholes	14	$ 19,410
361.2	1997	Bean Street Sewer Project	Manholes	15	$ 20,891
361.2	1997	Emily Brittain School Sewer	Manholes	4	$ 6,479
361.2	1999	East Jefferson Street Sewer Project	Manholes	7	$ 6,500
361.2	1999	Heartland Estates Ph 2	Manholes	5	$ 6,000
361.2	2000	Highfield Youth Baseball Association	Manholes	3	$ 18,972
361.2	2000	Hidden Meadows	Manholes	11	$ 5,000
361.2	2000	Kovach Subdivision	Manholes	3	$ 7,004
361.2	2000	Stone Ridge Estates Ph 2	Manholes	7	$ 7,843
361.2	2001	Heartland Estates Ph 2B	Manholes	6	$ 26,950
361.2	2002	Sullivan Run Interceptor Realignment	Manholes	1	$ 9,240
361.2	2002	Meridian Pines Ph 1	Manholes	4	$ 5,000
361.2	2002	Ken Fab and Weld	Manholes	1	$ 11,537
361.2	2002	Meadowview	Manholes	10	$ 15,800
361.2	2002	Shady Lane Farms Ph 1	Manholes	14	$ 43,600
361.2	2002	Stratford Heights Ph I-II	Manholes	27	$ 3,600
361.2	2003	Sheetz (Ritenour)	Manholes	2	$ 21,000
361.2	2003	Shady Farms Ph II and IV	Manholes	11	$ 382,185
361.2	2003	Deshon/Meridian Area Manhole Raising	Rehab	388	$ 25,869
361.2	2004	Cherrywood Springs	Manholes	10	$ 78,250
361.2	2004	Butler Commons	Manholes	12	$ 12,000
361.2	2004	Meridian Pines Ph 2	Manholes	10	$ 7,035
361.2	2004	Heartland Estates Ph 2C	Manholes	5	$ 314,476
361.2	2004	Upper Sullivan Run Manhole Raising	Rehab	321	$ 203,844
361.2	2004	Lower Sullivan Run Manhole Raising	Rehab	87	$ 1,000
361.2	2005	Pine Needles Estates	Manholes	2	$ 26,900
361.2	2005	Sugar Creek	Manholes	13	$ 8,626
361.2	2006	Sanitary Sewer Relocation- Washington Street Crossover	Manholes	2	$ 8,470
361.2	2006	Fairways at Krendale Ph1	Manholes	5	$ 2,400
361.2	2006	Meridian Pines Ph 3	Manholes	2	$ 9,800
361.2	2006	Ritenour Commercial Dev. Ph 1	Manholes	7	$ 2,579
361.2	2006	Joseph Gray Residential Development	Manholes	5	$ 30,800
361.2	2007	Cedarwood- Butler Crossing	Manholes	8	$ 3,000
361.2	2008	Gatto Subdivision	Manholes	1	$ 33,600
361.2	2008	Wyncrest Estates	Manholes	15	$ 45,382
361.2	2009	Bessemer Alton Storm and Sanitary Sewer	Manholes	8	$ 3,080
361.2	2009	Comer Subdivision	Manholes	1	$ 8,623
361.2	2010	Dutchtown Road Sanitary Sewer Project	Manholes	4	$ 51,236
361.2	2010	Pullman Center Business Park	Manholes	16	$ 3,000
361.2	2010	ED Elliot Plan	Manholes	2	$ 3,000
361.2	2011	Fairways at Krendale Ph 2	Manholes	2	$ 343,147
361.3	2012	NW Area Sanitary Sewer Rehabilitation Project	Rehab	292	$ 64,273
361.3	2012	Butcher Run Interceptor Improvements	Rehab	13	$ 405,632
361.3	2014	Sullivan Run Interceptor Improvements	Rehab	34	$ 12,000
361.2	2015	Sheetz Store 217R	Manholes	4	$ 37,496
361.2	2016	Jefferson Street Sewer and Siphon Replacement	Manholes	7	$ 32,114
361.2	2016	Zeigler Avenue PS Replacement GRAVITY	Manholes	6	$ 76,495
361.2	2018	Negley Avenue PS Replacement GRAVITY	Manholes	7	$ 1,210
361.3	2018	Upper Sullivan Run Sewer Rehab	Rehab	1	$ 53,543
361.3	2019	Upper Sullivan Run Sewer Rehab Ph 2	Rehab	96	$ 54,750
361.2	2020	Duffy Highlands Ph 1	Manholes	23	$ 17,752
361.2	2021	Autumn Woods Ph 1	Manholes	6	$ 41,348
361.2	2021	The Villas at Forest Oaks	Manholes	12	$ 110,963
361.2	2022	Highfield Trails Ph 1	Manholes	35	$ 5,259
361.2	2022	2020-2021 CAP Sewer Rehab (to date)	Rehab	122	$ 227,957
		Collecting Sewers - Gravity Total (Acct # 361)		**5,881**	**$ 7,927,849**

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Appendix 7:
Service Connection Assets

Butler Area Sewer Authority
Account 363- Sanitary Sewer Service Connections
Original Costs

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	TYPE OF WORK	COUNT	TOTAL PROJECT COST
363	1930	Original laterals	Sanitary Sewer Service Connection	1,141	$ 60,347
363	1935	Original laterals	Sanitary Sewer Service Connection	1,208	$ 60,696
363	1945	Original laterals	Sanitary Sewer Service Connection	1,007	$ 69,237
363	1954	Meadowood Area	Sanitary Sewer Service Connection	222	$ 29,941
363	1955	Original laterals	Sanitary Sewer Service Connection	1,476	$ 206,871
363	1960	Original laterals	Sanitary Sewer Service Connection	1,878	$ 337,709
363	1965	Hull Plan Sewers	Sanitary Sewer Service Connection	62	$ 6,673
363	1965	24" Sewer on West Penn Street	Sanitary Sewer Service Connection	12	$ 1,320
363	1967	Route 8 main interceptor	Sanitary Sewer Service Connection	6	$ 1,662
363	1967	Route 8 main interceptor extension	Sanitary Sewer Service Connection	5	$ 485
363	1969	Butler County Community College	Sanitary Sewer Service Connection	1	$ 55,000
363	1970	Connoquenessing interceptor	Sanitary Sewer Service Connection	5	$ 800
363	1970	Fifth Street interceptor	Sanitary Sewer Service Connection	5	$ 1,717
363	1970	North Butler Area Sewers	Sanitary Sewer Service Connection	400	$ 81,304
363	1972	Alameda Road Sewer	Sanitary Sewer Service Connection	16	$ 1,040
363	1973	Construction of 879 feet of 10-inch San Sewer on Home Avenue	Sanitary Sewer Service Connection	22	$ 3,471
363	1980	1980s expansion service connections	Sanitary Sewer Service Connection	6,150	$ 3,957,907
363	1979	Forest Heights (72 units)	Sanitary Sewer Service Connection	72	$ 19,569
363	1985	Sanitary Sewer Realignment LR 73- Route 10	Sanitary Sewer Service Connection	1	$ 624
363	1986	Sanitary Sewer Replacement Elm Street and Third Street	Sanitary Sewer Service Connection	23	$ 3,335
363	1991	Sanitary Sewer Construction Brown, Morton, Whippo and White Avenues	Sanitary Sewer Service Connection	18	$ 5,412
363	1993	Alva Hill Subdivision	Sanitary Sewer Service Connection	4	$ 1,886
363	1993	Clearview Meadows	Sanitary Sewer Service Connection	12	$ 5,659
363	1993	Deer Run Plan	Sanitary Sewer Service Connection	35	$ 16,506
363	1993	Hillcrest Townhomes	Sanitary Sewer Service Connection	10	$ 4,716
363	1993	Ietto Estate Ph 3	Sanitary Sewer Service Connection	9	$ 4,244
363	1993	Moraine Commons	Sanitary Sewer Service Connection	1	$ 472
363	1993	Moraine Pointe Plaza	Sanitary Sewer Service Connection	1	$ 472
363	1993	Southgate Ph 1	Sanitary Sewer Service Connection	17	$ 8,017
363	1993	Stirling Glen Ph 2	Sanitary Sewer Service Connection	20	$ 9,432
363	1993	Timberidge Ph 6	Sanitary Sewer Service Connection	16	$ 7,546
363	1993	Pullman Center	Sanitary Sewer Service Connection	1	$ 472
363	1994	Carriage Place	Sanitary Sewer Service Connection	18	$ 8,647
363	1994	Coretsky Subdivision	Sanitary Sewer Service Connection	4	$ 1,922
363	1994	Musko Subdivision	Sanitary Sewer Service Connection	3	$ 1,441
363	1994	Sunrise Village	Sanitary Sewer Service Connection	14	$ 6,726
363	1994	Timberidge Ph 7	Sanitary Sewer Service Connection	16	$ 7,687
363	1994	Heather Drive Sewer Extension	Sanitary Sewer Service Connection	51	$ 29,529
363	1994	Heather Drive Sewer Extension	Sanitary Sewer Service Connection	3	$ 20,319
363	1997	Bean Street Sewer Project	Sanitary Sewer Service Connection	12	$ 4,175
363	1997	Emily Brittain School Sewer	Sanitary Sewer Service Connection	1	$ 5,259
363	1999	East Jefferson Street Sewer Project	Sanitary Sewer Service Connection	14	$ 6,479
363	1999	Heartland Estates Ph 2	Sanitary Sewer Service Connection	15	$ 7,269
363	2000	Hidden Meadows	Sanitary Sewer Service Connection	25	$ 17,928
363	2000	Kovach Subdivision	Sanitary Sewer Service Connection	1	$ 5,000
363	2000	Stone Ridge Estates Ph 2	Sanitary Sewer Service Connection	23	$ 7,004
363	2001	Heartland Estates Ph 2B	Sanitary Sewer Service Connection	15	$ 7,843
363	2001	North Main Christian School	Sanitary Sewer Service Connection	1	$ 28,487
363	2002	Ken Fab and Weld	Sanitary Sewer Service Connection	1	$ 5,000
363	2002	Meadowview	Sanitary Sewer Service Connection	4	$ 3,500
363	2002	Meridian Pines Ph 1	Sanitary Sewer Service Connection	1	$ 3,889
363	2002	Shady Lane Farms Ph 1	Sanitary Sewer Service Connection	55	$ 16,575
363	2002	Stratford Heights Ph I-II	Sanitary Sewer Service Connection	91	$ 24,542
363	2003	Lighthouse Foundation	Sanitary Sewer Service Connection	1	$ 12,346
363	2003	Sheetz (Ritenour)	Sanitary Sewer Service Connection	1	$ 4,682
363	2003	Shady Farms Ph II and IV	Sanitary Sewer Service Connection	60	$ 16,488
363	2003	Paraska Subdivision	Sanitary Sewer Service Connection	1	$ 25,514
363	2004	Cherrywood Springs	Sanitary Sewer Service Connection	16	$ 25,869
363	2004	Butler Commons	Sanitary Sewer Service Connection	1	$ 4,745
363	2004	Meridian Pines Ph 2	Sanitary Sewer Service Connection	30	$ 8,048
363	2004	Heartland Estates Ph 2C	Sanitary Sewer Service Connection	15	$ 6,500
363	2005	Penn Avenue Grinder Pump Project	Sanitary Sewer Service Connection	1	$ 20,020
363	2005	Pine Needles Estates	Sanitary Sewer Service Connection	2	$ 1,000
363	2005	Sugar Creek	Sanitary Sewer Service Connection	19	$ 9,006
363	2006	Fairways at Krendale Ph1	Sanitary Sewer Service Connection	18	$ 11,407
363	2006	Meridian Pines Ph 3	Sanitary Sewer Service Connection	3	$ 640
363	2006	Ritenour Commercial Dev. Ph 1	Sanitary Sewer Service Connection	9	$ 6,760
363	2006	Wash King Car Wash	Sanitary Sewer Service Connection	1	$ 12,502
363	2006	Joseph Gray Residential Development	Sanitary Sewer Service Connection	1	$ 2,579
363	2007	Cedarwood- Butler Crossing	Sanitary Sewer Service Connection	50	$ 22,000
363	2008	Wyncrest Estates	Sanitary Sewer Service Connection	47	$ 34,752
363	2009	Bessemer Alton Storm and Sanitary Sewer	Sanitary Sewer Service Connection	7	$ 50,993
363	2009	Comer Subdivision	Sanitary Sewer Service Connection	2	$ 5,500
363	2010	Dutchtown Road Sanitary Sewer Project	Sanitary Sewer Service Connection	4	$ 17,007
363	2010	Center Twp Municipal Maintenance Facility	Sanitary Sewer Service Connection	1	$ 800
363	2010	Pullman Center Business Park	Sanitary Sewer Service Connection	10	$ 8,800
363	2011	Fairways at Krendale Ph 2	Sanitary Sewer Service Connection	38	$ 69,556
363	2016	Jefferson Street Sewer and Siphon Replacement	Sanitary Sewer Service Connection	15	$ 50,367
363	2016	Zeigler Avenue PS Replacement GRAVITY	Sanitary Sewer Service Connection	4	$ 3,181
363	2020	Duffy Highlands Ph 1	Sanitary Sewer Service Connection	44	$ 36,520
363	2021	Autumn Woods Ph 1	Sanitary Sewer Service Connection	10	$ 9,643
363	2021	The Villas at Forest Oaks	Sanitary Sewer Service Connection	26	$ 228,609
363	2022	Highfield Trails Ph 1	Sanitary Sewer Service Connection	76	$ 101,932
		SERVICE CONNECTION SUBTOTAL		**14,737**	**$ 5,991,528**
363	2000	Rehabilitation of Westwood Manor 1	Rehabilitation	79	$ 27,610
363	2002	Rehabilitation of Westwood Manor 3	Rehabilitation	125	$ 260,311
363	2007	Rehabilitation of Cunningham Street	Rehabilitation	51	$ 77,550
363	2012	NW Area Sanitary Sewer Rehabilitation Project	Rehabilitation	6	$ 34,531
363	2012	NW Area Sanitary Sewer Rehabilitation Project	Rehabilitation	401	$ 1,634,350
363	2012	Butcher Run Interceptor Improvements	Rehabilitation	4	$ 10,000
363	2014	Sullivan Run Interceptor Improvements	Rehabilitation	84	$ 361,618
363	2018	Upper Sullivan Run Sewer Rehab	Rehabilitation	13	$ 19,718
363	2019	Upper Sullivan Run Sewer Rehab Ph 2	Rehabilitation	3	$ 124,933
363	2022	2020-2021 CAP Sewer Rehab	Rehabilitation	2	$ 26,600
		REHABILITATION SUBTOTAL		**768**	**$ 2,577,220**
		SERVICES TO CUSTOMERS TOTAL (Acct # 363)		**15,505**	**$ 8,568,748**

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Appendix 8:
Collection System Flow Monitoring Assets

Butler Area Sewer Authority
Account 364
Flow Measuring Equipment (Collection System)
Original Costs

NARUC ACCT #	INSTALLATION YEAR	DESCRIPTION	COUNT	TOTAL PROJECT COST
364	1999	26 Flow Meters	26	$ 250,000
364	2012	Additional Flow Meters	4	$ 50,000
Flow Metering Devices Total (Acct # 364)				**$ 300,000**

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Appendix 9:
Property Inventory

BUTLER AREA SEWER AUTHORITY

Courthouse Records of BASA Owned Land

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	1	Grantee		PLANS AND SUBDIVISIONS	Municipality: BUTLER TOWNSHIP	1991-06-25	
353	2	Grantor	BUTLER AREA SEWER AUTH	LICENSE AGREEMENT	Municipality:BUTLER TWP Sub/Condo:SUGAR CREEK PLAN Lot:108	2021-03-09	
353	3	Grantee	BUTLER AREA SEWER AUTH	LICENSE AGREEMENT	Municipality:BUTLER TWP Sub/Condo:SUGAR CREEK PLAN Lot:108	2021-03-09	
353	4	Grantor	OESTERLING JEFFREY R	MISCELLANEOUS DOCUMENT RECORDING	Municipality:BUTLER CITY Street:103 MORTON AVENUE Parcel:561-3-65	2020-11-13	
353	5	Grantor	KELLY JAMES P	MISCELLANEOUS DOCUMENT RECORDING	* Municipality:BUTLER CITY Street:107 MORTON AVENUE Parcel:561-3-68	2020-11-13	
353	6	Grantor	STONEHENGE APPALACHIA LLC	EASEMENT	* Municipality:CLEARFIELD TWP Parcel:090-S7-B Acre:39.23	2019-08-08	
353	7	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality:CENTER TWP Parcel:060-S4-A15	2019-06-17	
353	8	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality:CENTER TWP Parcel:060-S4-A15	2019-06-17	
353	9	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Parcel: 060-S4-16	2019-03-19	
353	10	Grantor	JIFFY MINI MART	AGREEMENT	Municipality: CENTER TWP Parcel: 060-S4-16	2019-03-19	
353	11	Grantor	PENNENERGY RESOURCES LLC	BILL OF SALE	* Municipality: ADAMS TWP Parcel: 270-3F49-3	2018-10-03	
353	12	Grantor	PENNENERGY RESOURCES LLC	BILL OF SALE	* Municipality: ADAMS TWP Parcel: 270-3F49-3	2018-10-03	
353	13	Grantor	ZIHMER, JASON A	LICENSE AGREEMENT	Municipality: BUTLER TWP Sub/Condo: SUGARCREEK DEV Lot: 107	2018-05-15	
353	14	Grantee	BUTLER AREA SEWER AUTH	LICENSE AGREEMENT	Municipality: BUTLER TWP Sub/Condo: SUGARCREEK DEV Lot: 107	2018-05-15	
353	15	Grantor	WEST PENN POWER CO	EASEMENT	Municipality: BUTLER CITY Parcel: 563-6-240B	2018-05-15	
353	16	Grantor	SEQUETE, C R	AGREEMENT	Municipality: BUTLER TWP Parcel: 056-20-E92	2017-01-11	
353	17	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 056-20-E92	2017-01-11	
353	18	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: EAST BUTLER BORO Parcel: 380-S1-B11	2016-10-12	
353	19	Grantor	WALKER, TODD	AGREEMENT	Municipality: EAST BUTLER BORO Parcel: 380-S1-B11	2016-10-12	
353	20	Grantor	CITY BUTLER	EASEMENT	Municipality: BUTLER CITY Lot: 1 Parcel: 563-6-240B	2016-06-17	$1
353	21	Debtor	WILMINGTON SAV FUND SOCIETY FSB	FINANCING STATEMENT FILING	* Municipality: BRADY TWP	2016-04-01	
353	23	Debtor	ROYAL BK CANADA	FINANCING STATEMENT AMENDMENT	* Municipality: LANCASTER TWP	2016-03-10	
353	24	Grantor	KEYBANK NATL ASSN	AMENDMENT TO MTG.	* Municipality: LANCASTER TWP Parcel: 200-4F56-18A	2016-03-09	
353	25	Grantor	R E GAS DEV LLC	AGREEMENT	* Municipality: CENTER TWP Parcel: 60-S20-B20	2016-01-19	
353	26	Grantee	R E GAS DEV LLC	AGREEMENT	* Municipality: CENTER TWP Parcel: 60-S20-B20	2016-01-19	
353	27	Grantee	R E GAS DEV LLC	x_MODIFICATION DOCUMENT	* Municipality: CENTER TWP Parcel: 60-S20-B20 Acre: 0.051	2016-01-11	
353	28	Grantor	R E GAS DEV LLC	x_MODIFICATION DOCUMENT	* Municipality: CENTER TWP Parcel: 60-S20-B20 Acre: 0.051	2016-01-11	
353	29	Grantor	ALLEGENT COMMUNITY FED CRED UN	LICENSE AGREEMENT	Municipality: CENTER TWP Street: 214 WILLOW RUN RD	2015-10-22	
353	30	Grantee	BUTLER AREA SEWER AUTH	LICENSE AGREEMENT	Municipality: CENTER TWP Street: 214 WILLOW RUN RD	2015-10-22	
353	31	Grantee	R E GAS DEV LLC	AGREEMENT	* Municipality: CHERRY TWP Parcel: 070-2F116-10A Acre: 59.000	2015-09-28	
353	32	Grantor	STONEHENGE APPALACHIA LLC	AGREEMENT	* Municipality: CHERRY TWP Parcel: 070-2F116-10A Acre: 59.000	2015-09-28	
353	33	Grantor	CUPPS, STEPHEN E	DECLARATION	* Municipality: CENTER TWP Parcel: 60-S20-B20 Acre: 0.051	2015-06-22	
353	34	Grantee	R E GAS DEV LLC	DECLARATION	* Municipality: CENTER TWP Parcel: 60-S20-B20 Acre: 0.051	2015-06-22	
353	35	Grantee	SEHMAN TIRE SERV INC	RIGHT OF WAY	* Municipality: BUTLER CITY Street: 459 WEST CUNNINGHAM STREET Parcel: 563-8-1	2015-06-09	$1,000
353	36	Grantee	WILLIAMS, CECIL S JR	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-8-1A	2015-05-27	$1,500
353	37	Grantor	R E GAS DEV LLC	MEMORANDUM OF LEASE W/O STAMPS	Municipality: CENTER TWP Parcel: 060-3F41-41H Acre: 0.280	2015-04-10	
353	38	Grantor	FIRST UNITED METH CH	AGREEMENT	* Municipality: CENTER TWP Parcel: 060-2F104-4	2015-03-11	
353	39	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: CENTER TWP Parcel: 060-2F104-4	2015-03-11	
353	40	Grantee	SECHAN PROPERTIES INC	WARRANTY DEED	Municipality: BUTLER CITY Sub/Condo: SECHAN PROPERTIES INC Lot: 1 Parcel: 561-63-6A Acre: 0.230	2014-11-20	$10,000
353	41	Grantor	SUMMIT DISCOVERY RESOURCES II LLC	NON-MORTGAGE ASSIGNMENT	* Municipality: MUDDYCREEK TWP Parcel: 240-4F96-A13BB Acre: 0.463	2014-11-04	
353	42	Grantor	BUTLER LAND CO LLP	x_MODIFICATION DOCUMENT	* Street: 653 EVANS CITY ROAD Parcel: 120-3F47-2SA	2014-08-29	
353	43	Grantee	BUTLER AREA SEWER AUTH	x_MODIFICATION DOCUMENT	* Street: 653 EVANS CITY ROAD Parcel: 120-3F47-2SA	2014-08-29	
353	44	Grantor	R E GAS DEV LLC	MEMORANDUM OF LEASE W/O STAMPS	* Municipality: BUTLER TWP Parcel: 56-9-11D Acre: 0.570	2014-08-08	
353	45	Grantor	R B G DEV GROUP LLC	AGREEMENT	Municipality: BUTLER TWP	2014-06-06	
353	46	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2014-06-06	
353	47	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 056-20-E69A	2014-06-06	
353	48	Grantor	POLLOCK, VICKI L	AGREEMENT	Municipality: BUTLER TWP Parcel: 056-20-E69A	2014-06-06	
353	49	Grantor	THOMAS, CHARLES M	AGREEMENT	Street: 303 NEGLEY AVE Parcel: 563-6-265	2014-06-05	
353	50	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Street: 303 NEGLEY AVE Parcel: 563-6-265	2014-06-05	
353	51	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Sub/Condo: CITIZENS CONSOLIDATION & SUB P Lot: 2	2013-07-02	
353	52	Grantor	RBG DEV GROUP LLC	AGREEMENT	Sub/Condo: CITIZENS CONSOLIDATION & SUB P Lot: 2	2013-07-02	
353	53	Grantee	BROOKBANK, SHIRLEY D BY ADMR	ADMINSTRATORS DEED	Municipality: BUTLER CITY Ward: 1 Street: 105 MORTON AVE Parcel: 561-3-67	2013-03-21	$7,000
353	54	Grantee	CLOSKEY, SUSAN M	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-26-74	2013-03-07	$6,120
353	55	Grantee	OCVIRK, ROBERT C	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-26-75	2013-03-07	$1,500
353	56	Grantee	CITY BUTLER	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-6-240B Acre: 7.240	2012-03-30	
353	57	Grantor	PEOPLES TWP LLC	RIGHT OF WAY	Municipality: BUTLER TWP	2011-07-06	$1
353	58	Grantor	PEOPLES TWP LLC	RIGHT OF WAY	Municipality: BUTLER TWP	2011-07-06	$1
353	59	Grantor	MACKO, JODI MARIE AKA	AGREEMENT	Municipality: BUTLER TWP Street: 316 WESTBROOK DR	2011-01-24	
353	60	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Street: 316 WESTBROOK DR	2011-01-24	
353	61	Grantee	H&P PACKAGING INC	RIGHT OF WAY	* Municipality: BUTLER CITY Street: 600 S WASHINGTON ST Parcel: 563-5-133	2010-10-28	$8,100

BUTLER AREA SEWER AUTHORITY

Courthouse Records of BASA Owned Land

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	62	Grantee	H&P PACKAGING INC	RIGHT OF WAY	Municipality: BUTLER CITY Street: MILL ST Parcel: 563-5-133AA2	2010-10-28	$1
353	63	Grantee	ROBINSON, WILLIAM C JR	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 056-5-3F	2010-10-14	$1
353	64	Grantee	THOMAS, CHARLES M	x_MODIFICATION DOCUMENT	Municipality: BUTLER CITY Street: 303 NEGLEY AVE Parcel: 563-6-265	2010-10-14	
353	65	Grantee	HUTCHINSON, STEVEN M	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-6-260	2010-09-29	$1
353	66	Grantee	JOHNS, MARGARET C BY P/A	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563-5-123	2010-09-29	$9,000
353	67	Grantee	WOOD, SHERRI LAYNE	CONDEMNATION	Municipality: BUTLER CITY Street: 505 NEGLEY AVENUE Parcel: 563 6 242	2010-07-29	
353	68	Grantee	THOMAS, CHARLES M	CONDEMNATION	Municipality: BUTLER CITY Street: 303 NEGLEY AVENUE Parcel: 563 6 265	2010-07-29	
353	69	Grantee	GATTO, CHRIS J	RIGHT OF WAY	Municipality: BUTLER CITY	2010-07-15	$1
353	70	Grantee	GATTO, CHRIS J	RIGHT OF WAY	Municipality: BUTLER CITY	2010-07-15	$1
353	71	Grantee	GATTO, CHRIS J	RIGHT OF WAY	Municipality: BUTLER CITY	2010-07-15	$1
353	72	Grantee	EAGLE PRINTIING CO	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563 6 1	2010-05-26	$1
353	73	Grantee	HOUSING AUTH BUTLER CO	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563 6 2	2010-05-14	$2,000
353	74	Grantee	REDEVELOPMENT AUTH CITY BUTLER	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563 26 91	2010-05-14	$5,000
353	75	Grantee	BUTLER CITY	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 563 8 XB	2010-05-05	$1
353	76	Grantee	FULLER, SCOTT N	RIGHT OF WAY	* Municipality: BUTLER CITY Parcel: 563 26 74A	2010-04-22	$1,000
353	77	Grantee	BUTLER TWP	EASEMENT	Municipality: BUTLER TWP	2010-04-07	$1
353	78	Grantee	COWAN, JOSEPH M	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 A4	2010-04-01	$1
353	79	Grantee	MILLER, CHERYL A	RIGHT OF WAY	Municipality: BUTLER TWP Street: 147 HAMPTON COURT Parcel: 051 62 D6	2010-04-01	$2,500
353	80	Grantee	BUTLER TWP	EASEMENT	Municipality: BUTLER TWP	2010-03-29	$1
353	81	Grantee	JOHNSON, WALTER C	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 A1	2010-03-24	$1
353	82	Grantee	SPRENG, ROBERT H JR	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 D8	2010-03-24	$1
353	83	Grantee	MCCLYMONDS, WAYNE S	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 D7	2010-03-24	$1
353	84	Grantee	MILLER, KENNETH M JR	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 A3	2010-03-24	$1
353	85	Grantee	ROCK, EUGENE A	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 051 62 A2	2010-03-24	$1
353	86	Grantee	BLUMENSCHEIN DEV CO INC	RIGHT OF WAY	Municipality: BUTLER TWP Street: SUGAR CREEK DRIVE Parcel: 051 62 5A102	2010-03-24	$1
353	87	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 056 17 1C4H	2010-03-05	
353	88	Grantor	BENBROOK FAMILY PRACTICE LLC	AGREEMENT	Municipality: BUTLER TWP Parcel: 056 17 1C4H	2010-03-05	
353	89	Grantee	CENTER TWP	RIGHT OF WAY	Municipality: CENTER TWP	2010-01-14	$1
353	90	Grantee	CAMPBELL, JAMES G	CONDEMNATION	Municipality: BUTLER CITY Parcel: 562 25 58 (P/O) Acre: 0.240	2010-01-06	
353	91	Grantee	AK STEEL CORP AKA	RIGHT OF WAY	Municipality: BUTLER TWP	2009-12-04	$1
353	92	Grantee	BUFFALO & PITTSBURGH RAILROAD INC	TERMINATION	Parcel: 562 25 58 Acre: 0.240	2009-11-25	
353	93	Grantee	COMMUNITY DEV CORP BUTLER CO AKA	RIGHT OF WAY	* Municipality: BUTLER CITY	2009-07-08	$1
353	94	Grantee	HOREWITZ, ALEX BY EXR	WARRANTY DEED	Municipality: BUTLER CITY Sub/Condo: HOREWITZ EST SUB Lot: 1 Street: 329 E CUNNINGHAM ST Parcel: 562-25-38C Acre: 0.910	2009-06-16	$38,000
353	95	Grantee	COLOSIMO, SAMUEL A	CONDEMNATION	Municipality: BUTLER CITY Parcel: 563 3 1 Acre: 0.540	2009-05-27	
353	96	Grantee	FULLER, SCOTT N AKA	RIGHT OF WAY	Municipality: BUTLER CITY Street: 113--127 PILLOW STREET Parcel: 563 26 74A	2009-04-30	$1
353	97	Grantee	JOHNSON, HELEN	RIGHT OF WAY	Municipality: BUTLER TWP	2009-04-29	$1
353	98	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 056 17 1C4	2009-04-16	
353	99	Grantor	HOSPICE SERVS INC DBA	AGREEMENT	Municipality: BUTLER TWP Parcel: 056 17 1C4	2009-04-16	
353	100	Grantor	BUTLER CITY	RIGHT OF WAY	Municipality: BUTLER CITY Ward: 3 Parcel: 563 6 240B	2009-04-16	$1
353	101	Grantee	BUTLER AREA SEWER AUTH	RIGHT OF WAY	Municipality: BUTLER CITY Ward: 3 Parcel: 563 6 240B	2009-04-16	$1
353	102	Grantee	RITENOUR, RICHARD A	RIGHT OF WAY	Municipality: BUTLER TWP	2009-03-25	$1
353	103	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Sub/Condo: MUSKO PLAN #2 Lot: 4 Parcel: 54-35-4A	2009-03-12	
353	104	Grantor	MUSKO, CYNTHIA D	AGREEMENT	Municipality: BUTLER TWP Sub/Condo: MUSKO PLAN #2 Lot: 4 Parcel: 54-35-4A	2009-03-12	
353	105	Grantee	AK STEEL CORP AKA	WARRANTY DEED	* Municipality: BUTLER CITY Sub/Condo: AK STEEL SUB Lot: A Acre: 5.140	2009-02-13	$225,600
353	106	Grantee	BUTLER TWP	WARRANTY DEED	* Municipality: BUTLER TWP Sub/Condo: TOWNSHIP BUTLER & BUTLER AREA Lot: C Acre: 2.510	2009-01-22	$22,000
353	107	Grantee	STEIGHNER, ROBERT C	WARRANTY DEED	Municipality: BUTLER CITY Ward: 3 Parcel: 563 26 91A Acre: 0.280	2009-01-13	$22,950
353	108	Grantee	BUTLER TWP	PLANS AND SUBDIVISIONS	Municipality: BUTLER TWP Sub/Condo: BUTLER TWP BUTLER AREA SEWER A	2008-12-23	
353	109	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: CENTER TWP Parcel: 060 2F104 19H	2008-08-28	
353	110	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: CENTER TWP Parcel: 060 2F104 19H	2008-08-28	
353	111	Grantee	FEDERAL NATL MTG ASSN AKA	RIGHT OF WAY	Municipality: BUTLER TWP	2008-08-28	$1
353	112	Grantee	DERWIN, SOPHIE	RIGHT OF WAY	Municipality: BUTLER TWP	2008-08-28	$1
353	113	Grantee	POTTER, WILLIAM W	RIGHT OF WAY	Municipality: BUTLER TWP	2008-08-14	$1
353	114	Grantee	MCGARRAH, JERRY J	RIGHT OF WAY	Municipality: BUTLER TWP	2008-08-14	$1
353	115	Grantee	WALKOWIAK, TIMOTHY W	RIGHT OF WAY	Municipality: BUTLER TWP	2008-08-11	$1
353	116	Grantee	AK STEEL CORP AKA	RIGHT OF WAY	Municipality: BUTLER TWP	2008-07-09	$1
353	117	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 051-54-30	2008-07-07	
353	118	Grantor	ALTMAN, SCOTT L	AGREEMENT	Municipality: BUTLER TWP Parcel: 051-54-30	2008-07-07	
353	119	Grantee	SMITH, RANDOLPH	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 37 A434B	2008-06-19	$1
353	120	Grantee	BUTLER CO CITY CONNOQUENESSING CREEK FLOOD CONTROL	RIGHT OF WAY	* Municipality: BUTLER CITY Parcel: 56-5-64A	2008-05-06	$1
353	121	Grantee	WATERBEC, JOHN T	RIGHT OF WAY	Municipality: BUTLER CITY Parcel: 56-5-66	2008-05-06	$1

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	122	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT		2008-03-06	
353	123	Grantor	MINTO, WILLIAM G JR	AGREEMENT		2008-03-06	
353	124	Grantor	HALL, MARK E	AGREEMENT	Municipality: CENTER TWP Sub/Condo: HALL PLAN Lot: 1	2007-07-31	
353	125	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Sub/Condo: HALL PLAN Lot: 1	2007-07-31	
353	126	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP	2007-05-11	
353	127	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP	2007-05-11	
353	128	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Parcel: 2F-63-1	2007-05-11	
353	129	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Parcel: 2F-63-1	2007-05-11	
353	130	Grantee	SNYDER, TERRY L	AGREEMENT	* Municipality: BUTLER TWP Parcel: 36-D398	2006-09-07	
353	131	Grantor	SNYDER, TERRY L	AGREEMENT	* Municipality: BUTLER TWP Parcel: 36-D398	2006-09-07	
353	132	Grantor	MILLER, CHRISTINA N	AGREEMENT	Municipality: BUTLER TWP Parcel: 62-A-3	2006-09-07	
353	133	Grantee	MILLER, KENNETH M JR	AGREEMENT	Municipality: BUTLER TWP Parcel: 62-A-3	2006-09-07	
353	134	Grantee	GREEN, PATRICIA A TRS	AGREEMENT	Municipality: BUTLER CITY	2006-06-06	
353	135	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER CITY	2006-06-06	
353	136	Grantor	BERCURY HOMES LTD	AGREEMENT	Municipality: CENTER TWP Parcel: S12-D12	2006-03-16	
353	137	Grantee	BERCURY HOMES LTD	EASEMENT	Municipality: CENTER TWP Parcel: S12-D12	2006-01-11	$1
353	138	Grantee	GRAY, JOSEPH L	RIGHT OF WAY	Municipality: BUTLER TWP	2005-12-19	$1
353	139	Grantee	BLUMENSCHEIN DEV CO INC	EASEMENT	* Municipality: BUTLER TWP Sub/Condo: SUGAR CREEK PLAN Lot: 111	2005-08-17	
353	140	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Street: 411 PENN AVE Parcel: 37-A193	2005-08-10	
353	141	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Street: 411 PENN AVE Parcel: 37-A193	2005-08-10	
353	142	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2005-07-13	
353	143	Grantee	WHITMER, ANN H AKA	AGREEMENT	Municipality: BUTLER TWP	2005-07-13	
353	144	Grantee	FISHER, THOMAS L	AGREEMENT	Municipality: BUTLER TWP Street: 115 1/2 BRADMOOR LN Parcel: 5-D9	2005-06-15	
353	145	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Street: 115 1/2 BRADMOOR LN Parcel: 5-D9	2005-06-15	
353	146	Grantee	FISHER, THOMAS L	EASEMENT	Municipality: BUTLER TWP Street: 115 1/2 BRADMOOR LN	2005-05-17	
353	147	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Sub/Condo: MAJESTIC VIEW ESTS PLAN Lot: 305 Parcel: S17-C305	2005-05-12	
353	148	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Sub/Condo: MAJESTIC VIEW ESTS PLAN Lot: 305 Parcel: S17-C305	2005-05-12	
353	149	Grantee	BLUMENSCHEIN DEV CO INC	WARRANTY DEED	Municipality: BUTLER TWP Sub/Condo: SUGAR CREEK PLAN REVISED Lot: A 1R Parcel: 051 62 5AA1	2005-04-04	$1
353	150	Grantee	LARRICK, JANICE PHILLIPS	AGREEMENT	Municipality: BUTLER TWP Parcel: 15-E1	2005-02-02	
353	151	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Parcel: 15-E1	2005-02-02	
353	152	Grantor	KELLY CHEVROLET CADILLAC INC	AGREEMENT	Municipality: PENN TWP Parcel: 2F-98-3C	2005-01-13	
353	153	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: PENN TWP Parcel: 2F-98-3C	2005-01-13	
353	154	Grantee	WHITMER, ANN AKA	RIGHT OF WAY	* Municipality: BUTLER TWP Sub/Condo: PINE NEEDLES ESTS Lot: 102	2004-12-23	$1
353	155	Grantee	GRAY, JOSEPH L AKA	RIGHT OF WAY	Municipality: BUTLER TWP	2004-12-15	$1
353	156	Grantee	GRAY, JOSEPH	RIGHT OF WAY	Municipality: BUTLER TWP	2004-12-15	$1
353	157	Grantee	GARBER FAMILY LTD PARTNERSHIP LP	RIGHT OF WAY	Municipality: BUTLER TWP	2004-11-10	$1
353	158	Grantee	D&D BEBLO INC	RIGHT OF WAY	Municipality: CENTER TWP	2004-08-16	$1
353	159	Grantee	RITENOUR, RICHARD A	AGREEMENT	Municipality: BUTLER TWP	2004-07-22	
353	160	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2004-07-22	
353	161	Grantee	KATE INC	BILL OF SALE	Municipality: BUTLER TWP	2004-06-11	$1
353	162	Grantee	KATE INC	BILL OF SALE	Municipality: BUTLER TWP	2004-06-02	$1
353	163	Grantee	GRACE YOUTH & FAMILY FOUNDATION INC	RIGHT OF WAY	Municipality: BUTLER CITY	2004-04-23	$15,000
353	164	Grantor	HARMON, DOUGLAS W	AGREEMENT	Municipality: BUTLER TWP Parcel: 34-8	2004-04-15	
353	165	Grantee	STEFFEN, LAWRENCE W	RIGHT OF WAY	Municipality: SUMMIT TWP	2004-03-24	$1
353	166	Grantee	STEFFEN, LAWRENCE W AKA	RIGHT OF WAY	Municipality: SUMMIT TWP	2004-03-24	$1
353	167	Grantee	ELLIOTT TIRE SERV INC	RIGHT OF WAY	Municipality: BUTLER CITY	2004-02-12	$1
353	168	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: BUTLER TWP Sub/Condo: SHRIVER PLAN Lot: 12	2004-02-12	
353	169	Grantor	REKICH, AMANDA L	AGREEMENT	* Municipality: BUTLER TWP Sub/Condo: SHRIVER PLAN Lot: 12	2004-02-12	
353	170	Grantor	OLIVER, JEROME P SR	AGREEMENT	Municipality: CENTER TWP Parcel: 2F 104 S4 A1	2003-09-15	
353	171	Grantor	BERCURY HOMES LTD	AGREEMENT	Municipality: CENTER TWP Parcel: S2 C7	2003-08-13	
353	172	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Parcel: S2 C7	2003-08-13	
353	173	Grantor	DIEHL REALTY LP	AGREEMENT	* Municipality: PENN TWP Parcel: 3C1	2003-07-11	
353	174	Grantee	BUTLER CO COMMUNITY COLLEGE	RIGHT OF WAY	Municipality: BUTLER TWP	2003-03-12	$1
353	175	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: SUMMIT TWP Parcel: S3-21	2003-03-12	
353	176	Grantor	STEIN, LISA G AKA	AGREEMENT	Municipality: SUMMIT TWP Parcel: S3-21	2003-03-12	
353	177	Grantee	DELESS, BRYON S	RIGHT OF WAY	Municipality: BUTLER TWP	2002-12-17	$1
353	178	Grantee	KRESS PROPERTIES LP	RIGHT OF WAY	Municipality: CENTER TWP Sub/Condo: STRATFORD HEIGHTS PH I Lot: 11 Parcel: S20-B11	2002-10-24	$1
353	179	Grantee	SHADY LANE FARMS INC	RIGHT OF WAY	Municipality: CENTER TWP	2002-09-13	$1
353	180	Grantee	DOUBLE, N REID	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	2002-05-06	$1
353	181	Grantee	DELESS, BRYON S	RIGHT OF WAY	Municipality: BUTLER TWP Sub/Condo: BRICKLE PLAN Lot: 13	2002-05-01	$1

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353	182	Grantee	RITENOUR, ROBB E	RIGHT OF WAY	Municipality: BUTLER TWP	2002-03-14	$1
353	183	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP Sub/Condo: MAJESTIC VIEW ESTS PLAN Lot: 304 Parcel: S17-C304	2002-03-14	
353	184	Grantor	L WOLF CO INC	AGREEMENT	Municipality: CENTER TWP Sub/Condo: MAJESTIC VIEW ESTS PLAN Lot: 304 Parcel: S17-C304	2002-03-14	
353	185	Grantee	KLOPFER, MARK A	RIGHT OF WAY	Municipality: CENTER TWP	2001-12-19	$1
353	186	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2001-12-19	
353	187	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2001-12-19	
353	188	Grantee	FULLER, SCOTT N	RIGHT OF WAY	Municipality: BUTLER CITY	2001-10-10	$1
353	189	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Sub/Condo: BUTLER HIGHFIELD PLAN Lot: 500 Street: 156 PIERCE AVE Parcel: 36-D500	2001-10-10	
353	190	Grantor	WATERBEC, MARK T	AGREEMENT	Municipality: BUTLER TWP Sub/Condo: BUTLER HIGHFIELD PLAN Lot: 500 Street: 156 PIERCE AVE Parcel: 36-D500	2001-10-10	
353	191	Grantor	MLG LAND DEV INC	AGREEMENT	Municipality: BUTLER TWP Sub/Condo: MERIDIAN PINES PH I	2001-07-10	
353	192	Grantor	GRECO GAS & WELDING SUPPLIES INC	AGREEMENT	Municipality: BUTLER CITY	2001-04-17	
353	193	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER CITY	2001-04-17	
353	194	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: BUTLER TWP	2001-03-14	
353	195	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	* Municipality: BUTLER TWP	2001-03-14	
353	196	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2001-03-07	
353	197	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2001-03-07	
353	198	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2001-02-14	
353	199	Grantor	ELLENBERGER BRIAN K	AGREEMENT	Municipality: BUTLER TWP	2001-02-14	
353	200	Grantor	KEN FAB & WELD INC	AGREEMENT	Municipality: EAST BUTLER BORO	2001-02-07	
353	201	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: EAST BUTLER BORO	2001-02-07	
353	202	Grantee	RIKAL VICTOR P	WARRANTY DEED	Municipality: BUTLER CITY Ward: 2	2001-01-29	$15,000
353	203	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CENTER TWP	2000-12-07	
353	204	Grantor	NORTH MAIN ST CH GOD	AGREEMENT	Municipality: CENTER TWP	2000-12-07	
353	205	Grantor	BUNGAR WILLIAM	RIGHT OF WAY	Municipality: CENTER TWP	2000-09-14	$1
353	206	Grantee	BUNGAR WILLIAM	RIGHT OF WAY	Municipality: CENTER TWP	2000-09-14	$1
353	207	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2000-08-24	
353	208	Grantor	HIGHFIELD YOUTH BASEBALL ASSN	AGREEMENT	Municipality: BUTLER TWP	2000-08-24	
353	209	Grantor	LIPEROTE LAND DEV CO	AGREEMENT	Municipality: BUTLER TWP	2000-08-24	
353	210	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP	2000-08-24	
353	211	Grantee	KOVACH PETER	AGREEMENT		2000-08-16	
353	212	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT		2000-08-16	
353	213	Grantee	KOVACH PETER	RIGHT OF WAY	* Municipality: BUTLER TWP	2000-08-16	$1
353	214	Grantee	BRADY DAVID A	RIGHT OF WAY	* Municipality: BUTLER TWP	2000-08-16	$1
353	215	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TWP Street: 255 NORTH DUFFY RD	2000-05-16	
353	216	Grantor	MARK A KEENE	AGREEMENT	Municipality: BUTLER TWP Street: 255 NORTH DUFFY RD	2000-05-16	
353	217	Grantor	BUTLER AREA SEWER AUTH	RIGHT OF WAY	Municipality: BUTLER TWP	1999-11-09	$1
353	218	Grantee	KLTF REAL EST	RIGHT OF WAY	Municipality: BUTLER TWP	1999-11-09	$1
353	219	Grantee	FOREST HEIGHTS II	RIGHT OF WAY	Municipality: BUTLER TWP Sub/Condo: FOREST HEIGHTS REV NO 1 Lot: 4R	1999-10-22	
353	220	Grantor	BUTLER AREA SEWER AUTH	RIGHT OF WAY	Municipality: BUTLER TWP Sub/Condo: FOREST HEIGHTS REV NO 1 Lot: 4R	1999-10-22	
353	221	Grantee	STIRLING VILLAGE CONDOMINIUM	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-07-22	
353	222	Grantee	RITENOUR RICHARD	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-07-22	
353	223	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1999-06-21	
353	224	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1999-06-21	
353	225	Grantee	BLANK JEFFREY A	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	1999-05-11	
353	226	Grantee	BURCH BARBARA Y BY P/A	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-04-14	
353	227	Grantee	NATIONAL CITY BK PA AKA	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1999-03-10	
353	228	Grantee	LEIGHT RONALD M	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-02-04	
353	229	Grantee	FITZPATRICK JOHN P	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-02-04	
353	230	Grantee	MILLER RICHARD L	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1999-02-04	
353	231	Grantee	SCHMITZER CHARLES F III	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1999-02-04	
353	232	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER CITY	1998-12-02	
353	233	Grantor	TRINITY INDS INC	AGREEMENT	Municipality: BUTLER CITY	1998-12-02	
353	234	Grantee	G B K ASSOC	RIGHT OF WAY	Municipality: BUTLER CITY WARD 3	1998-08-26	
353	235	Grantee	STUTZ MATTHEW B	AGREEMENT	Municipality: EAST BUTLER BOROUGH	1998-08-26	
353	236	Grantee	CLEVER LUBE INC	AGREEMENT	Municipality: CENTER TOWNSHIP	1998-08-26	
353	237	Grantee	PULLMAN SQUARE ASSOC	RIGHT OF WAY	Municipality: BUTLER CITY WARD 3	1998-08-26	
353	238	Grantor	STUTZ MATTHEW B	AGREEMENT	Municipality: EAST BUTLER BOROUGH	1998-08-26	
353	239	Grantor	CLEVER LUBE INC	AGREEMENT	Municipality: CENTER TOWNSHIP	1998-08-26	
353	240	Grantor	NIGGEL JOANNE N	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-11-20	
353	241	Grantor	SAKURADA MATTHEW S	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-11-20	

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	242	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-11-20	
353	243	Grantee	SAKURADA MATTHEW S	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-11-20	
353	244	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-10-23	
353	245	Grantor	RUFFEL KATHERYN L	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-10-23	
353	246	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-09-25	
353	247	Grantee	SPIECE JACQUELINE M	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1997-09-25	
353	248	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1997-09-25	
353	249	Grantee	CORBETT SUSAN K	AGREEMENT	Municipality: CENTER TOWNSHIP	1997-08-22	
353	250	Grantor	CORBETT SUSAN K	AGREEMENT	Municipality: CENTER TOWNSHIP	1997-08-22	
353	251	Grantor	WAGGETT MARJORIE L	AGREEMENT	Municipality: BUTLER CITY	1997-07-11	
353	252	Grantor	COMMUNITY DEV CORP BUTLER CO	AGREEMENT	Municipality: CONNOQUENESSING TWP	1997-07-11	
353	253	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER CITY	1997-07-11	
353	254	Grantee	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: CONNOQUENESSING TWP	1997-07-11	
353	255	Grantor	MCBRIDE DOROTHY M	WARRANTY DEED	Municipality: BUTLER CITY WARD 3	1997-04-15	
353	256	Grantee	HAZEN VIVIAN LEAH	WARRANTY DEED	Municipality: BUTLER TOWNSHIP	1997-02-14	
353	257	Grantee	OSHURAK MICHAEL BY P/A	WARRANTY DEED	Municipality: BUTLER TOWNSHIP	1997-02-14	
353	258	Grantee	NORTHWEST CDC	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-11-27	
353	259	Grantee	NORTHWEST CDC	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-11-27	
353	260	Grantee	MOTKO PAUL	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	261	Grantee	SKROBOT JOSEPH VICTOR AKA	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	262	Grantee	SKROBOT JOSEPH	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	263	Grantee	PENNSYLVANIA STATE PUBLIC SCHL BLDG AUTH HARRISBUR	RIGHT OF WAY	Municipality: BUTLER TWP Parcel: 45-8	1996-10-30	$1
353	264	Grantee	SMITH JONATHAN M	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	265	Grantee	MILLER CAROL ANN AKA	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	266	Grantee	MERIDIAN TR CO TRS	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-10-30	
353	267	Grantee	FELDBLUM ISADORE	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-09-27	
353	268	Grantee	BUCKOWSKY VICTOR D	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-06-17	
353	269	Grantee	BUCKOWSKY VICTOR D	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-06-17	
353	270	Grantee	COUNTY BUTLER	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1996-03-13	
353	271	Grantee	MCANDREW MICHAEL P	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1995-09-14	
353	272	Grantee	MCKIVIGAN LARRY	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1995-07-18	
353	273	Grantee	KLARA BERNARD P	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1995-07-18	
353	274	Grantee	KOEHLER L ROBERT	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1994-11-17	
353	275	Grantee	ATWELL GEORGE C AKA	AGREEMENT	Municipality: BUTLER TOWNSHIP	1994-10-14	
353	276	Grantor	BUTLER AREA SEWER AUTH	AGREEMENT	Municipality: BUTLER TOWNSHIP	1994-10-14	
353	277	Grantee	MOORE HARVEY A JR	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1994-09-15	
353	278	Grantee	ARCHAMBAULT ELIZABETH H	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1994-05-12	
353	279	Grantee	PRIBIS RICHARD L	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1994-05-12	
353	280	Grantee	RIVERS ROBERT E	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1994-01-31	
353	281	Grantee	LAGRELIUS ELMER L	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1994-01-31	
353	282	Grantee	KOEHLER L ROBERT	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1992-11-19	
353	283	Grantee	KELLY RICHARD E	EASEMENT	Municipality: CONNOQUENESSING TWP	1992-11-12	
353	284	Grantee	BACHMAN LINDA L	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1992-10-20	
353	285	Grantee	GREGG THOMAS S	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1992-06-08	
353	286	Grantee	BRANDYWINE AGENCY INC	WARRANTY DEED	Municipality: BUTLER TOWNSHIP	1991-10-31	
353	287	Grantor	BRANDYWINE AGENCY INC	WARRANTY DEED	Municipality: BUTLER TOWNSHIP	1991-10-31	
353	288	Grantee	COMMONWEALTH OF PENNSYLVANIA	CONSENT	Municipality: BUTLER TOWNSHIP	1991-06-25	
353	289	Grantor		PLANS AND SUBDIVISIONS	Municipality: BUTLER TOWNSHIP	1991-06-25	
353	290	Grantee	KEASEY ASHLEY F	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1991-06-21	
353	291	Grantee	ACQUAVIVA MICHAEL A	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1991-06-11	
353	292	Grantee	SHERMAN EDITH R	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1991-06-11	
353	293	Grantor	TIBERI THOMAS J	WARRANTY DEED	Municipality: BUTLER CITY WARD 2	1991-01-24	
353	294	Grantor	BUTLER SHOPPING ASSOC	AGREEMENT	Municipality: BUTLER TOWNSHIP	1990-08-27	
353	295	Grantee	HINDMAN GEORGE B	AGREEMENT	Municipality: CONNOQUENESSING TWP	1990-07-12	
353	296	Grantee	RHGL INC	AGREEMENT	Municipality: BUTLER TOWNSHIP	1989-10-20	
353	297	Grantee	DEPARTMENT OF ENVIRON RESOURCES	SEWERAGE PERMIT	Municipality: CENTER TOWNSHIP	1989-09-11	
353	298	Grantor	ADOBE COAL CO	WARRANTY DEED	Municipality: SLIPPERY ROCK TWP	1989-06-23	
353	299	Grantee	LAMB IRENE S	WARRANTY DEED	Municipality: SLIPPERY ROCK TWP	1989-06-23	
353	300	Grantee	ROE SHIRLEY J	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1989-02-21	
353	301	Grantee	CITY BUTLER	WARRANTY DEED	Municipality: BUTLER TWP Ward: 1 Street: LITMAN RD Parcel: 37-7 Acre: 39.770	1988-12-21	$36,005

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	302	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: CENTER TOWNSHIP	1988-12-12	
353	303	Grantee	ROCKENSTEIN THOMAS L	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1988-09-30	
353	304	Grantee	TROSTLE OLDSMOBILE INC	AGREEMENT	Municipality: BUTLER CITY	1988-05-09	
353	305	Grantee	GOULD ROGER D BY TX CLM	TAX CLAIM DEED	Municipality: BUTLER CITY WARD 3	1988-02-02	
353	306	Grantee	TIBERI MARGARET BY TX CLM	TAX CLAIM DEED	Municipality: BUTLER CITY WARD 2	1988-02-02	
353	307	Grantee	LOSSER, WILLIAM BY TX CLM	TAX CLAIM DEED	Municipality: BUTLER CITY Ward: 1	1988-02-02	$1,215
353	308	Grantor	CABOT OIL & GAS CORP	OIL & GAS LEASE	Municipality: SLIPPERY ROCK TWP	1987-12-03	
353	309	Grantee	BAGLIER JOHN	EASEMENT	Municipality: BUTLER TOWNSHIP	1987-11-18	
353	310	Grantee	CNG DEV CO	SURRENDER OF LEASE/OPTION	Municipality: CHERRY TOWNSHIP	1987-01-12	
353	311	Grantee	DEPARTMENT OF ENVIRON RESOURCES	SEWERAGE PERMIT	Municipality: CENTER TOWNSHIP	1986-06-09	
353	312	Grantee	M & M INVESTMENTS INC	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1986-01-21	
353	313	Grantee	CROFT PETER V	RIGHT OF WAY	Municipality: CENTER TOWNSHIP	1985-09-25	
353	314	Grantee	HEATON ROBERT	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1985-03-13	
353	315	Grantee	DEPARTMENT OF ENVIRON RESOURCES	SEWERAGE PERMIT	Municipality: BUTLER TOWNSHIP	1985-03-12	
353	316	Grantee	ESPY NORMA J	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1985-01-15	
353	317	Grantor	ESPY NORMA J	RIGHT OF WAY	Municipality: BUTLER TOWNSHIP	1985-01-15	
353	318	Grantor	BOARD SUPERVISORS CONNOQUENESSING TWP	AGREEMENT	Municipality: CONNOQUENESSING TWP	1984-02-27	
353	319	Grantee	FINCHER, EDWARD H	AGREEMENT	Municipality: CONNOQUENESSING TWP	1984-02-27	
353	320	Grantee	BARNES PSP INC	AGREEMENT	Municipality: CENTER TWP	1984-01-31	
353	321	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1984-01-31	
353	322	Grantee	THOMAS, PAULINE M	RIGHT OF WAY	Municipality: BUTLER TWP	1984-01-31	$1
353	323	Grantee	CARBIS WALKER & ASSOC REALTY CO	RIGHT OF WAY	Municipality: BUTLER TWP	1984-01-31	$1
353	324	Grantor	CONSOLIDATED NATURAL GAS CO	WARRANTY DEED	* Municipality: ALLEGHENY TWP	1983-10-19	$1
353	325	Grantee	WINDWARD HEIGHTS DEV	SEWERAGE PERMIT	Municipality: CENTER TWP	1983-04-12	
353	326	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: CENTER TWP	1983-04-12	
353	327	Grantor	PEOPLES NATURAL GAS CO	OIL & GAS LEASE	Municipality: CHERRY TWP	1983-02-04	
353	328	Grantor	BUTLER TWP	WARRANTY DEED	Municipality: BUTLER TWP	1982-11-24	$1
353	329	Grantee	STANLEY CONST CO	WARRANTY DEED	Municipality: BUTLER TWP	1982-06-09	$1
353	330	Grantee	DESHON AREA SANITARY DISPOSAL & SEWER AUTH TWP BUT	WARRANTY DEED	Municipality: BUTLER TWP	1981-12-31	$1
353	331	Grantee	DESHON AREA SANITARY DISPOSAL & SEWER AUTH TWP BUT	WARRANTY DEED	Municipality: BUTLER TWP	1981-12-31	$1
353	332	Grantee	DEMMY, MICHAEL	RIGHT OF WAY	Municipality: BUTLER TWP	1981-12-11	$1
353	333	Grantee	CAMPBELL, LAURA N	RIGHT OF WAY	Municipality: BUTLER TWP	1981-12-11	$1
353	334	Grantee	DEMMY, EDWARD A	RIGHT OF WAY	Municipality: BUTLER TWP	1981-07-22	$1
353	335	Grantee	BOTTCHER, MARY C	RIGHT OF WAY	Municipality: CENTER TWP	1981-07-22	$1
353	336	Grantee	DIETRICH, FLOYD L	RIGHT OF WAY	Municipality: SUMMIT TWP	1981-07-22	$1
353	337	Grantee	HOULLION, EUGENE J	RIGHT OF WAY	Municipality: SUMMIT TWP	1981-07-22	$1
353	338	Grantee	SCHAEFER, JEROME R	RIGHT OF WAY	Municipality: BUTLER TWP	1981-07-22	$1
353	339	Grantee	WAGER, FLOYD E	RIGHT OF WAY	Municipality: BUTLER TWP	1981-07-22	$1
353	340	Grantee	MURPHY, JAMES W	RIGHT OF WAY	Municipality: BUTLER TWP	1981-01-30	$1
353	341	Grantee	SOUTH BUTLER TWP SEWER AUTH	AGREEMENT		1981-01-30	
353	342	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: PENN TWP	1980-11-25	
353	343	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-10-23	
353	344	Grantee	KENNEDY, DONALD G	RIGHT OF WAY	Municipality: BUTLER TWP	1980-10-23	$1
353	345	Grantee	MATTEONI, DONALD L	RIGHT OF WAY	Municipality: BUTLER TWP	1980-10-23	$1
353	346	Grantee	MINEHART, CHARLES L	RIGHT OF WAY	Municipality: BUTLER TWP	1980-10-23	$1
353	347	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-09-08	
353	348	Grantee	MORROW, LAWRENCE E AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1980-09-08	$1
353	349	Grantee	PAUGH, FRANKLIN P	RIGHT OF WAY	Municipality: CENTER TWP	1980-09-08	$382
353	350	Grantee	ANDERSON, EARLENE B	RIGHT OF WAY	Municipality: BUTLER TWP	1980-08-22	$1
353	351	Grantee	DEAROLPH, CLARENCE E	RIGHT OF WAY	Municipality: CENTER TWP	1980-08-22	$681
353	352	Grantee	HALL, E RICHARD	RIGHT OF WAY	Municipality: CENTER TWP	1980-08-22	$1
353	353	Grantee	LEONARD, VINCENT M	RIGHT OF WAY	Municipality: CENTER TWP	1980-08-22	$1
353	354	Grantee	MCGREGOR, R THOMAS	RIGHT OF WAY	Municipality: BUTLER TWP	1980-08-22	$1
353	355	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-07-18	
353	356	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-07-18	
353	357	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-07-18	
353	358	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-07-18	
353	359	Grantor	T W PHILLIPS GAS & OIL CO	RIGHT OF WAY	Municipality: BUTLER TWP	1980-05-22	$1
353	360	Grantee	BROWN, CHARLES Z	RIGHT OF WAY	Municipality: BUTLER TWP	1980-05-07	$1
353	361	Grantee	HEITZER, JOSEPH W	RIGHT OF WAY	Municipality: BUTLER TWP	1980-05-07	$1

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353	362	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-01-24	
353	363	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1980-01-24	
353	364	Grantee	BURRIS, MARY LUCILLE	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	
353	365	Grantee	FULLERTON, PAUL E	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$60
353	366	Grantee	JOHNSON, THOMAS W JR	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$50
353	367	Grantee	KRAMER, RICHARD L II	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$170
353	368	Grantee	LOGAN, HARRY L JR	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$110
353	369	Grantee	PAYTAS, STANLEY J	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$149
353	370	Grantee	PENAR, MARY G AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$1
353	371	Grantee	RODGERS, CHARLES E JR	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$22
353	372	Grantee	SHANOR, TERRY R	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$30
353	373	Grantee	SLATER, RAYMOND N	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$261
353	374	Grantee	VOLAND, CATHERINE	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$1
353	375	Grantee	WILLIAMS, JAMES R	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$1
353	376	Grantee	ZIDEK, MARTIN A	RIGHT OF WAY	Municipality: BUTLER TWP	1980-01-24	$53
353	377	Grantee	BAIN, JOHN WILLIAM	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$95
353	378	Grantee	BROWN, LAURA LUCILLE	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$137
353	379	Grantee	DREHER, JOHN R	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$1
353	380	Grantee	ELLIOTT, JOHN A	RIGHT OF WAY	Municipality: CENTER TWP	1979-11-20	$700
353	381	Grantee	HEITZER, JOSEPH W	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$1
353	382	Grantee	MAHONEY, RALPH J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$364
353	383	Grantee	BEBLO, GEORGE F	RIGHT OF WAY	Municipality: CENTER TWP	1979-11-20	$1
353	384	Grantee	PALM, JOHN N	RIGHT OF WAY	Municipality: CENTER TWP	1979-11-20	$1
353	385	Grantee	RICCIARDELLA, MICHAEL A	RIGHT OF WAY	Municipality: CENTER TWP	1979-11-20	$1
353	386	Grantee	SLAGLE, MARGARET ANN	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$128
353	387	Grantee	SNODGRASS, DAVID G	RIGHT OF WAY	Municipality: BUTLER TWP	1979-11-20	$1
353	388	Grantee	DEAROLPH, CLARENCE E	DECLARATION OF TAKING	Municipality: CRANBERRY TWP	1979-11-15	
353	389	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1979-10-25	
353	390	Grantee	AUL, ALOYSIUS C JR	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$1
353	391	Grantee	FENNELL, JAMES S	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$1
353	392	Grantee	GARBER, MARIAN AKA	RIGHT OF WAY	Municipality: OAKLAND TWP	1979-10-25	$1
353	393	Grantee	JENKINS, JOHN KENNETH JR AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$1
353	394	Grantee	LANE, DONALD E AKA	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-10-25	$1
353	395	Grantee	MAHONEY, RALPH J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$1
353	396	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-10-25	$1
353	397	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-10-25	$1
353	398	Grantee	SHANOR, TERRY R	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$345
353	399	Grantee	THOMAS, DONNA J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$345
353	400	Grantee	TOSI, CHARLES EDWARD AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-10-25	$95
353	401	Grantee	WEBB, WALLACE G	RIGHT OF WAY	Municipality: CENTER TWP	1979-10-25	$1
353	402	Grantee	WILBERT, JOAN Z	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$150
353	403	Grantee	YOUKERS, RALPH C	RIGHT OF WAY	Municipality: BUTLER TWP	1979-10-25	$126
353	404	Grantee	IANNOTTI, MERLE M	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	405	Grantee	MCDOWELL, THOMAS W	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	406	Grantee	NOWAKOWSKI, MARK B	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-09-20	$1
353	407	Grantee	PATZ, WILLIAM G	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	408	Grantee	ROCO DEV INC	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	409	Grantee	ROE, THOMAS W	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	410	Grantee	RUSSELL, LUSBY D	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-20	$1
353	411	Grantee	SANDERSON, JOHN R	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-20	$1
353	412	Grantee	SANDERSON, JOHN R	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-20	$1
353	413	Grantee	SLEAR, CARL L	RIGHT OF WAY	Municipality: BUTLR TWP	1979-09-20	$1
353	414	Grantee	SMITH, RICHARD L	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-20	$1
353	415	Grantee	WISE, PAUL A	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-09-20	$1
353	416	Grantee	ZARNICK, DALE L	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-20	$1
353	417	Grantee	BRUNER, RALPH L	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	418	Grantee	CAMPBELL, RICHARD H	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	419	Grantee	CAMPBELL, RICHARD H	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	420	Grantee	COHEN, SYLVAN H	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	421	Grantee	CUNNINGHAM, WAYNE JR AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1

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353	422	Grantee	GRAHAM, DONALD L	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	423	Grantee	HAWK, DEAN	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-19	$1
353	424	Grantee	IFFT, JAMES E	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	425	Grantee	KAIB, KEITH ALAN	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-19	$1
353	426	Grantee	KASCHIK, NICK JR	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	427	Grantee	LEDFORD , ARCHIE	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-19	$1
353	428	Grantee	MCCANN, LILLIAN H	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	429	Grantee	MCCANN, RAYMOND G TRS	RIGHT OF WAY	Municipality: CENTER TWP	1979-09-19	$1
353	430	Grantee	MYERS, WARREN S	RIGHT OF WAY	Municipality: BUTLER TWP	1979-09-19	$1
353	431	Grantee	MARMON KEYSTONE CORP	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1979-08-15	$1,372
353	432	Grantee	MARTZ, STANLEY C	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-15	$1
353	433	Grantee	MCMICHAEL, CHARLES EDWARD AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-15	$1
353	434	Grantee	MORRISON, ZOA R	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-15	$1
353	435	Grantee	POLLACK, WILLIAM E	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-15	$1
353	436	Grantee	RAUSCHENBERGER, LUCILLE	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-08-15	$1
353	437	Grantee	RIDDELL, KENNETH J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-15	$1
353	438	Grantee	SHEARER, ROBERT W	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-15	$1
353	439	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-08-15	$1
353	440	Grantee	STOTLER, HELEN R	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-15	$1
353	441	Grantee	TRUMAN, JOSEPH F	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-15	$1
353	442	Grantee	VOLLMER, RAY	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-15	$1
353	443	Grantee	WOLFGONG	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-15	$1
353	444	Grantee	KEFFALAS, JOHN E	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	445	Grantee	JUNICKI, HELEN N	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	446	Grantee	HUTZLER, HAROLD F JR	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	447	Grantee	AKHTAR, MOHAMMAD	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	448	Grantee	BITTNER, WILLIAM J	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	449	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	450	Grantee	BOSLEY, GEORGE M	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	451	Grantee	DAUGHERTY, HAROLD J	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	452	Grantee	DUMBAUGH, REX E	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	453	Grantee	DUMBAUGH, WILBUR G	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	454	Grantee	FLESKE, PAUL S	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	455	Grantee	GREENWOOD VILLAGE VOL FIREMEN & RELIEF ASSN	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	456	Grantee	GUMPPER, JOHN W JR	RIGHT OF WAY	Municipality: BUTLER TWP	1979-08-14	$1
353	457	Grantee	KELLER, THOMAS F	RIGHT OF WAY	Municipality: CENTER TWP	1979-08-14	$1
353	458	Grantee	COMMUNITY DEV CORP BUTLER CO	WARRANTY DEED	Municipality: BUTLER TWP	1979-08-10	$1
353	459	Grantee	COMMUNITY DEV CORP BUTLER CO	AGREEMENT	* Municipality: BUTLER TWP	1979-08-10	
353	460	Grantor	COMMUNITY DEV CORP BUTLER CO	WARRANTY DEED	Municipality: BUFFALO TWP	1979-08-10	$1
353	461	Grantor	COMMUNITY DEV CORP BUTLER CO	AGREEMENT	* Municipality: BUTLER TWP	1979-08-10	
353	462	Grantee	MUNICIPAL WATER & SEWER AUTH CENTER TWP	NON-MORTGAGE ASSIGNMENT	Municipality: CENTER TWP	1979-07-20	
353	463	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1979-06-18	
353	464	Grantee	MCGARVEY, ROBERT M	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	465	Grantee	MILLER, PAUL W	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-08	$1
353	466	Grantee	MOREY, WALTER KENNETH	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-08	$1
353	467	Grantee	NEUBAUER, WALTER A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-08	$1
353	468	Grantee	ODONNELL, TESSIBLE E	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	469	Grantee	PENHALL, RICHARD W AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	470	Grantee	RADER, ELMER R	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	471	Grantee	SHIVELY, NEIL F	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-08	$1
353	472	Grantee	SOULE, DOROTHY E	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	473	Grantee	STEIGHNER, CLAIR J	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	474	Grantee	THOMAS, LAWRENCE R	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-08	$1
353	475	Grantee	TOSI, CHARLES EDWARD AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-08	$1
353	476	Grantee	AMERICAN HARDWARE SUPPLY	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1979-06-07	$1
353	477	Grantee	BAUHAN, DAVID K	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	478	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	479	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	480	Grantee	CAMERON, LAURA M	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-07	$1
353	481	Grantee	CHRISTY, ROBERT J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-07	$1

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353	482	Grantee	CREDIFOR, AMOS A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-07	$1
353	483	Grantee	DECOLA, THEODORE	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	484	Grantee	ELLENBERGER, HAROLD R	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	485	Grantee	KRAUS, HERMAN C JR	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	486	Grantee	LINDEY, J WALTER AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	487	Grantee	LING, HARRY	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	488	Grantee	KORCZYNSKI, KATHLEEN A AKA	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	489	Grantee	HOLBEIN, CHARLES R	RIGHT OF WAY	Municipality: BUTLER TWP	1979-06-07	$1
353	490	Grantee	FAMILY LAND INC	RIGHT OF WAY	Municipality: CENTER TWP	1979-06-07	$1
353	491	Grantor	CSIZMADIA, DEZSO L	TERMINATION		1979-04-26	
353	492	Grantee	LUCAS, WILLIAM J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	493	Grantee	MERCER ROAD VOL FIRE CO	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	494	Grantee	MCCANDLESS, RICHARD A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	495	Grantee	MCDONALD, BYRON Z	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	496	Grantee	MCGINNIS, WILLIAM T AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	497	Grantee	OBRIEN, ROBERT E	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	498	Grantee	RITTS, LELAND EMERSON AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	499	Grantee	THOMAS, DONALD L	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	500	Grantee	THOMPSON, RAYMOND E	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	501	Grantee	THORNE, GEORGE L	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	502	Grantee	WORKLEY, JAMES H	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-20	$1
353	503	Grantee	BROWN, PAUL W	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	504	Grantee	COCHRAN, DAVID L	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	505	Grantee	COOPER, RICHARD L	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	506	Grantee	DIVERS, CARL D	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	507	Grantee	HESS, WILLIAM H	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	508	Grantee	HUSELTON, MARGARET H	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$284
353	509	Grantee	HUTZLEY, FLOYD A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	510	Grantee	KARENBAUER, JAMES A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	511	Grantee	KING, STANLEY	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	512	Grantee	LEDFORD, ARCHIE	RIGHT OF WAY	Municipality: BUTLER TWP	1979-04-19	$1
353	513	Grantee	YINGLING, LAWRENCE M	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	514	Grantee	KERR, STANLEY K	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	515	Grantee	LEVIN, BERNARD H	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	516	Grantee	PHILLIPS, RYAMOND W	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	517	Grantee	PREBULA, JOHN A	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	518	Grantee	RIDDELL, KENNETH J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	519	Grantee	RIESER, JAMES H	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	520	Grantee	RIHEL, JAMES V	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	521	Grantee	SINGER, ROBERT L JR	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1,531
353	522	Grantee	STIRLING, CHARLES F	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	523	Grantee	THOMPSON, CHARLES R	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	524	Grantee	URAM, JOSEPH N	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	525	Grantee	WOLFE, JOHN L	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	526	Grantee	YAMNITZKY, STEVEN J JR	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	527	Grantee	YOUKERS, LOY A	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-07	$1
353	528	Grantee	YOUNG, LAWRENCE I	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-07	$1
353	529	Grantee	BROWN, CHARLES E JR	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	530	Grantee	COMPAGNONE, SALVATORE	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	531	Grantee	COMPAGNONE, SALVATORE	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	532	Grantee	EBERHART, MARY ETTA	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-06	$1
353	533	Grantee	EVERETT, GEORGE R	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	534	Grantee	FOGLE, D LEE	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-06	$1
353	535	Grantee	GEIBEL, WILLIAM J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-06	$1
353	536	Grantee	HASYCHAK, NICK	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-06	$1
353	537	Grantee	HEISEY, PHILIP H	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	538	Grantee	HEMPHILL, LESTER J	RIGHT OF WAY	Municipality: BUTLER TWP	1979-03-06	$1
353	539	Grantee	HENRY, ROBERT J	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	540	Grantee	AARON, ROBERT L	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	541	Grantee	BIRCKBICHLER, KARL D	RIGHT OF WAY	Municipality: SUMMIT TWP	1979-03-06	$1

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353	542	Grantee	BITTNER, WILLIAM J	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	543	Grantee	BITTNER, WILLIAM J	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	544	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1979-03-06	$1
353	545	Grantee	FLINCHBAUGH, GLEN E	RIGHT OF WAY	Municipality: CENTER TWP	1979-02-26	$1
353	546	Grantor	FLINCHBAUGH, GLEN E	RIGHT OF WAY	Municipality: CENTER TWP	1979-02-26	$1
353	547	Grantor	HEIST, CLIFFORD W	CONDEMNATION	Municipality: CENTER TWP	1979-01-23	
353	548	Grantee	BUTLER AREA SEWER AUTH	CONDEMNATION	Municipality: CENTER TWP	1979-01-23	
353	549	Grantee	BUTLER AREA SEWER AUTH	CONDEMNATION		1979-01-09	
353	550	Grantor	BUTLER AREA SEWER AUTH	CONDEMNATION		1979-01-09	
353	551	Grantee	BENSON, DONALD F	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	1978-12-29	$1
353	552	Grantee	CARLSON, CHARLES F	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-12-29	$1
353	553	Grantee	EAST BUTLER BORO	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-12-29	$1
353	554	Grantee	EAST BUTLER VOLUNTEER FIRE DEPT	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-12-29	$1
353	555	Grantee	ELLIOTT, E D	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	556	Grantee	EURY, LOWELLYN O	RIGHT OF WAY	Municipality: BUTLER TWP	1978-12-29	$160
353	557	Grantee	HEASLEY, WADE J	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	558	Grantee	HEASLEY, WADE J	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	559	Grantee	HUTCHINSON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	560	Grantee	IMAN, ARTHUR E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-12-29	$1
353	561	Grantee	JONES, ROBERT H	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	562	Grantee	SNYDER, LARRY C	RIGHT OF WAY	Municipality: CENTER TWP	1978-12-29	$1
353	563	Grantee	NALLATHAMBI, SWAMIKKAN	AGREEMENT	Municipality: PENN TWP	1978-12-19	
353	564	Grantor	NALLATHAMBI, SWAMIKKAN	AGREEMENT	Municipality: PENN TWP	1978-12-19	
353	565	Grantee	SMITH, RICHARD L	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-15	$1
353	566	Grantee	SORG, GEORGE A	RIGHT OF WAY	Municipality: CENTER TWP Street: 115 SHADY DR	1978-11-15	$1
353	567	Grantee	ODONNELL, TESSIBLE	WARRANTY DEED	Municipality: CENTER TWP	1978-11-15	$1
353	568	Grantee	OSTERLING, CHARLES WARREN	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-15	$1
353	569	Grantee	PELLICCIONE, RAYMOND D	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-11-15	$1
353	570	Grantee	RODGERS, HOWARD C JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-15	$1
353	571	Grantee	STEVENSON, WILLIAM R	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-15	$1
353	572	Grantee	THORNE, GEORGE L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-15	$1,000
353	573	Grantee	WARNICK, DONALD H	WARRANTY DEED	* Municipality: BUTLER TWP	1978-11-15	$1
353	574	Grantee	YORNS, ROY V	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-15	$1
353	575	Grantee	BELLA, ROMEO H	RIGHT OF WAY	Municipality: CENTER TWP Street: 330 LAKEWOOD DR Parcel: 30-C-119	1978-11-14	$1
353	576	Grantee	BROWN, CHARLES Z	WARRANTY DEED	Municipality: BUTLER TWP	1978-11-14	$1
353	577	Grantee	BROWNING, DAVID N	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-14	$1
353	578	Grantee	BUTLER COUNTY IND DEV AUTH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-14	$1
353	579	Grantee	DAVID J JOSEPH CO	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-14	$1
353	580	Grantee	DIVERS, CARL D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-14	$1
353	581	Grantee	FUNDAMENTAL BAPTIST CH BUTLER AKA	RIGHT OF WAY	Municipality: CENTER TWP	1978-11-14	$1
353	582	Grantee	HINDMAN, WAYNE A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-14	$1
353	583	Grantee	MACKALICA, FRANCIS G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-14	$1
353	584	Grantee	MCDOWELL, CLARENCE E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-11-14	$1
353	585	Grantee	MEKIS, RAY H DBA	NON-MORTGAGE ASSIGNMENT	Municipality: BUTLER TWP	1978-10-27	$1
353	586	Grantee	ZUCKER, GERALD A	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-27	$500
353	587	Grantee	ERB, PAUL W	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-11	$1
353	588	Grantee	FISHER, GLENN D BY EXRS	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-11	$1
353	589	Grantee	MILLER, GILBERT E	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-11	$1
353	590	Grantee	NICKLAS, WILLIAM R	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-11	$1
353	591	Grantee	SAFEGUARD INVESTMENT CO	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-11	$1
353	592	Grantee	AARON, ROBERT L	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	593	Grantee	ARMSTRONG, BRIAN	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	594	Grantee	BARBARY, WILLIAM H	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	595	Grantee	BLAINE, ARTHUR G	WARRANTY DEED	Municipality: CENTER TWP	1978-10-10	$1
353	596	Grantee	BLAIN, RICHARD P	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	597	Grantee	COMPAGNONE, SALVATORE	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	598	Grantee	COMPAGNONE, SALVATORE	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	599	Grantee	COMPAGNONE, SALVATORE	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	600	Grantee	CROFT, PETER V	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1
353	601	Grantee	DIMMICK, HENRY M	RIGHT OF WAY	Municipality: CENTER TWP	1978-10-10	$1

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353	602	Grantor	BUNGAR, WILLIAM	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-09-21	
353	603	Grantee	LEWIS, RICHARD P	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$600
353	604	Grantee	MILASINCIC, RUDOLF	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-19	$1
353	605	Grantee	REGAL, EUGENE ADAM	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-19	$1
353	606	Grantee	STANISH, CHARLES V	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	607	Grantee	STEENSON, JON L	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	608	Grantee	THOMAS, THELMA J	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	609	Grantee	WHOLESALE PRODS INC	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	610	Grantee	WOLFE, JOHN L	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	611	Grantee	YODER, A RICHARD	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-19	$1
353	612	Grantee	YOUNT, GEORGE W	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-18	$1
353	613	Grantee	CRITCHLOW, PAUL S	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-18	$1
353	614	Grantee	FLINCHBAUGH, GLENN E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-18	$1
353	615	Grantee	FOLLSTAEDT, GENE P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-18	$1
353	616	Grantee	GRAHAM, ROBERT C	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-18	$1
353	617	Grantee	HUGHES, JAMES R	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-18	$1
353	618	Grantee	LANCASTER, JAMES T	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-18	$1
353	619	Grantee	KAHLER, PHILIP D	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	
353	620	Grantee	LEWIS, RICHARD P	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$50
353	621	Grantee	MCCARREN, PATRICK I	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	622	Grantee	OKESON, RICHARD G	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	623	Grantee	SHAPIRO, LOUIS	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	624	Grantee	SWIGART, HERMAN E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	625	Grantee	WAGNER, HOWARD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	626	Grantee	WILHITE, SHERMAN HENRY JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	627	Grantee	YOUNT, GEORGE W	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	628	Grantee	ATWELL, GEORGE JR	DECLARATION OF TAKING	* Municipality: SUMMIT TWP	1978-09-15	
353	629	Grantee	HUEMME, JAMES A	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-15	$1
353	630	Grantee	CORNIBE, DENNIS E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-14	$1
353	631	Grantee	HOFFMAN, JOHN P	RIGHT OF WAY	Municipality: BUTLER TWP Street: 4142 CENTRE ST	1978-09-14	$1
353	632	Grantee	SHIELDS, CARL E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-14	$341
353	633	Grantee	VANCE, W P BY EXRX	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-14	$1
353	634	Grantee	VANCE, W P BY EXRX	RIGHT OF WAY	Municipality: BUTLER CITY	1978-09-14	$1
353	635	Grantee	WEIR, RALPH H	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-14	$1
353	636	Grantee	WORKLEY, JAMES H	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-14	$1
353	637	Grantee	JOHNS, ANTHONY O	WARRANTY DEED	Municipality: BUTLER TWP	1978-09-13	$4,000
353	638	Grantee	JOHNS, ANTHONY G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-13	$1
353	639	Grantee	JOHNS, ANTHONY G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-13	$1
353	640	Grantee	MOORE, HARVEY A	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	641	Grantee	MORGAN, WILLIAM A JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	642	Grantee	MOYER, JAMES M	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	643	Grantee	NAIDUS, MICHAEL E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	644	Grantee	PFABE, PAUL WESLEY	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-13	$1
353	645	Grantee	T W PHILLIPS GAS & OIL CO	WARRANTY DEED	Municipality: CONNOQUENESSING TWP	1978-09-13	$1
353	646	Grantee	PORTERFIELD, GENE D	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	647	Grantee	PUFF, WILMER L	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	648	Grantee	PUFF, WILMER L	WARRANTY DEED	Municipality: CENTER TWP	1978-09-13	$1
353	649	Grantee	R C CONGREGATION SAINT ANDREW CHURCH	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-13	$1
353	650	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1978-09-13	
353	651	Grantee	KAPPELER, PHYLLIS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-12	$1
353	652	Grantee	LEINENBACH, JAMES A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-09-12	$1
353	653	Grantee	LEVIN, BERNARD H	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	654	Grantee	LITSCHGE, BERT J	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	655	Grantee	MCCOLLOUGH, MARGARET M	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	656	Grantee	MCELHANEY, SARAH JANE	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	657	Grantee	MCELROY, ROBERT E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	658	Grantee	MELNYK, JOSEPH HENRY	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	659	Grantee	MILES, CLARENCE	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-12	$1
353	660	Grantee	MINTEER, JOHN L	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-09-12	$1
353	661	Grantee	FARNEN, J EUGENE	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1

BUTLER AREA SEWER AUTHORITY

Courthouse Records of BASA Owned Land

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	662	Grantee	FLEMING, RICHARD T	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	663	Grantee	GINTER, WENDELL E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	664	Grantee	GLOVER, RICHARD J	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	665	Grantee	GUSTAFSON, ROBERT A	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	666	Grantee	HANKEY, JAMES E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	667	Grantee	HEATON, ROBERT R	WARRANTY DEED	Municipality: BUTLER TWP	1978-09-08	
353	668	Grantee	HERSHEY, BETTY JANE	RIGHT OF WAY	Municipality: BUTLER TWP	1978-09-08	$1
353	669	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	670	Grantee	CLEETON, LAWRENCE R	RIGHT OF WAY	Municipality: CENTER TWP	1978-09-08	$1
353	671	Grantee	ABERMAN, BB	DECLARATION OF TAKING	Municipality: BUTLER TWP	1978-08-31	
353	672	Grantee	ELLISON, J EDWIN	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-30	$1
353	673	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-30	$1
353	674	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-30	
353	675	Grantee	BROENNLE, ERNEST M BY GDN	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-30	$1
353	676	Grantee	BRUSHABER, ALBERT C	RIGHT OF WAY	Municipality: CENTER TWP Street: 117 MAR VEL DR	1978-08-30	
353	677	Grantee	BURKHOLDER , ROBERT O SR	RIGHT OF WAY	Municipality: CENTER TWP Street: 112 SHADY DR	1978-08-30	
353	678	Grantee	CAMPBELL, RICHARD H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-30	
353	679	Grantee	COMMUNITY DEV CORP	RIGHT OF WAY	* Municipality: BUTLER TWP	1978-08-30	$1
353	680	Grantee	DALLOS, ALEX JR	RIGHT OF WAY		1978-08-30	$1
353	681	Grantee	DERO, FRANCIS P	WARRANTY DEED	Municipality: CENTER TWP Street: 1326 N MAIN ST EXT	1978-08-30	
353	682	Grantee	ELLIOTT, JAMES V	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	683	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	684	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	685	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	686	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	687	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	688	Grantee	BLAIN, ARTHUR G	WARRANTY DEED	Municipality: CENTER TWP	1978-08-29	$1
353	689	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	690	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	691	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-29	$1
353	692	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-28	$1
353	693	Grantee	SOLEY, STEPHEN J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-28	$1
353	694	Grantee	TAYLOR, FLOYD L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-28	$1
353	695	Grantee	WISSINGER, HOWARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-28	$1
353	696	Grantee	ADAMS, CHARLES E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-28	$1
353	697	Grantee	ALBERT, CHARLES	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-28	$1
353	698	Grantee	BUTLER CO IND DEV AUTH	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-08-28	$1
353	699	Grantee	ASHBAUGH, WILLIAM H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-28	$1
353	700	Grantee	BLAIN, ARTHUR G	WARRANTY DEED	Municipality: CENTER TWP	1978-08-28	$1
353	701	Grantee	BLAIN, ARTHUR G	WARRANTY DEED	Municipality: CENTER TWP	1978-08-28	$1
353	702	Grantor	TW PHILLIPS GAS & OIL CO	WARRANTY DEED	Municipality: BUTLER TWP	1978-08-28	
353	703	Grantee	SERVICE, LORIN D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-24	$1
353	704	Grantee	NEMCEFF, FRANK F	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	$1
353	705	Grantee	VARVA, STEPHEN A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	706	Grantee	WARREN, JAMES A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	$1
353	707	Grantee	WHEELER, ROY D BY ADMRX	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-23	$1
353	708	Grantee	WILLIFORD, JAMES A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	709	Grantee	WOLFF, RAYMOND J	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	710	Grantee	ZARNICK, DALE L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	711	Grantee	BOLE, RONALD C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	712	Grantee	DASCH, ROBERT W	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	
353	713	Grantee	DICKEY, WALTER E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-23	$1
353	714	Grantee	ROSSMAN, THOMAS L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	$1
353	715	Grantee	SAVISKY, HARRY A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	
353	716	Grantee	SAVISKY, HARRY A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	
353	717	Grantee	STAGGERS, RALPH L	WARRANTY DEED	Municipality: BUTLER TWP	1978-08-22	$1
353	718	Grantee	SAWA, STANLEY W	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	
353	719	Grantee	SCHOENFELD, ROBERT E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	$1
353	720	Grantee	SHANOR, TERRY R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-22	$541
353	721	Grantee	SLADIC, NICHOLAS G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	

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Courthouse Records of BASA Owned Land

NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	722	Grantee	SPINA, TIMOTHY M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-22	$1
353	723	Grantee	STUEBING, WARREN F	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-22	
353	724	Grantee	KRICK, IRENE ELIZABETH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-21	$1
353	725	Grantee	KUEHNER, FC	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-08-21	$1
353	726	Grantee	MARTSOLF, DORA L	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	1978-08-21	$1
353	727	Grantee	MASCIA, JACK E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-21	
353	728	Grantee	MCDONALD, ROBERT D DBA	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-21	$1
353	729	Grantee	MILASINCIC, RUDOLF	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-21	$1
353	730	Grantee	NEELY, PAUL M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-21	$1
353	731	Grantee	PIKOULAS, WILLIAM G AKA	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-21	
353	732	Grantee	ROBAK, STELLA M	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	1978-08-21	$1
353	733	Grantee	ROE, VICTOR A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-21	$1
353	734	Grantee	DUNKEL, GEORGE E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	
353	735	Grantee	ELSEY, VORIS K	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	$1
353	736	Grantee	ERDOS, JOSEPH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-18	$1
353	737	Grantee	FENNELL, KENNETH E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-18	$1
353	738	Grantee	GODOT, GARY L	WARRANTY DEED	Municipality: CENTER TWP	1978-08-18	$1
353	739	Grantee	HALL, RICHARD M	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	
353	740	Grantee	HAWK, GERALDINE M	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	$1
353	741	Grantee	HUTZLER, HAROLD F	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	
353	742	Grantee	JACOBY, PAUL T	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-18	$1
353	743	Grantee	KORB, LYNN	RIGHT OF WAY		1978-08-18	
353	744	Grantee	CRAFT, ROGER L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-17	$1
353	745	Grantee	CSIXMADIA, DEZSO L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-17	
353	746	Grantee	CUNNINGHAM, WAYNE JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-17	
353	747	Grantee	DAVIS, JAMES R	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-17	
353	748	Grantee	DERR, RONALD A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-17	$1
353	749	Grantee	DICUCCIO, WILLIAM A II	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-17	$1
353	750	Grantee	DICUCCIO, WILLIAM A II	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-17	$1
353	751	Grantee	DESANTIS, RICHARD A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-08-17	$1
353	752	Grantee	DIEHL, CLIFFORD C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-17	$1
353	753	Grantee	DIVERS, CARL D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-17	$1
353	754	Grantee	COOPER, CARL L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-16	$1
353	755	Grantee	BOOZEL, BURDETTE B	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	$1
353	756	Grantee	BLEWETT, DAVID C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	$1
353	757	Grantee	BLAZEWICK, ROBERT L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	758	Grantee	BESTER, JOHN PERRY	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	759	Grantee	BERG, LARRY M	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	760	Grantee	AGWAY INC	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-08-16	$1
353	761	Grantee	DAUM, JOHN C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	762	Grantee	DAUM, JOHN C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	763	Grantee	DAUM, HAROLD H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-16	
353	764	Grantee	KERNS , A NEIL	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	765	Grantee	KERNS, A NEIL	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	766	Grantee	KINCAID, ORVAL H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	767	Grantee	KOERNER, LILLIAN R	RIGHT OF WAY	Municipality: CENTER TWP Street: 144 COVEWOOD DR	1978-08-15	$1
353	768	Grantee	KRAUCHAK, GERALD P	WARRANTY DEED	Municipality: CENTER TWP	1978-08-15	
353	769	Grantee	MAMULA, MICHAEL M	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	770	Grantee	MANOS, CHARLES R	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	771	Grantee	MCCANDLESS, GERALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	772	Grantee	MCEVOY, CARL L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	773	Grantee	ORT, JACK E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	774	Grantee	HILDEBRAND, CHARLOTTE C TR BY TRS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-15	
353	775	Grantee	SCHENCK, ARCHIE L BY EXR	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	776	Grantee	SCHULLER, DANIEL E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	777	Grantee	SHEARER, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	778	Grantee	TACK, DAVID H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	779	Grantee	THOMPSON, KENNETH C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	780	Grantee	VAWRYK, JOHN	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	781	Grantee	WAGONER, ROBERT H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	782	Grantee	WINCHESTER , EUGENE A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	783	Grantee	ZURZOLO, SAM J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-15	
353	784	Grantee	ZURZOLO, SAM J	WARRANTY DEED	Municipality: BUTLER TWP	1978-08-15	$2,470
353	785	Grantee	NAGY, JAMES	RIGHT OF WAY	* Municipality: OAKLAND TWP	1978-08-15	$1
353	786	Grantee	MORGAN, MARGUERITE L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	$1
353	787	Grantee	MINTEER, ELLEN	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-15	
353	788	Grantee	BAIRD, JOYCE E	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	
353	789	Grantee	BIRCKBICHLER, CLETUS A	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	
353	790	Grantee	BLAIN, DALE A	RIGHT OF WAY	Municipality: CENTER TWP Street: 236 W SUNBURY RD	1978-08-14	
353	791	Grantee	BLAIN, DALE A	RIGHT OF WAY	Municipality: CENTER TWP Street: 236 W SUNBURY RD	1978-08-14	
353	792	Grantee	BLAIN, DALE A	RIGHT OF WAY	Municipality: CENTER TWP Street: 236 W SUNBURY RD	1978-08-14	
353	793	Grantee	BLAIN, DALE A	RIGHT OF WAY	Municipality: CENTER TWP Street: 236 W SUNBURY RD	1978-08-14	
353	794	Grantee	CITY BUTLER MUNICIPAL CORP	RIGHT OF WAY	Municipality: BUTLER CITY	1978-08-14	
353	795	Grantee	CLARK, CHARLES L	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	
353	796	Grantee	DAUGHERTY, HAROLD J	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	
353	797	Grantee	FAITH, PEARL N	RIGHT OF WAY	Municipality: CENTER TWP Street: 239 HOLYOKE RD	1978-08-14	
353	798	Grantee	FERRARI, GEORGE	RIGHT OF WAY	Municipality: CENTER TWP Street: 115 MAPLEWOOD DR	1978-08-14	
353	799	Grantee	FLATT, WILLIAM E	RIGHT OF WAY	Municipality: CENTER TWP Street: 129 MOORE RD	1978-08-14	
353	800	Grantee	FONTAINE, FRANK J	RIGHT OF WAY	Municipality: CENTER TWP Street: 309 W SUNBURY RD	1978-08-14	
353	801	Grantee	GONDA, LANA K	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	
353	802	Grantee	GRAHAM, JOHN MILTON AKA	RIGHT OF WAY	Municipality: CENTER TWP Street: 271 HOLYOKE RD	1978-08-14	
353	803	Grantee	GREEN , LESTER G	RIGHT OF WAY	Municipality: CENTER TWP Street: 134 MOORE RD	1978-08-14	
353	804	Grantee	HEROLD, JOE W	RIGHT OF WAY	Municipality: CENTER TWP Street: 296 HOLYOKE RD	1978-08-14	
353	805	Grantee	INTERNATIONAL STAPLE & MACHINE CO	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-08-14	
353	806	Grantee	IFFT, PAUL H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-14	$1
353	807	Grantee	KEAGLE, CLIFFORD H	WARRANTY DEED	Municipality: CENTER TWP	1978-08-14	$1
353	808	Grantee	BUTLER AREA SEWER AUTH	AFFIDAVIT		1978-08-03	
353	809	Grantee	CAMPBELL, GERTRUDE T ESTATE	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-08-03	
353	810	Grantor	BUTLER AREA SEWER AUTH	AFFIDAVIT		1978-08-03	
353	811	Grantee	PESCI, DONALD C	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-02	$1
353	812	Grantee	NARBER, KENNETH E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$1
353	813	Grantee	MULLEN, THOMAS H	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-02	
353	814	Grantee	REEDER, RICHARD G	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-08-02	$1
353	815	Grantee	ROE, THOMAS W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$1
353	816	Grantee	ROGERSON, THOMAS R	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-08-02	$1
353	817	Grantee	ROSS, JAMES N	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-02	$1
353	818	Grantee	SASSE, JAY OTTO	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-08-02	
353	819	Grantee	SCHNECK, FRANK W	RIGHT OF WAY	Municipality: CENTER TWP Street: 417 CHEROKEE DR	1978-08-02	
353	820	Grantee	SHEARER, ROBERT W	RIGHT OF WAY	Municipality: CENTER TWP Street: 132 LA RAY DR	1978-08-02	
353	821	Grantee	SOMERVILLE, ROBERT D	RIGHT OF WAY	Municipality: CENTER TWP Street: 114 SHANAHAN RD	1978-08-02	
353	822	Grantee	STANFIELD, ARTHUR E JR	RIGHT OF WAY	Municipality: CENTER TWP Street: 124 IROQUOIS DR	1978-08-02	
353	823	Grantee	STANFIELD, ARTHUR E JR	RIGHT OF WAY	Municipality: CENTER TWP Street: 124 IROQUOIS DR	1978-08-02	
353	824	Grantee	WEISENSTEIN, BERNADETTE A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	
353	825	Grantee	WORLEY, C WILLIAM	RIGHT OF WAY	Municipality: CENTER TWP Street: 303 CHEROKEE DR	1978-08-02	
353	826	Grantee	YOUNG, DONALD W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$1
353	827	Grantee	LASCUOLA, CHARLES JR AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$1
353	828	Grantee	MACKALICA, FRANCIS G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	
353	829	Grantee	MCCARREN, MICHAEL P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$155
353	830	Grantee	MCGARVEY, ROBERT MATTHEW	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-02	$1
353	831	Grantee	MCGARVEY, ROBERT M	RIGHT OF WAY	Municipality: CENTER TWP	1978-08-02	$1
353	832	Grantee	PETROSKI, ELSIE V	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-08-02	
353	833	Grantee	RAPP, DAVID AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-08-02	$1
353	834	Grantee	HEIST, CLIFFORD W	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-08-01	
353	835	Grantee	HALLER, RUSSELL W	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-08-01	
353	836	Grantee	ACQUAVITA, JOSEPH	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	837	Grantee	BAUER, DONALD JOHN	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	838	Grantee	BIZYAK, LEONARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	
353	839	Grantee	BONNETT, GEORGE R	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	840	Grantee	BOYD, RICHARD V	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	841	Grantee	BRANDON, RONALD W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	$118

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	842	Grantee	BURK, DAVID W	WARRANTY DEED	Municipality: CENTER TWP	1978-07-28	$1
353	843	Grantee	COLOSIMO, SAM A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-28	$1
353	844	Grantee	COLOSIMO, VINCENT T	WARRANTY DEED	Municipality: CENTER TWP	1978-07-28	$1
353	845	Grantee	CZUBIAK, MICHAEL D	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	846	Grantee	EBERHARDT, GEORGE D	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	847	Grantee	EICHNER, RONALD W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	
353	848	Grantee	GREEN, FLOYD P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	$1
353	849	Grantee	HALIN, GEORGE R	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	850	Grantee	HARVEY, THELMA M	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	851	Grantee	HOLBEIN, CHARLES R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	$1
353	852	Grantee	HUDAK, DONNA JEAN	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-07-28	$1
353	853	Grantee	KELLER, JOHN S	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-28	$1
353	854	Grantee	KISER, WILLIS A	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	855	Grantee	KYPER, DUANE S	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-28	$1
353	856	Grantee	WISE, JOHN LAING JR	WARRANTY DEED	Municipality: CENTER TWP Acre: 0.140	1978-07-17	$2,000
353	857	Grantee	IETTO, FRANK	WARRANTY DEED	Municipality: CENTER TWP Acre: 0.190	1978-07-17	$3,000
353	858	Grantee	STIVISON, LLOYD	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-17	
353	859	Grantee	BROWNE, DAVID L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-17	
353	860	Grantee	BAYUSZIK, EDWARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-17	
353	861	Grantee	DUNLAP, CHARLES	ORDER OF COURT	Municipality: BUTLER TWP Street: 129 GREENWOOD DR	1978-07-13	
353	862	Grantor	BUTLER AREA SEWER AUTH	ORDER OF COURT	Municipality: BUTLER TWP Street: 129 GREENWOOD DR	1978-07-13	
353	863	Grantee	ROBAK, STELLA M	RIGHT OF WAY	Municipality: CONNOQUENESSING TWP	1978-07-10	$1
353	864	Grantee	HINDMAN, WAYNE A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	
353	865	Grantee	HOFFMAN CO INC, JACK	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	
353	866	Grantee	HOFFMAN, H JOHN	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	$1
353	867	Grantee	JOSEPH CO, DAVID J	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-07	
353	868	Grantee	KNODOS, PAUL J AKA	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-07	
353	869	Grantee	MCELHANEY, HARRY G	RIGHT OF WAY	Municipality: CENTER TWP Street: 107 MAR VEL DR	1978-07-07	
353	870	Grantee	MCLAUGHLIN, LEE E	RIGHT OF WAY	Municipality: CENTER TWP Street: 125 W SUNBURY RD	1978-07-07	
353	871	Grantee	MILLER, MARY LEE	RIGHT OF WAY	Municipality: CENTER TWP Street: 129 W SUNBURY RD	1978-07-07	
353	872	Grantee	MURRMAN, RICHARD A	RIGHT OF WAY	Municipality: CENTER TWP Street: CHEROKEE DR	1978-07-07	
353	873	Grantee	OLSON, EDWIN O	RIGHT OF WAY	Municipality: CENTER TWP Street: 209 CHEROKEE DR	1978-07-07	
353	874	Grantee	ONEIDA VALLEY VOL FIRE DEPT	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-07	
353	875	Grantee	PELLICCIONE, RAYMOND D	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	876	Grantee	PLATT, EDWARD W	RIGHT OF WAY	Municipality: CENTER TWP Street: 102 MOHAWK DR	1978-07-07	
353	877	Grantee	QUINNELL, GORDON	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-07	
353	878	Grantee	RAMIG, GEORGE D	RIGHT OF WAY	Municipality: CENTER TWP Street: 102 CHIPPEWA DR	1978-07-07	
353	879	Grantee	RAMSEY, ARMELLA E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	880	Grantee	REITZ, WILLIAM H	RIGHT OF WAY	Municipality: CENTER TWP Street: 104 PINE AIRE DR	1978-07-07	
353	881	Grantee	RIESMEYER, NORMAN H	RIGHT OF WAY	Municipality: CENTER TWP Street: 213 LAKEVIEW DR	1978-07-07	
353	882	Grantee	RINKER, FRANK	RIGHT OF WAY	Municipality: CENTER TWP Street: 190 BENBROOK RD	1978-07-07	
353	883	Grantee	RIVERS, JOHN A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	
353	884	Grantee	ROSS, EDITH E	RIGHT OF WAY	Municipality: CENTER TWP Street: 525 E BRADY ST	1978-07-07	
353	885	Grantee	SACCO, SUSAN F	RIGHT OF WAY	Municipality: CENTER TWP Street: 120 CHIPPEWA DR	1978-07-07	
353	886	Grantee	SARVER, RAY WILLIAM	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	
353	887	Grantee	SCHREFFLER, CLARENCE E JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-07	
353	888	Grantee	TAYLOR, ROBERT H	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	889	Grantee	TEBAY, WILBERT R	RIGHT OF WAY	Municipality: CENTER TWP Street: 118 IROQUOIS DR	1978-07-07	
353	890	Grantee	VARAN, PATSY M	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	891	Grantee	WEST PENN POWER CO	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-07	
353	892	Grantee	WEST PENN POWER CO	WARRANTY DEED	Municipality: BUTLER TWP	1978-07-07	
353	893	Grantee	WEST PENN POWER CO	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	894	Grantee	WILBERT, EARL J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-07	
353	895	Grantee	WISE MACHINE CO INC	RIGHT OF WAY	* Municipality: SUMMIT TWP	1978-07-07	
353	896	Grantee	WOLFGONG, LILLIAN M	RIGHT OF WAY	Municipality: CENTER TWP Street: 112 IROQUOIS DR	1978-07-07	
353	897	Grantee	ANSMAN, WILLIAM E	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	898	Grantee	BABICZ, EDWARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-06	$12
353	899	Grantee	BERRYMAN, JOHN	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	900	Grantee	BEST, MICHAEL J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-06	
353	901	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1

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353	902	Grantee	BLAIN, ARTHUR G	WARRANTY DEED	Municipality: CENTER TWP	1978-07-06	$1
353	903	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP Street: 117 LA RAY DR	1978-07-06	
353	904	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	905	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	
353	906	Grantee	BOSLEY, GEORGE M	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	907	Grantee	BLAIN, ARTHUR G	RIGHT OF WAY	Municipality: CENTER TWP Street: 117 LA RAY DR	1978-07-06	
353	908	Grantee	CENTRAL CHEMICAL CORP MD	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-06	
353	909	Grantee	COUNTY BUTLER PA	WARRANTY DEED	Municipality: BUTLER TWP	1978-07-06	
353	910	Grantee	COUSINS, JOHN P	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	911	Grantee	CURZI, ARMOND J	WARRANTY DEED	Municipality: CENTER TWP	1978-07-06	
353	912	Grantee	DIMMICK, HENEY M	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	913	Grantee	DRENNEN, J KIRK JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	
353	914	Grantee	FAITH UNITED PRESBY CHURCH	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	
353	915	Grantee	FUGINI, FRANKLIN R	WARRANTY DEED	Municipality: CENTER TWP	1978-07-06	
353	916	Grantee	GARBER, MARIAN	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-07-06	$1
353	917	Grantee	GLADD, CARL	WARRANTY DEED	Municipality: CENTER TWP	1978-07-06	$1
353	918	Grantee	GOLFVIEW MANOR INC	WARRANTY DEED	Municipality: CENTER TWP	1978-07-06	$1
353	919	Grantee	HERR, JOHN E	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	920	Grantee	COLLODI, RICHARD J	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	
353	921	Grantee	CHAPLA, RICHARD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-07-06	$1
353	922	Grantee	CENTRAL CHEMICAL CORP MARYLAND	RIGHT OF WAY	Municipality: BUTLER TWP	1978-07-06	
353	923	Grantee	LAYTON, BEULAH G	WARRANTY DEED	Municipality: CENTER TWP Acre: 0.280	1978-07-05	$2,500
353	924	Grantee	HECK, RICHARD L	RIGHT OF WAY	Municipality: CENTER TWP	1978-06-30	
353	925	Grantee	NAGY, JAMES	DECLARATION OF ACQUISITION	* Municipality: OAKLAND TWP	1978-06-28	
353	926	Grantee	DUNLAP, CHARLES L	DECLARATION OF TAKING	Municipality: SUMMIT TWP	1978-06-28	
353	927	Grantee	BECK, RAYMOND ANTHONY	DECLARATION OF TAKING	Municipality: SUMMIT TWP	1978-06-28	
353	928	Grantee	FAIR, ARTHUR L	WARRANTY DEED	Municipality: BUTLER TWP	1978-06-19	$4,150
353	929	Grantee	ROBAK, STELLA M	WARRANTY DEED	Municipality: CONNOQUENESSING TWP	1978-06-19	$4,000
353	930	Grantee	TURNER, RUTH M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-17	
353	931	Grantee	WALBORN, HENRY J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-17	
353	932	Grantee	WARDLE, GEORGE E JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	
353	933	Grantee	WEST, MICHAEL	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-17	
353	934	Grantee	WILES, JEAN KECK	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	
353	935	Grantee	WILLIAMS, OWEN J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-17	
353	936	Grantee	WILSON, BRUCE M	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-17	
353	937	Grantee	WYNN, WILLIAM JOHN	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-17	
353	938	Grantee	REVELLI, JOHN	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	$581
353	939	Grantee	RICCIARDELLA, MICHAEL A	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	$1
353	940	Grantee	RIDER, CHARLES D	WARRANTY DEED	Municipality: CENTER TWP	1978-05-17	$185
353	941	Grantee	RODGERS, JOHN CARLSON	WARRANTY DEED	Municipality: BUTLER TWP	1978-05-17	$57
353	942	Grantee	SCHENCK, RALPH O	WARRANTY DEED	Municipality: CENTER TWP	1978-05-17	$1
353	943	Grantee	SCHENCK, RALPH O	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	$1
353	944	Grantee	SCOTT, RALPH	WARRANTY DEED	Municipality: CENTER TWP	1978-05-17	$131
353	945	Grantee	SHANOR, DANIEL A	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	$1
353	946	Grantee	SHANOR, JOSEPH	WARRANTY DEED	Municipality: CENTER TWP	1978-05-17	$1
353	947	Grantee	SHAW, STANLEY M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-17	$1
353	948	Grantee	SPANG INDS INC	EASEMENT	Municipality: EAST BUTLER BORO	1978-05-17	$1
353	949	Grantee	STEWART, TERRENCE W	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-17	$1
353	950	Grantee	TAIT, ALVIN	WARRANTY DEED	Municipality: SUMMIT TWP	1978-05-17	$1
353	951	Grantee	TOMASOVIC, JOSEPH R	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-17	$1
353	952	Grantee	RADIN, SAMUEL D	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	953	Grantee	HINDMAN, MARY ARLENE	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	954	Grantee	HOLT, PATRICIA L	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	
353	955	Grantee	HUDAK, STEPHEN E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	$100
353	956	Grantee	HULL, STUART B	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	957	Grantee	HULL, STUART B	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	958	Grantee	HULL, STUART B	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	959	Grantee	HULL, STANLEY B	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	960	Grantee	KERNS, A NEIL	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	961	Grantee	KERNS, A NEIL	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1

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353	962	Grantee	KUEHNER, F C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	$1
353	963	Grantee	MARRA, NORMA	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$1
353	964	Grantee	MASTER, JOHN A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	$1
353	965	Grantee	MCCABE, PAUL J	WARRANTY DEED	Municipality: BUTLER TWP	1978-05-16	$88
353	966	Grantee	MILICH, MICHAEL E	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-16	$940
353	967	Grantee	MILLER, AARON EUGENE	WARRANTY DEED	Municipality: SUMMIT TWP	1978-05-16	$173
353	968	Grantee	MILLER, DANA R	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	$1
353	969	Grantee	MOSER, WILLIAM R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-16	$1
353	970	Grantee	NASTASI, DOMENIC J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-16	$1
353	971	Grantee	PASQUINELLI, JOHN JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-16	$1
353	972	Grantee	ARLESI CORP	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$1
353	973	Grantee	BROTHERS, ERMA N	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$150
353	974	Grantee	BUTLER CO IND DEV AUTH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-11	$1
353	975	Grantee	BUTLER COUNTY IND DEV	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-05-11	$1
353	976	Grantee	CHIAPPINI, RUTH S	WARRANTY DEED	Municipality: CENTER TWP	1978-05-11	$102
353	977	Grantee	CRESS, RALPH E	WARRANTY DEED	Municipality: BUTLER CITY	1978-05-11	$111
353	978	Grantee	DOCTOR, GEORGE S	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-11	$111
353	979	Grantee	DREHER, AMELIA EST	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-11	$1
353	980	Grantee	EKIS, SARAH A	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$101
353	981	Grantee	ELLIOTT, JAMES V	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$1
353	982	Grantee	FAULK, PAUL EMERSON	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$1
353	983	Grantee	FAULSTICH, GEORG AKA	WARRANTY DEED	Municipality: CENTER TWP	1978-05-11	$1
353	984	Grantee	FIECHUK, ROBERT R	RIGHT OF WAY	* Municipality: OAKLAND TWP	1978-05-11	$1,100
353	985	Grantee	FREE METH CH N AMERICA INC	RIGHT OF WAY	Municipality: CENTER TWP	1978-05-11	$100
353	986	Grantee	GOULD, RAYMOND J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-11	$121
353	987	Grantee	GROSS, ORLANDO	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-05-11	
353	988	Grantee	IRENE STACEY COMMUNITY MENTAL HEALTH CTR AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-11	$1
353	989	Grantee	BLACK, ARTHUR O JR	RIGHT OF WAY	Municipality: CENTER TWP Street: 716 MERCER RD	1978-05-11	$1
353	990	Grantee	BENFIELD, WALTER A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-05-11	$1
353	991	Grantee	BAXTER, JOSEPH	WARRANTY DEED	Municipality: CENTER TWP	1978-05-11	$104
353	992	Grantor	GLADE MILL ENTER	AGREEMENT	Municipality: BUTLER TWP	1978-05-05	
353	993	Grantee	GLADE MILL ENTER	AGREEMENT	Municipality: BUTLER TWP	1978-05-05	
353	994	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	$1
353	995	Grantee	KLANN, MANFRED	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	
353	996	Grantee	MASHUDA, RICHARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-04-26	
353	997	Grantee	MCGARY, EVELYN K	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	
353	998	Grantee	MUNIER, MARGARET D	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	
353	999	Grantee	PRESTON, FRANK W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-04-26	
353	1000	Grantee	STANDARD BENT GLASS	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-04-26	$1
353	1001	Grantee	STEHLE, WILLIAM A	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	$1
353	1002	Grantee	THOMAS, ROBER E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	$1
353	1003	Grantee	VIOLA, MICHAEL S	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-04-26	$1
353	1004	Grantee	SCHOENTAG, F C JR	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-04-26	$1
353	1005	Grantee	SCHAFFER, FRANK P	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-04-26	$1
353	1006	Grantee	RENNER, ANNE S	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-26	
353	1007	Grantee	BARBATI, JOHN A	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$1
353	1008	Grantee	BITTNER, WILLIAM J	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$5,169
353	1009	Grantee	CITIZENS PROPERTIES INC	WARRANTY DEED	Municipality: CENTER TWP	1978-04-25	$1
353	1010	Grantee	CRAGO, MARIAN	RIGHT OF WAY	Municipality: BUTLER TWP	1978-04-25	$1
353	1011	Grantee	DOERR, DONALD D	RIGHT OF WAY	Municipality: CENTER TWP Street: 205 LAKEWOOD DR	1978-04-25	$1
353	1012	Grantee	FALLON, ROBERT A	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$1
353	1013	Grantee	FRANKO, HARRY JR	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$1
353	1014	Grantee	HINDMAN, WAYNE A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-04-25	$2,777
353	1015	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$1
353	1016	Grantee	HUTCHISON, DONALD E	WARRANTY DEED	Municipality: CENTER TWP	1978-04-25	$1
353	1017	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	
353	1018	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	$1
353	1019	Grantee	HUTCHISON, DONALD E	RIGHT OF WAY	Municipality: CENTER TWP	1978-04-25	
353	1020	Grantee	COMMUNITY DEV CORP	WARRANTY DEED	Municipality: BUTLER TWP	1978-04-19	
353	1021	Grantee	LUMLEY, HARRY E	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-03-30	$1

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353	1022	Grantee	MALESH, MATTHEW G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1023	Grantee	MCDONALD, ROBERT D	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1024	Grantee	MCDONALD, ROBERT W	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1025	Grantee	MCDONALD, ROBERT W	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1026	Grantee	MCDONALD, ROBERT D DBA	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1027	Grantee	MCGINNIS, WILLIAM T	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	
353	1028	Grantee	MCGREGOR, R THOMAS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1029	Grantee	MCKINNIS, KENNETH W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1030	Grantee	MERCER RD VOL FIRE CO & RELIEF ASSN	WARRANTY DEED	Municipality: BUTLER TWP	1978-03-30	
353	1031	Grantee	MILLER, PAUL W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1032	Grantee	MINEHART, CHARLES L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1033	Grantee	PAYNE, CLIFFORD E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1034	Grantee	REARICK, LEROY F	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1035	Grantee	RICE, MARY T	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1036	Grantee	RIDER, STANLEY O	WARRANTY DEED	Municipality: CENTER TWP Street: 1404 N MAIN ST EXT	1978-03-30	
353	1037	Grantee	SHILLING , DELMAR L	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-03-30	$1
353	1038	Grantee	STEFFLER, DAVID W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1039	Grantee	STREITMAN, HENRY WILLIAM JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1040	Grantee	WEISENSTEIN, ROBERT L	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1041	Grantee	YORNS, ROY V	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$585
353	1042	Grantee	ZAMBROSKI, JOHN H	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-30	$1
353	1043	Grantee	WEST, JOHN D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-30	$1
353	1044	Grantee	BAXTER, CLEO R	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-29	$1
353	1045	Grantee	BEACHEM, MUREN J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1046	Grantee	BEDELL, CARLTON M	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-29	$1
353	1047	Grantee	BLEICHER, ROBERT C	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1048	Grantee	BROWN, IVAN E	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-29	$1
353	1049	Grantee	BROWN, PAUL W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1050	Grantee	CALVARY CEMETERY	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1051	Grantee	CARBIN, BERNARD A JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1052	Grantee	CARLSON, CHARLES E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-03-29	$1
353	1053	Grantee	CHRISTIAN & MISSIONARY ALLIANCE CH MERIDIAN INC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1054	Grantee	COHN, ROBERT S	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1055	Grantee	COLLEY, THOMAS R	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-29	$1
353	1056	Grantee	DUNMIRE, S ESTHER	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$322
353	1057	Grantee	EAST BUTLER VOL FIRE DEPT	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-03-29	$1
353	1058	Grantee	ERVIN INDS INC	RIGHT OF WAY		1978-03-29	$1
353	1059	Grantee	FERGUSON, MARQUERITTE L AKA	WARRANTY DEED	Municipality: SUMMIT TWP	1978-03-29	$1
353	1060	Grantee	FRANK, HARRY	RIGHT OF WAY	Municipality: CENTER TWP	1978-03-29	$1
353	1061	Grantee	GUTHERIE, BETTY V	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-03-29	$1
353	1062	Grantee	IMBRIE, DAVID E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1063	Grantee	JONES, CLYDE R	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-03-29	$1
353	1064	Grantee	KEAGLE, LOMAN H	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1065	Grantee	KEOWN, THOMAS P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-03-29	$1
353	1066	Grantee	LOHNER, JOSEPH W	WARRANTY DEED	Municipality: CENTER TWP	1978-03-29	$1
353	1067	Grantee	BOWSER, RUTH V	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1068	Grantee	COMMISSIONERS BUTLER TWP	RIGHT OF WAY		1978-02-15	$1
353	1069	Grantee	DIETRICH, FLOYD L	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1070	Grantee	DUMBAUGH, WILBUR G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1071	Grantee	EMRICK, DAVID L EST BY EXRS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1072	Grantee	EMRICK, DAVID L EST BY EXRS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1073	Grantee	ESPY, HAROLD O	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1074	Grantee	FAULK, W EDWIN	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1075	Grantee	FEND, ROBERT W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1076	Grantee	FLESKE, PAUL S	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-15	$1
353	1077	Grantee	FRAZIER, CHARLES R	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1078	Grantee	GOULD, KENNETH M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1079	Grantee	HAYS, EUGENE P	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1080	Grantee	HORNE, GEORGE F	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-15	$1
353	1081	Grantee	KEARNS, CLARA E AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	1082	Grantee	KIENZLE, HAROLD E	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-15	$1
353	1083	Grantee	KRANKOTA, ANN D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1084	Grantee	LINCOLN IND PARK INC AKA	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-15	$1
353	1085	Grantee	LINDSAY, RONALD E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1086	Grantee	MCCANDLESS, LEE C TRS	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1087	Grantee	MCFADDEN, DEAN EDWARD	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1088	Grantee	MENCHYK, THELMA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1089	Grantee	MILLER, JAMES D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1090	Grantee	NEILL, BERNICE O	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1091	Grantee	NINI, EUGENE G JR	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1092	Grantee	MOHR, ROBERT J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1093	Grantee	PROTZMAN, HELEN A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-15	$1
353	1094	Grantee	RALSTON, DOROTHY H	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$529
353	1095	Grantee	SHIELDS, CARL E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1096	Grantee	SHIELDS, CARL E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	
353	1097	Grantee	SHIELDS, CARL E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1098	Grantee	SHIVELY, NEIL F	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1099	Grantee	SWAI, BERNARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1100	Grantee	TINCHA, MICHAEL	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	
353	1101	Grantee	VOLLMER, RAY AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1102	Grantee	WISE, MICHAEL V	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-15	$1
353	1103	Grantee	PARASKA, DAVID M	WARRANTY DEED	Municipality: CENTER TWP	1978-02-15	$3,000
353	1104	Grantee	MILLER, GEORGE E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1105	Grantee	MILLER, RICHARD C	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1106	Grantee	MURTLAND, J VICTOR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1107	Grantee	NORTON, WILLIAM H	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-02-10	$1
353	1108	Grantee	OBRIEN, ROBERT E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1109	Grantee	PAULICK, PAUL RAYMOND	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1110	Grantee	GALISON, MARY AKA	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1111	Grantee	PULLMAN INC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1112	Grantee	ROSS PIZZA INC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1113	Grantee	ROTTMAN, RICHARD A	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1114	Grantee	SANDALA, PETER	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1115	Grantee	SERAFINE, RICHARD S	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-02-10	$1
353	1116	Grantee	SHAFFER, FLORENCE M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1117	Grantee	SHERMAN, WILLIAM G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1118	Grantee	SPINDER, ANDY	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1119	Grantee	SPINDER, ANDY	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1120	Grantee	ST JOHNS EVAN & REFORMED CH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$950
353	1121	Grantee	STUTZ, JOHN A	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-02-10	$1
353	1122	Grantee	TOMOSOVICH, ALOYSIUS	RIGHT OF WAY		1978-02-10	$90
353	1123	Grantee	TRITSCH, RICHARD H	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1124	Grantee	VOLAND, EMMA BARBARA	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-02-10	$1
353	1125	Grantee	BENEIGH, PAUL J	RIGHT OF WAY	Municipality: EAST BUTLER BORO	1978-02-10	$1
353	1126	Grantee	BILLINGER, WILLIAM C	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1,663
353	1127	Grantee	BIRCKBICHLER, LAWRENCE T	WARRANTY DEED	Municipality: SUMMIT TWP	1978-02-10	$402
353	1128	Grantee	BLUM, EDWARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1129	Grantee	BUTLER COUNTY POOR DIST	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1130	Grantee	CAPUTO, PATSY A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1131	Grantee	CENTRAL LAND CO INC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$676
353	1132	Grantee	CITY BUTLER	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1133	Grantee	CLEMENS, ROBERT J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1134	Grantee	CUMBLIDGE, ERNEST	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1135	Grantee	DAUGHERTY, RAY E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1136	Grantee	ELLWOOD, ROBERT	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1137	Grantee	FORSYTHE, RICHARD HALL	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$544
353	1138	Grantee	FRY, CATHERINE M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1139	Grantee	GALANTE, VIRGIL A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1140	Grantee	HICKORY DEV CO	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1141	Grantee	HUSELTON, MARGARET H	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1

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353	1142	Grantee	KADUNCE, HARRY J	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1
353	1143	Grantee	KEYSTONE TUBULAR SERV CORP	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1144	Grantee	KINTER, ROBERT W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$183
353	1145	Grantee	KOVALCHICK, MIKE	RIGHT OF WAY	* Municipality: EAST BUTLER BORO	1978-02-10	$1
353	1146	Grantee	KRESH, RUDOLPH E	WARRANTY DEED	Municipality: BUTLER TWP	1978-02-10	$1,202
353	1147	Grantee	LANE, WILLIAM C	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1148	Grantee	LEITEM, DAVID P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1149	Grantee	MCCABE, PAUL J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1,506
353	1150	Grantee	MCCALL, FRANCIS P	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1151	Grantee	MCKEE, JAMES E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1152	Grantee	MELIOTES, MARY	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$1
353	1153	Grantee	MILLER, FRANK J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-02-10	$79
353	1154	Grantee	SMITH, PAUL E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1155	Grantee	SPAMPINATO, PHILIP M	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1156	Grantee	STAMM, CLYDE L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1157	Grantee	STANLEY CONST CO AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$1
353	1158	Grantee	STEENBERGEN, CHARLES	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1159	Grantee	STEERE, GEORGE B	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$145
353	1160	Grantee	STEVENSON, WILLIAM D	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1161	Grantee	STEWART, KENNETH K	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1162	Grantee	STEWART, TERRENCE W	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1163	Grantee	STIVASON, HAROLD E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$292
353	1164	Grantee	TESTI, CESELLO	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	
353	1165	Grantee	THOMPSON, CHARLES W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$1
353	1166	Grantee	THOMPSON, RAYMOND E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$1
353	1167	Grantee	TIDBALL, JAMES C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1168	Grantee	TONINI, JULIO Z	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1169	Grantee	TOWNSHIP BUTLER	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1170	Grantee	TRAUTMAN, LARRY J	RIGHT OF WAY		1978-01-27	$111
353	1171	Grantee	TURNER, CARL EDWARD	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-27	$1
353	1172	Grantee	VAVRO, JOSEPH M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1173	Grantee	WETZEL, KENNETH L	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-27	$1
353	1174	Grantee	WHEELER, GLENN A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$635
353	1175	Grantee	WHITE, C GARTH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1176	Grantee	WHITE, C GARTH	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	$1
353	1177	Grantee	WHITESELL, THOMAS N	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1178	Grantee	WILLIAMS, JAMES R	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-27	$1
353	1179	Grantee	WISE, PAUL A	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-27	$1
353	1180	Grantee	YEARICK, CHARLES R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1181	Grantee	ZIMMERMAN, MARY K	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-27	$410
353	1182	Grantee	ZIMMERMAN, BENNY W	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-27	
353	1183	Grantee	PARASKA, DAVID M	WARRANTY DEED	Municipality: CENTER TWP	1978-01-26	$1
353	1184	Grantee	PARLANTI, ROLADN J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	$1
353	1185	Grantee	PARLANTI, GEORGIA	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-26	$1
353	1186	Grantee	PESCI, RICHARD J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	$1
353	1187	Grantee	PICCOLA, FRNAK	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-26	$1
353	1188	Grantee	PIERREL, JOSEPH H	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-26	$1
353	1189	Grantee	PIRRELLO, ANTHONY M JR	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1190	Grantee	RACEY, BARRY L	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1191	Grantee	REDDICK, ROBERT L	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1192	Grantee	REEP, CHARLES A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-26	$1
353	1193	Grantee	RIKAL, RUDOLF J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-26	$1
353	1194	Grantee	ROGERSON, MARK H	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1195	Grantee	SANTYPAL, PETER J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-26	$1
353	1196	Grantee	SCHAEFER, JEROME R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-26	$1
353	1197	Grantee	SHERMAN, CLARENCE P	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1198	Grantee	SHERMAN, MARK FLOYD	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	
353	1199	Grantee	SCHIEBEL, ARTHUR	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-26	$1
353	1200	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	$975
353	1201	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	$26

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	1202	Grantee	SKILLMAN, EDWARD C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-26	$1
353	1203	Grantee	OLIVA, CARMEN A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-25	$1
353	1204	Grantee	OLEN, STEVE A	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-25	$1
353	1205	Grantee	OLD PLANK ESTS	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-25	$1
353	1206	Grantee	LYON, SAMUEL W	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-25	$238
353	1207	Grantee	LUCAS, RUTH G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1208	Grantee	LUCAS, RUTH G	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-25	$1
353	1209	Grantee	LUCAS, WILLIAM J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1210	Grantee	MACKLIN, ROBERT C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-25	$1
353	1211	Grantee	MARTIN, WALTER J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1212	Grantee	MCCANDLESS, RICHARD L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1213	Grantee	MCCORRY, ROBERT C	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1214	Grantee	MCDONALD, CHARLOTTE	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1215	Grantee	MCPHERSON, RICHARD R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1216	Grantee	MILICH, MICHAEL E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1217	Grantee	MONTAG, CHARLES R	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-25	$1
353	1218	Grantee	MONTAG, JACK L	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-25	$1
353	1219	Grantee	MONTAG, RAYMOND E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-25	$1
353	1220	Grantee	NEUBAUER, WALTER A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1221	Grantee	NOLTE, MILLIE M	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-25	$1
353	1222	Grantee	NULPH, RICHARD H	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-25	$70
353	1223	Grantee	GREENWOOD VILLAGE VOL FIREMEN RELIEF ASSOC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1224	Grantee	GROSSMAN, LOYAL L	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-19	$1
353	1225	Grantee	HAYS, ROBERT A	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-19	$1
353	1226	Grantee	HINDMAN, WAYNE A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$2,263
353	1227	Grantee	HOLKO, MICHAEL EDWARD	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1228	Grantee	HORTERT, LOUIS	RIGHT OF WAY	* Municipality: BUTLER TWP	1978-01-19	$1,525
353	1229	Grantee	HOWRYLA, HARRY	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1230	Grantee	HUTCHISON, WILLIAM V	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-19	$1
353	1231	Grantee	HUTCH, JOSEPH F	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$228
353	1232	Grantee	HUTH, JOSEPH F JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$207
353	1233	Grantee	KENNEDY, ROBERT C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-19	$1
353	1234	Grantee	KRILEY, WILMER	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1235	Grantee	LATSHAW, ORVAL J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1236	Grantee	LEONARD, HOWARD L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1237	Grantee	LOGAN, ELIZABETH A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-19	$1
353	1238	Grantee	LOVE, ROBERT E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-19	$1
353	1239	Grantee	LOWE, ALAN D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-19	$1
353	1240	Grantee	KENNEDY, DONALD G	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-19	$1
353	1241	Grantee	JURYSTA, EDWARD G	WARRANTY DEED	Municipality: SUMMIT TWP	1978-01-19	$1
353	1242	Grantee	JEWELL, REX A JR	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-19	$1
353	1243	Grantor	PEOPLES NATURAL GAS CO	OIL & GAS LEASE	* Municipality: SLIPPERY ROCK TWP	1978-01-19	$1
353	1244	Grantee	CROOKS, JAMES C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	
353	1245	Grantee	CROUCH, WALTER EUGENE	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1246	Grantee	CYGAN, JOHN	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1247	Grantee	DAVANZATI, ENRICO S	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1248	Grantee	DEAL, CECIL O	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1249	Grantee	DITTMAN, ROBERT G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$562
353	1250	Grantee	DOUGLAS, RICHARD A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1251	Grantee	DREHER, ROBERT R AKA	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1252	Grantee	DUMBAUGH, WILBUR G	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1253	Grantee	DUNN, DALE E	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$100
353	1254	Grantee	EMANUELE, HERMAN J	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1255	Grantee	FORBES, ARTHUR H JR	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$832
353	1256	Grantee	FOWLER, JAMES A	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$403
353	1257	Grantee	FREEMAN, THOMAS L	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1258	Grantee	FRY, ROBERT D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1259	Grantee	GEIBEL, RUSSELL P	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1
353	1260	Grantee	GEORGE, W CHARLES	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1261	Grantee	GEORGE, WAID M	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-16	$1

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	1262	Grantee	GLENN, CLAIR A	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-16	$1
353	1263	Grantee	GREENWAY, GORDON R	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-16	$1
353	1264	Grantee	BARTOLI, PETER A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1265	Grantee	BAUER, HAROLD R	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-13	$1
353	1266	Grantee	BAUER, HARRY J	WARRANTY DEED	Municipality: EAST BUTLER BORO	1978-01-13	
353	1267	Grantee	BIRCKBICHLER, KARL D	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-13	$1
353	1268	Grantee	BRADY, CHARLES C	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1269	Grantee	BUTLER FARM SHOW INC	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1270	Grantee	BUTLER, BEN L	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	
353	1271	Grantee	CAMPBELL, JAMES GILMORE	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$325
353	1272	Grantee	CAMPBELL, JAMES GILMORE	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	
353	1273	Grantee	CAPEZZUTI, A GERALD	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1274	Grantee	CARLSON, CHARLES E	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-13	$1
353	1275	Grantee	CHRISTOFANO, CARL F	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$105
353	1276	Grantee	CHRISTY, ROBERT J	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1277	Grantee	COOPER, ROSALIE C	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-13	$582
353	1278	Grantee	CORNIBE, LOUIS A	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-13	$1
353	1279	Grantee	CREDIFORD, AMOS A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1280	Grantee	BIRCKBICHLER, DALE G	WARRANTY DEED	Municipality: BUTLER TWP	1978-01-13	$116
353	1281	Grantee	BIRCKBICHLER, ALONZO M	RIGHT OF WAY	Municipality: SUMMIT TWP	1978-01-13	$1
353	1282	Grantee	BAYER, ROBERT A	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1283	Grantee	BARICKMAN, EDWARD D	RIGHT OF WAY	Municipality: BUTLER TWP	1978-01-13	$1
353	1284	Grantee	YOUKERS, CLARENCE D	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	
353	1285	Grantee	ZEDIKER, EDMUND A	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-13	
353	1286	Grantee	THOMPSON, FRANCIS W	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	
353	1287	Grantee	STIRLING, CHARLES F	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1288	Grantee	SWIDZINSKI, NICK	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$200
353	1289	Grantee	SWIDZINSKI, STANLEY	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$133
353	1290	Grantee	THOMAS, JOHN JR	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1291	Grantee	THOMPSON, ANNA M	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-13	$1
353	1292	Grantee	THRONE, PAUL DAVID	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1293	Grantee	TWEED, GEORGE W	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1294	Grantee	VOLAND, CATHERINE	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$305
353	1295	Grantee	WARHEIT, LEWIS H	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-13	$1
353	1296	Grantee	WARHEIT, RICHARD C MRS	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1297	Grantee	WARNICK, HOWARD W	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1298	Grantee	WEIGLE, JAMES ROY	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$330
353	1299	Grantee	WILSON, BLAINE	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-13	$1
353	1300	Grantee	PICCOLA, FRANK J JR	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-12	$1
353	1301	Grantee	RAABE, FRANCIS O	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1302	Grantee	REDD, HOMER	RIGHT OF WAY	Municipality: JEFFERSON TWP	1977-12-12	$1
353	1303	Grantee	RIDDELL, KENNETH J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1304	Grantee	RITTS, LELAND EMERSON	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1305	Grantee	ROWE, BESSIE N	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1306	Grantee	RYAN, JOSEPH F JR	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1307	Grantee	SANGERMANO, EARL	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-12	$1
353	1308	Grantee	SHAULIS, SAMUEL S	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1309	Grantee	SHERMAN, ALBERT D	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-12	$1
353	1310	Grantee	SHERMAN, HELEN P	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1311	Grantee	SHOEMAKER, MARGARET JOYCE	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1312	Grantee	SMITH, IDAH S	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$151
353	1313	Grantee	SPINA, CARMEN M	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1314	Grantee	SPITHALER, LEWIS	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1315	Grantee	STEIN, GERALD J	WARRANTY DEED	Municipality: SUMMIT TWP	1977-12-12	$1
353	1316	Grantee	STEININGER, RUTH I	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1317	Grantee	STEVENSON, CHARLES B	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$192
353	1318	Grantee	STEWART, JAMES J	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-12	$1
353	1319	Grantee	ROOFNER, DONALD L	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-12	$1
353	1320	Grantee	GLENN, ROBERT K	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1321	Grantee	LOGAN, RHEA JEAN	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1

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NARUC Acct #	Item #	Role	Other Party	Instr Type	Short Legal	Date	Consideration
353	1322	Grantee	MAHONEY, JOHN	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1323	Grantee	MARTZ, STANLEY C	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1324	Grantee	MATSON, JAMES	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1325	Grantee	MCDOWELL, CARL J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1326	Grantee	MCGARVEY , SHIRL W	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1327	Grantee	MCKNIGHT, RALPH	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1328	Grantee	MCMASTER, MARTHA W	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1329	Grantee	MERCER RD VOL FIRE CO	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1330	Grantee	MILLER, RALPH J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1331	Grantee	MILLER, RALPH J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1332	Grantee	MILLER, ROBERT W	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1333	Grantee	MURPHY, FAY E	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1334	Grantee	NEELY, PAUL M	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-09	$1
353	1335	Grantee	NIENSTEDT, ROBERT C	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-09	$1
353	1336	Grantee	NOWAKOWSKI, PETER W	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-09	$1
353	1337	Grantee	NOWAKOWSKI, PETER W	WARRANTY DEED	Municipality: SUMMIT TWP	1977-12-09	$1
353	1338	Grantee	PICCOLA, F J JR	WARRANTY DEED	Municipality: SUMMIT TWP	1977-12-09	$1
353	1339	Grantee	ORTH, JOHN W	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-09	$1
353	1340	Grantee	GRECCO, MARY E	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-08	$1
353	1341	Grantee	GREENAWALT, DONALD L	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1342	Grantee	GUADAGNI, MARIO	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1343	Grantee	HAMMETT, HARRY D	WARRANTY DEED	Municipality: SUMMIT TWP	1977-12-08	$1
353	1344	Grantee	HENRICKS, FLOYD J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1345	Grantee	HILL, HOWARD G	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1346	Grantee	HOCKENBERRY, ALICE	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$151
353	1347	Grantee	HUTZLEY, FLOYD A	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1348	Grantee	JOHNS, BENJAMIN S	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$1
353	1349	Grantee	JOHNSON, MAE A	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1350	Grantee	JOHNSTON, GEORGE W	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$537
353	1351	Grantee	JUDSON, C D	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1352	Grantee	JUDSON, CLARENCE D JR	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1353	Grantee	KAIB, KEITH ALAN	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1354	Grantee	KIDDLE, FLORINE S	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-08	$1
353	1355	Grantee	KING, STANLEY	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$1
353	1356	Grantee	KLUGH, HERMAN E	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$173
353	1357	Grantee	KRAMER, RICHARD L	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$1
353	1358	Grantee	KRAMER, RICHARD L II	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$1
353	1359	Grantee	LOGAN, GLENN R	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-08	$1
353	1360	Grantee	ADAMS, MAE	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1361	Grantee	BLAIR, CHALMERS D	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-07	$258
353	1362	Grantee	BORDEAUX, R D	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-07	$1
353	1363	Grantee	BOWSER, BURTON CARL	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1364	Grantee	BUCHANAN, MARIE HERRIT	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-07	$1
353	1365	Grantee	BURGESS, CHESLEY W	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-07	$1
353	1366	Grantee	CITY BUTLER	RIGHT OF WAY	Municipality: BUTLER CITY	1977-12-07	$1
353	1367	Grantee	COHN, PEARL B	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1368	Grantee	COLL, WALTER H	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1369	Grantee	COMMISSIONERS BUTLER TWP	WARRANTY DEED	Municipality: BUTLER TWP	1977-12-07	$1
353	1370	Grantee	DIXON, EDITH A	WARRANTY DEED	Municipality: SUMMIT TWP	1977-12-07	$1
353	1371	Grantee	DUBLIN, CLARENCE J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1372	Grantee	DUNBAR, THOMAS R	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1373	Grantee	FERNE, ELEANOR C	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$653
353	1374	Grantee	FISHER, ELRY	RIGHT OF WAY	Municipality: SUMMIT TWP	1977-12-07	$1
353	1375	Grantee	FISHER, ROBERT	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$298
353	1376	Grantee	FORD, RICHARD J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1377	Grantee	FRY, DELLA A	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1378	Grantee	GEIBEL, W J	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$1
353	1379	Grantee	BRIER, HELEN	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-07	$50
353	1380	Grantee	ADAMS, U S	RIGHT OF WAY	Municipality: BUTLER TWP	1977-12-05	$1
353	1381	Grantee	GROVE CITY LIMESTONE CO	WARRANTY DEED	* Municipality: SLIPPERY ROCK TWP	1977-09-13	$90,000

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353	1382	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1977-01-25	
353	1383	Grantee	DEPARTMENT ENVIROMENTAL RESOURCES	SEWERAGE PERMIT	* Municipality: BUTLER CITY	1977-01-13	
353	1384	Grantee	HUTCHISON, GLENN C	RIGHT OF WAY		1977-01-11	$492
353	1385	Grantee	HILDEBRAND, CHARLOTTE C BY EXRS	RIGHT OF WAY	Municipality: BUTLER TWP	1976-11-26	
353	1386	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1976-03-31	
353	1387	Grantee	COMMONWEALTH OF PENNSYLVANIA DEPT ENVIRONMENTAL RE	SEWERAGE PERMIT	Municipality: BUTLER TWP	1975-10-15	
353	1388	Grantee	ECONOMY BUILDERS INC	RIGHT OF WAY	Municipality: BUTLER TWP	1975-10-09	
353	1389	Grantee	HINDMAN, WAYNE A	RIGHT OF WAY	Municipality: BUTLER TWP	1975-10-09	
353	1390	Grantee	GLADE MILL ENTERPRISES	SEWERAGE PERMIT	Municipality: BUTLER TWP	1975-10-09	
353	1391	Grantee	CITY BUTLER	RIGHT OF WAY	Municipality: BUTLER TWP	1974-06-05	$1
353	1392	Grantee	FLEEGER, ROBERT L	EASEMENT	Municipality: BUTLER TWP	1974-06-05	
353	1393	Grantee	SHEDIO, M MICHAEL	WARRANTY DEED	Municipality: BUTLER TWP	1974-06-05	
353	1394	Grantee	SHEDIO, SUSAN J	EASEMENT	Municipality: BUTLER TWP	1974-06-05	
353	1395	Grantee	KIRK, DAVID A	EASEMENT	Municipality: BUTLER TWP	1974-01-08	
353	1396	Grantee	MCKRUIT, STANLEY	DECLARATION OF TAKING	Municipality: BUTLER TWP	1973-09-07	
353	1397	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-08-08	
353	1398	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1399	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	* Municipality: BUTLER TWP	1973-05-08	
353	1400	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	* Municipality: BUTLER TWP	1973-05-08	
353	1401	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1402	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1403	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	* Municipality: BUTLER TWP	1973-05-08	
353	1404	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1405	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1406	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1407	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1408	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1409	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1410	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1411	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1412	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1413	Grantee	COMMONWEALTH OF PENNSYLVANIA	SEWERAGE PERMIT	Municipality: BUTLER TWP	1973-05-08	
353	1414	Grantee	TRIANGLE GASOLINE CO INC	EASEMENT	Municipality: BUTLER TWP	1972-11-30	
353	1415	Grantee	NORTHWEST SANITARY SEWER SYSTEM AUTH	AGREEMENT		1972-10-18	$1
353	1416	Grantee	BRANDYWINE AGENCY INC	CONDEMNATION	Municipality: BUTLER TWP	1971-06-30	
353	1417	Grantee	MCELVAIN, C C	EASEMENT	Municipality: BUTLER TWP	1971-05-17	
353	1418	Grantee	SPANG & CO	EASEMENT	Municipality: BUTLER TWP	1971-05-17	
353	1419	Grantee	BRIER, ISADOR CO EXRS	RIGHT OF WAY	Municipality: BUTLER TWP	1970-07-10	
353	1420	Grantee	IRA KECK INC	RIGHT OF WAY		1970-07-10	$1
353	1421	Grantee	WALSH, MARGARET C	RIGHT OF WAY		1970-07-10	
353	1422	Grantee	ADELMAN, ALBERT	RIGHT OF WAY		1970-02-10	$1
353	1423	Grantee	BRIER, MAX B EST	DECLARATION OF TAKING	Municipality: BUTLER TWP	1970-02-10	
353	1424	Grantee	KECK INC, IRA	DECLARATION OF TAKING	Municipality: BUTLER TWP	1970-02-10	
353	1425	Grantee	WALSH, MARGARET C	DECLARATION OF TAKING	Municipality: BUTLER TWP	1970-02-10	
353	1426	Grantee	PHILLIPS, NOVIE C	EASEMENT	Municipality: BUTLER TWP	1969-05-13	
353	1427	Grantee	COUNTY BUTLER	WARRANTY DEED	Municipality: BUTLER CITY	1968-08-27	
353	1428	Grantee	BORON OIL CO	AGREEMENT		1968-08-19	
353	1429	Grantor	BORON OIL CO	AGREEMENT		1968-08-19	
353	1430	Grantee	STRAYNICK, MARY	AGREEMENT		1968-04-25	
353	1431	Grantee	ZUCKER, GERALD A	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-08-01	
353	1432	Grantee	ZUCKER, GERALD A	DECLARATION OF TAKING	Municipality: CENTER TWP	1978-08-01	
353	1433	Grantor	LOSSER WILLIAM	TAX CLAIM DEED	Municipality: BUTLER CITY WARD 1	1993-08-30	
353	1434	Grantor	AKHTAR, MOHAMMAD	CONDEMNATION	Municipality: CENTER TWP	1978-11-06	
Total Cost (Land and Land Rights NARUC Acct # 353)							**$592,541**

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Appendix 10:
Vehicle Assets

Butler Area Sewer Authority
Vehicle List

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC Acct #	MODEL YEAR	DESCRIPTION	ORIGINAL COST
LIGHT TRUCKS (≤10,000 lbs GVWR)			
391	2009	Ford F350 Super Duty 4x4 Pickup Truck (Maint #2)	$21,780
391	2011	Ford E350 Econoline Sewer TV Van	$126,274
391	2011	Ford Ranger Super Cab 4x4 Pickup Truck	$20,187
391	2012	Ford E350 Econoline SD Cargo Van (Dye Test 2)	$22,780
391	2012	Ford F350 Service Body Truck (Pump Stations)	$36,808
391	2012	Ford F250 Super Duty 4x4 Ext. Cab Pickup Truck	$28,476
391	2014	Ford 250 Locating Truck	$25,851
391	2017	Ford Explorer (Engineering)	$31,358
391	2018	Ford 350 Sewer Maint. (Brian)	$43,015
391	2019	Ford Transit Van (Dye Test 1)	$35,000
391	2020	Ford Super Duty	$33,881
391	2022	Ford Super Duty, F-350	$39,905
391	2022	Ford Transit (Realty Van)	$40,376
391	2023	Ford Ranger (Sewer crew Superintendent)	$34,825
391	2023	Ford Ranger (Locating)	$34,825
MEDIUM TRUCKS (10,001 TO 26,000 lbs GVWR)			
391	2011	International 4400 Aluminum Body Dump Truck	$90,500
391	2011	Ford F450 4x2 Aluminum Body Dump Truck	$42,753
391	2011	Ford F550 Service Body Truck (Maintenance)	$75,578
HEAVY TRUCKS (>26,001 lbs GVWR)			
395	1997	Ford Louisville LT8501 Vactor Truck	$183,665
395	2021	Western Star 4700SF Vactor Truck	$476,106
LICENSED OVER-THE-ROAD CONTRACTOR EQUIPMENT			
395	2000	John Deere Model 310SE Backhoe	$70,959
TRAILERS			
395	2001	Viking Dye Testing Trailer	$9,100
395	2001	Forest River Enclosed TV Trailer	$2,297
395	2011	Viking Fender Model Tag Equipment Trailer	$6,290
OFF ROAD EQUIPMENT			
395	1993	John Deere Front Loader 624D	$79,275
395	2012	John Deere Skid Steer Loader 426D	$37,726
395	2011	Kubota Compact Excavator	$49,302
395	2012	John Deere Gator Utility Vehicle	$20,060
395	2015	Godwin pump on trailer	$56,800
395	2018	Toyota Forklift Model 8FGU25	$31,137
395	2019	E-Z GO RXV Electric Golf Cart	$8,789
395	2023	Polaris Ranger SP 570 (R23MAA57B1)	$11,932
395	1992	PowerBoss Model SW9XV Sweeper	$27,892
395	2012	John Deere Model 326D Skid Steer Loader	$37,726
395	2014	John Deere Model XUV 825i Gator ATV	$25,114
Transportation Equipment Total (Acct # 391)			**$784,172**
Power Operated Equipment Total (Acct # 395)			**$1,134,170**
GRAND TOTAL			**$1,918,342**

Table derived from BASA spreadsheets "Vehicle Equipment List updated 12-08-22"
and "BASA Contractors' Equipment List November 2022"

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Appendix 11:
Grinder Pump Assets

BASA Owned Grinder Pumps[1]

Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

NARUC ACCT #	ADDRESS	INSTALLATION YEAR	GRINDER PUMP COST[2]
371	210 October Drive	2019	$ 2,414
371	212 October Drive	2019	$ 2,414
371	108 Afton Drive	2020	$ 2,414
371	331 Belmont Road	2020	$ 2,414
371	209 October Drive	2020	$ 2,414
371	323 Pleasant Avenue	2021	$ 2,414
371	168 Ambler Drive	2021	$ 2,414
371	206 October Drive	2021	$ 2,414
371	1124 N. Main Street	2021	$ 2,414
371	115 ½ Bradmoor Lane	2021	$ 2,414
371	1723 N. Main Street	2021	$ 2,414
371	211 October Drive	2021	$ 2,414
371	422 Evans City Road	2021	$ 2,414
371	203 October Drive	2021	$ 2,414
371	170 Ambler Drive	2021	$ 2,414
371	172 Ambler Drive	2021	$ 2,414
TOTAL (NARUC ACCT # 371)			**$ 38,624**

[1]Table derived from BASA document "2019 to PRESENT REPLACEMENT OR REPAIRS ON GRINDER PUMPS"

[2] Per BASA Staff, BASA has paid $2,414 for grinder pumps in recent years. Homeowner pays for installation.

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Appendix 12:
Office Equipment Assets

BASA Owned Office Equipment

NARUC ACCT #	Item #	ITEM[1]	PC NAME	ORIGINAL COST	YEAR PURCHASED
390.1	1	Desktop	TAMERSON003	$817	2015
390.1	2	Desktop	MBRESNAHAN001	$860	2017
390.1	3	Desktop	DMIKE02	$860	2017
390.1	4	Desktop	VFERDERBER02	$860	2017
390.1	5	Desktop	RFINK03	$2,629	2018
390.1	6	Desktop	LAB003	$860	2017
390.1	9	Desktop	BMCKINNEY02	$897	2020
390.1	10	Desktop	MMILLER01	$897	2020
390.1	11	Laptop	EVANO-LAPTOP	$1,219	2020
390.1	12	Desktop	SOLIDS01	$860	2017
390.1	13	Desktop Mini	LABOFFICE001	$349	2021
390.1	14	Desktop	SECURITYSYS	$860	2017
390.1	15	Desktop	WSLAGLE03	$2,629	2018
390.1	17	Desktop	MSPOHN003	$829	2016
390.1	18	Desktop	KHAY002	$817	2015
390.1	19	Desktop	SPITZER02	$897	2020
390.1	20	Cameras	OPERATORS02	$768	2018
390.1	21	Desktop Mini	RDIBIASE001	$349	2021
390.1	22	Laptop	BASA-LAPTOP-AGE	$1,173	2022
390.1	23	Laptop	FLOMO-LAPTOP2	$4,078	2018
390.1	24	Laptop	BASA-LAPTOP	$1,054	2019
390.1	25	Desktop Mini	ENGINEERINGAREA	$349	2021
390.1	26	Desktop Mini	SCADA-1	$349	2021
390.1	27	Desktop	SPITZER02	$817	2015
390.1	28	Desktop	EVANO001	$817	2015
390.1	29	Desktop	HVAC-DESKTOP	$817	2015
390.1	30	Desktop	LAB02	$817	2015
390.1	31	Desktop	SOLIDS01	$817	2015
390.1	32	Desktop	BMCKINNEY01	$817	2015
390.1	33	HPE ProReliant Server DL325	BASAHOST	$13,799	2021
390.1	34	Guest Server	BASADC	$0	2021
390.1	35	Guest Server	BASADEV	$0	2021
390.1	36	Guest Server	BASACONTROL	$0	2021
390.1	37	Guest Server	BASASQL	$0	2021
390.2	38	Printer	Xerox Altalink 8030	$6,900	2018
390.2	39	Printer	Lanier MPC 4502	$11,865	2013
390.2	40	Printer	Oce Colorwave 300 Plotter	$21,241	2011
390.2	41	Printer[2]	Canon ImageCLASS MF264DW	$355	2018
390.2	42	Printer[2]	Brother MFC-8890DW	$355	2018
390.2	43	Printer	HP Lasejet 6700 Premium	$355	2018
390.2	44	Printer	Brother HL-L8260CDW	$395	2022
390.2	45	Printer[2]	HP Laserjet Pro MFP M180nw	$355	2018
390.2	46	Printer[2]	HP Laserjet Pro MFP M180nw	$355	2018
390.2	47	Printer	Brother Printer 2360DW	$325	2020
390.2	48	Printer	Brother Printer 2370DW	$325	2021
390.2	49	Printer	Brother Printer HL-L6200DW	$375	2022
390.3	50	Misc Office Equipment	PFE 1190 Burster	$1,500	2021
390.3	51	Misc Office Equipment	Neopost Ds-40i Envelope Stuffer	$8,298	2019
390.3	52	Misc Office Equipment	Quadient A0002360 Mail Opener	$2,380	2022
TOTAL (NARUC ACCT # 390)				**$99,340**	

[1] Information from BASA derived computer and printer list

[2] Original cost information unavaliable. Assumed to be average of other known printer costs listed.

ASSET PURCHASE AGREEMENT

By and Between

The Butler Area Sewer Authority,

As Seller

and

Pennsylvania-American Water Company

As Buyer

Dated as of October 11, 2022

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ASSET PURCHASE AGREEMENT

THIS ASSET PURCHASE AGREEMENT (this "Agreement"), dated as of October 11, 2022 (the "Effective Date"), is made and entered into by and among the Butler Area Sewer Authority, a municipal authority, organized under the Pennsylvania Municipality Authorities Act (the "Seller"), and Pennsylvania-American Water Company (the "Buyer"), a corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania.

RECITALS:

WHEREAS, on the Effective Date, the Seller, acting by and through its board of directors, owns that certain sanitary wastewater collection system (the "System") that provides sanitary wastewater service to various customers in Butler, Center, Connoquenessing, Oakland, Penn and Summit Townships, the City of Butler and the Borough of East Butler, all located in the Commonwealth of Pennsylvania (the "Service Area"); and

WHEREAS, Buyer is a regulated public utility that furnishes wastewater service to the public in various counties throughout Pennsylvania; and

WHEREAS, Buyer, in reliance upon the representations, warranties and covenants of the Seller in this Agreement, desires to purchase and acquire from the Seller, and the Seller, in reliance upon the representations, warranties and covenants of Buyer in this Agreement, desires to sell, transfer and convey to Buyer all of the assets of the System (other than the Excluded Assets), and in connection therewith, Buyer has agreed to assume certain ongoing obligations and liabilities of the Seller related to such acquired assets, all on the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual representations, warranties, covenants, and agreements stated in this Agreement, the receipt and sufficiency of which hereby are acknowledged, and intending to be legally bound, the Parties agree as follows:

ARTICLE I.

DEFINITIONS

In addition to the capitalized terms defined elsewhere in this Agreement, the following terms, as used in this Agreement (unless otherwise specified in this Agreement), have the meanings set forth in this Article I:

"**Acquired Assets**" has the meaning specified in Section 2.01.

"**Affiliate**" means, when used to indicate a relationship with a specified Person, a Person that, directly or indirectly, through one or more intermediaries has a 10% or more voting or economic interest in such specified Person or controls, is controlled by or is under common control with (which includes, with respect to a managed fund or trust, the right to direct or cause the direction of the management and policies of such managed fund or trust as manager, advisor, supervisor, sponsor or trustee pursuant to relevant contractual arrangements) such specified

Person, and a Person is deemed to be controlled by another Person if controlled in any manner whatsoever that results in control in fact by that other Person (or that other Person and any Person or Persons with whom that other Person is acting jointly or in concert), whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise (and for purposes of this definition, a managed fund or trust is deemed to be an Affiliate of the Person managing, supervising, sponsoring or advising such fund or trust and a limited partner in a managed fund or trust is deemed to be an Affiliate of such fund or trust and of the Person managing, supervising, sponsoring or advising such fund or trust).

"**Agreement**" has the meaning specified in the Preamble to this Agreement (and includes all Schedules and Exhibits referred to in this Agreement), as amended, modified and supplemented from time to time in accordance with the terms of this Agreement.

"**Assigned Contracts**" has the meaning specified in Section 2.01(c).

"**Assignment and Assumption Agreement**" has the meaning specified in Section 13.02(c).

"**Assumed Liabilities**" has the meaning specified in Section 2.04(a)(iv).

"**Authorizations and Permits**" mean all licenses, permits, franchises, authorizations, certificates, registrations, consents, orders, adjudications, variances, waivers and approvals currently in effect issued or granted by Governmental Authorities, including without limitation, environmental permits, operating permits and approvals that are held by the Seller that primarily relate directly or indirectly to the operation of the System, including those described on Schedule 4.14.

"**Business Day**" means any day other than a Saturday, a Sunday or a day observed as a holiday by either the Commonwealth of Pennsylvania or the United States.

"**Buyer**" has the meaning specified in the Preamble of this Agreement.

"**Buyer Indemnified Persons**" has the meaning specified in Section 8.02.

"**CAPs**" means all EPA and PaDEP consent decrees or corrective action plans currently issued to Seller, including that certain Chapter 94 Corrective Action Plan dated March 11, 2019.

"**CERCLA**" means the Comprehensive Environmental Response Compensation and Liability Act of 1980, 42 U.S.C. §9601 et seq., as amended.

"**Closing**" means the consummation of the sale and purchase of the Acquired Assets and assumption of the Assumed Liabilities, the release/waiver of liabilities and the other transactions contemplated by this Agreement, all in accordance with the terms and conditions of this Agreement and as provided for in Article XIII.

"**Closing Date**" has the meaning specified in Section 13.01.

"**Closing Effective Time**" has the meaning specified in Section 13.01.

"**Code**" means the Internal Revenue Code of 1986, as amended.

"Collective Bargaining Agreement" means that certain Collective Bargaining Agreement between Seller and District Council 84, The American Federation of State, County and Municipal Employees – AFL-CIO Butler Area Sewer Authority Employees, covering the period from January 1, 2020 through December 31, 2023, as may be amended from time to time.

"**Confidential Information**" means any information about Buyer, Seller or the System related to the transactions contemplated by this Agreement, except that such term does not include information which the receiving Party can demonstrate (a) is generally available to or known by the public other than as a result of improper disclosure by the receiving Party, (b) is obtained by the receiving Party from a source other than the disclosing Party, and that source was not bound by a duty of confidentiality to the disclosing Party with respect to such information, or (c) is legally in the public domain.

"**Creating Municipalities**" collectively, the City of Butler and the Township of Butler.

"**Customer Sewer Laterals**" has the meaning specified in Section 4.19.

"Easement Escrow Agreement" has the meaning specified in Section 3.02(b).

"Easement Escrow Fund" has the meaning specified in Section 3.02(b).

"**Easements**" means all easements, rights of way, licenses, use agreements, occupancy agreements, leases and other agreements and appurtenances for and over the real property of third parties that is for or used in connection with the operation of the System or to provide continuous and unimpeded rights of way for the Acquired Assets (including access thereto).

"**EDU**" means equivalent dwelling unit and having an average usage of 4,000 gallons per month.

"**Effective Date**" has the meaning specified in the Preamble.

"**Environment**" means soil, surface waters, ground waters, land, stream sediments, flora, fauna, surface or subsurface strata and ambient air.

"**Environmental Claims**" means all notices of investigations, warnings, notice letters, notices of violations, Liens, orders, claims, demands, suits or administrative or judicial actions for any injunctive relief, fines, penalties, third party claims, or other claims asserting violations of Environmental Requirements or responsibility for Environmental Liabilities.

"**Environmental Conditions**" means the Release of Hazardous Materials or the presence of Hazardous Materials on, in, under or within any property (including the presence in the Environment), other than the presence of Hazardous Materials in locations and at concentrations that are naturally occurring.

"**Environmental Liabilities**" means any legal obligation or liability arising under Environmental Requirements or related to or arising out of any Environmental Condition,

including those consisting of or relating to any (a) duty imposed by, breach of or noncompliance with any Environmental Requirements; (b) environmental, health or safety matters or conditions (including on-site or off-site contamination, occupational safety and health and regulation of Hazardous Materials); (c) Remedial Action undertaken by any Person; (d) bodily injury (including illness, disability and death, and regardless of when any such bodily injury occurred, was incurred or manifested itself), property damage (including trespass, nuisance, wrongful eviction and deprivation of the use of real or personal property), or other losses or damages incurred by any other Person (including any employee or former employee of such Person); (e) any injury to, destruction of, or loss of natural resources, or costs of any natural resource damage assessments; (f) exposure of any Person to any Hazardous Materials; and (g) the presence or Release of any Hazardous Materials.

"**Environmental Requirements**" mean all present Laws (including common law), regulations, legally binding or otherwise enforceable requirements and Authorizations and Permits relating to human health, pollution, or protection of the Environment (including ambient air, surface water, ground water, land surface or surface strata), including (i) those relating to emissions, discharges, Releases, or threatened Releases of Hazardous Materials, and (ii) those relating to the identification, generation, manufacture, processing, distribution, use, treatment, storage, disposal, release, recovery, transport or other handling of Hazardous Materials. Without limiting the foregoing, the term "**Environmental Requirements**" includes (1) CERCLA; the Superfund Amendments and Reauthorization Act, Public Law 99-499, 100 Stat. 1613; the Emergency Planning and Community Right to Know Act, 42 U.S.C. Sections 11001-11050; the Resource Conservation and Recovery Act, 42 U.S.C. Sections 6901-6992k ("RCRA"); the Safe Drinking Water Act, 42 U.S.C. Sections 300f to 300j-26; the Toxic Substances Control Act, 15 U.S.C. Sections 2601-2692; the Hazardous Materials Transportation Act, 49 U.S.C. Sections 5101-5127; the Federal Water Pollution Control Act, 33 U.S.C. Sections 1251-1387; the Oil Pollution Act of 1990, 33 U.S.C. Sections 2701--2761; the Clean Air Act, 42 U.S.C. Sections 7401-7671q; the Atomic Energy Act of 1954, as amended, 42 U.S.C. Sections 2011 et seq.; the Low Level Radioactive Waste Policy Act, as amended, 42 U.S.C. Section 2021b et seq.; the Occupational Safety and Health Act, 29 U.S.C. Sections 651-678, and the regulations promulgated pursuant to the above-listed federal statutes, and (2) counterpart Laws and regulations promulgated or issued by any state or local Governmental Authority, specifically including the Pennsylvania Storage Tank and Spill Prevention Act of 1989 (35 Pa. C.S.A. § 6021.101 *et. seq.*).

"**EPA**" means the United States Environmental Protection Agency, or a successor Governmental Authority with substantially similar power and authority thereto.

"**Equipment and Machinery**" means (i) all the equipment, tangible personal property, machinery, office furniture and equipment, fixtures, tooling, spare maintenance or replacement parts, environmental testing equipment, and vehicles owned or leased by the Seller (including all leases of such property), which are primarily used in the operation of the System, (ii) any rights of the Seller to warranties applicable to the foregoing (to the extent assignable), and licenses received from manufacturers and Seller of any such item, and (iii) any related claims, credits, and rights of recovery with respect thereto. Notwithstanding the foregoing, "Equipment and Machinery" shall not include any Excluded Assets.

"**Escrow Agent**" means an escrow agent that is mutually acceptable and agreed upon by both Buyer and Seller.

"**Escrow Agreements**" has the meaning specified in Section 3.02(b).

"**Excluded Assets**" has the meaning specified in Section 2.02.

"**Excluded Liability**" or "**Excluded Liabilities**" means all liabilities other than Assumed Liabilities.

"**Files and Records**" means all files and records of the Seller primarily relating to the System, whether in hard copy or magnetic or other format including customer and supplier records, customer lists (both current and prospective), records of sales calls, manuals, books, files, records, engineering data, procedures, systems, instructions, drawings, blueprints, plans, designs, specifications, equipment lists, parts lists, equipment maintenance records, equipment warranty information, plant plans, specifications and drawings, sales and advertising material, computer software, and records relating to the System, and whether stored on-site or off-site.

"**Final Order**" means a Governmental Approval by a Governmental Authority as to which (a) no request for stay of the action is pending, no such stay is in effect and if any time period is permitted by statute or regulation for filing any request for such stay, such time period has passed, (b) no petition for rehearing, re-argument, reconsideration, clarification, rescission, amendment, or supersedeas of the action is pending and the time for filing any such petition has passed, (c) such Governmental Authority does not have action under consideration on its own motion and (d) no appeal to a court or administrative tribunal or a request for stay by a court or administrative tribunal of the Government Authority's action is pending or in effect and the deadline for filing any such appeal or request for stay has passed.

"**Governmental Approval**" means any consent, approval, authorization, notice, filing, registration, submission, reporting, order, adjudication or similar item of, to or with any Governmental Authority.

"**Governmental Authority**" or "**Governmental Authorities**" means any court, department, commission, board, bureau, municipality, municipal authority (established pursuant to the Municipality Authorities Act of the Commonwealth of Pennsylvania), agency or instrumentality of the United States, any state, county, city or political subdivision thereof, or any foreign governmental body, including without limitation, the PaPUC, the EPA, PaDEP and the Seller.

"**Hazardous Materials**" means any solid, liquid, gas, odor, heat, sound, vibration, radiation or other substance or emission which is a contaminant, pollutant, dangerous substance, toxic substance, hazardous waste, residual waste, solid waste, hazardous material or hazardous substance which is or becomes regulated by applicable Environmental Requirements or which is classified as hazardous or toxic under applicable Environmental Requirements (including gasoline, diesel fuel or other petroleum hydrocarbons, polychlorinated biphenyls, asbestos and urea formaldehyde foam insulation).

"**Indemnified Party**" means any Buyer Indemnified Persons or Seller Indemnified Persons, as applicable, entitled to indemnification pursuant to Article VIII.

"**Indemnifying Party**" means a Party which is obligated to indemnify the Buyer Indemnified Persons or the Seller Indemnified Persons, as applicable, pursuant to Article VIII.

"Indemnity Escrow Agreement" has the meaning specified in Section 3.02(a).

"Indemnity Escrow Fund" has the meaning specified in Section 3.02(a).

"**Knowledge**" **or** "**knowledge**" when used to qualify or limit a Party's representations or warranties means the knowledge of such Party's Representatives who are engaged in a material way in performing the functions of such Party with respect to which the representation made, after conducting reasonable investigation and inquiry with respect to the subject matter of the representation.

"**Law**" means any applicable law, statute, regulation, ordinance, rule, order, judicial, administrative and regulatory decree, judgment, adjudication, consent decree, settlement agreement or governmental requirement enacted, promulgated, entered into, agreed or imposed by any Governmental Authority, as may be in effect at the relevant time or times in the context in which the term is used.

"**Letter of Credit**" has the meaning specified in Section 3.01.

"**Liability Cap**" has the meaning specified in Section 8.05(c).

"**Lien**" means any lien in a fixed and ascertainable monetary sum, or any pledge, mortgage, deed of trust or security interest securing a fixed and ascertainable monetary sum, or any charge or claim in a fixed and ascertainable monetary sum. In addition, in connection with Real Property, any item otherwise falling within the definition of a "Lien" must be filed of record by the responsible Party in accordance with the terms of this Agreement.

"**Loss**" means any and all losses, liabilities, obligations, damages, penalties, interest, Taxes, claims, actions, demands, causes of action, judgments, reasonable attorneys', consultants' and other professional fees, and all other reasonable costs and expenses sustained or incurred in investigating, preparing or defending or otherwise incident to any such claim, action, demand, cause of action or judgment or the enforcement of a Party's rights under Article VIII; *provided, however,* that "**Losses**" shall not include punitive, incidental, consequential, special or indirect damages, including loss of future revenue or income, loss of business reputation or opportunity relating to the breach or alleged breach of this Agreement, or diminution of value or any damages based on any type of multiple, except in the case of fraud or to the extent actually awarded to a Governmental Authority or other third party in respect of a Third Party Claim.

"**Material Adverse Effect**," means a material adverse effect on the business, financial condition or results of operations of the System, except that no effect arising out of or in connection with or resulting from any of the following is deemed, either alone or in combination, to constitute or contribute to a Material Adverse Effect: (i) general economic conditions or

changes in those conditions; (ii) financial, banking, currency or capital markets fluctuations or conditions (either in the United States or any international market and including changes in interest rates); (iii) conditions affecting the real estate, financial services, construction, water utility or sewer utility industries generally; (iv) any existing event, circumstance, condition or occurrence of which the Buyer has actual knowledge as of the Effective Date; (v) any action, omission, change, effect, circumstance or condition contemplated by this Agreement or attributable to the execution, performance or announcement of this Agreement or the transactions contemplated hereby; and (vi) negligence, intentional misconduct or bad faith of the Buyer or its Representatives.

"**Missing Easements**" means, as of any particular date, each Easement that is for or used in connection with the operation of the System or to provide continuous and unimpeded rights of way for the Acquired Assets (including access thereto) that either (a) has not been obtained by Seller and is for or used in connection with the operation of the System or (b) if such Easement has been obtained by Seller, such Easement is unrecorded or such Easement is not sufficient to operate the System as currently conducted.

"**MS4 System**" means assets and facilities built, owned, operated or maintained and used for purposes of capturing, conveying and discharging stormwater separate from the System, including Stormwater System Assets.

"**Operations Center**" has the meaning specified in Section 7.09.

"**Outside Date**" means 365 days after the date the application to the PaPUC is accepted as complete by the PaPUC and the statutory 6-month consideration period is initiated.

"Outstanding Indebtedness" means the indebtedness set forth on **Exhibit A**.

"**Owned Real Property**" has the meaning specified in Section 4.09.

"**PaDEP**" means the Pennsylvania Department of Environmental Protection, or any successor Governmental Authority with substantially similar powers thereto.

"**PaPUC**" means the Pennsylvania Public Utility Commission, or any successor Governmental Authority with substantially similar powers thereto.

"**Party**" means Buyer or the Seller and the term "Parties" means collectively Buyer and the Seller.

"**PCB Equipment**" means PCB equipment as defined in 40 C.F.R. Part 761.

"**Permitted Liens**" means (a) Liens for Taxes not yet due and payable or being contested in good faith by appropriate procedures; (b) easements, rights of way, zoning ordinances and other similar encumbrances affecting Real Property as disclosed on Schedule 4.09; and (c) any encumbrances identified in the Title Commitment not identified in Buyer's Objection Notice in accordance with the procedures and deadlines prescribed in Section 6.02(a).

"**Person**" means any individual (including, the heirs, beneficiaries, executors, legal representatives or administrators thereof), corporation, partnership, joint venture, trust, limited liability company, limited partnership, joint stock company, unincorporated association or other entity or a Governmental Authority.

"**Personnel**" means the union and non-union employees of the Seller.

"**Purchase Price**" has the meaning specified in Section 3.01.

"**Real Property**" has the meaning specified in Section 4.09.

"**Regulated Asbestos Containing Material**" means regulated asbestos containing material as defined by 40 C.F.R. § 61.141.

"**Release**" means any actual or threatened spilling, leaking, pumping, pouring, injecting, emptying, discharging, emitting, escaping, leaching, dumping, disposal, or release or migration of Hazardous Materials into the Environment, including the abandonment or discarding of barrels, containers and other receptacles containing any Hazardous Materials.

"**Remedial Action**" means any and all actions to (a) investigate, clean up, remediate, remove, treat, contain or in any other way address any Hazardous Materials in the Environment, (b) prevent the Release or threat of Release or minimize the further Release of any Hazardous Materials so it does not migrate or endanger public health or welfare or the indoor or outdoor Environment, and (c) perform pre-remedial studies and investigations and post-remedial monitoring, maintenance and care. The term "**Remedial Action**" includes any action which constitutes (i) a "removal", "remedial action" or "response" as defined by Section 101 of CERCLA, 42 U.S.C. §§ 9601(23), (24), and (25); (ii) a "corrective action" as defined in RCRA, 42 U.S.C. § 6901 et seq.; (iii) a "response" or "interim response" as defined in the Pennsylvania Hazardous Sites Cleanup Act, 35 P.S. §6020.103; or (iv) any activity performed pursuant to Pennsylvania's Land Recycling Program, commonly known as Act 2.

"**Representative**" means, with respect to any Party, any director (including, in the case of Seller, any member of its board of directors), officer, employee, official, lender mortgagee, financier, provider of any financial instrument (or any agent or trustee acting on their behalf), partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, contractor, other Person for whom such Person is at law responsible or other representative of such Person and any professional advisor, consultant or engineer designated by such Person as its "Representative."

"**Schedules**" means the disclosure schedules delivered by Seller and Buyer, respectively, concurrently with the execution and delivery of this Agreement, and as may be supplemented and updated pursuant to Sections 9.03 and 10.04. Any disclosure set forth on any particular Schedule shall be deemed disclosure in reference to all Schedules comprising the Schedules to which such disclosure is reasonably apparent.

"**Seller**" has the meaning specified in the Preamble of this Agreement.

"**Seller Indemnified Persons**" has the meaning specified in Section 8.03.

"**Seller's Benefit Obligations**" means all material obligations, arrangements, or practices, whether or not legally enforceable, to provide benefits, other than salary or wages to present or former directors, employees or agents, (other than obligations, arrangements and practices that are Seller's Plans), that are owed, adopted or followed by the Seller. Seller's Benefit Obligations also include consulting agreements under which the compensation paid does not depend upon the amount of service rendered, sabbatical policies, severance payment policies and fringe benefits within the meaning of Code §132.

"**Seller's NPDES Permits**" means the permits issued by PaDEP to Seller with respect to the System, including any revisions or amendments thereto set forth on Schedule 4.14.

"**Seller's Plans**" means each voluntary employees' beneficiary association under Section 501(c)(9) of the Code whose members include any Personnel and any employee benefit plans or any other retirement, deferred compensation (including any "nonqualified deferred compensation plan" within the meaning of Section 409A of the Code), severance, sick leave or other material plan or arrangement providing benefits to current or former Personnel, in each case, if either currently in effect or terminated within the last six (6) years, to which the Seller is a plan sponsor or to which the Seller otherwise contributes or has contributed within the last six (6) years, or in which the Seller otherwise participates or has participated within the last six (6) years.

"**Service Area**" has the meaning specified in the recitals to this Agreement.

"**Stormwater System Assets**" means all assets used exclusively in the operation and maintenance of the MS4 System, including (i) drains, pipes and collection basins and all other stormwater drainage assets used exclusively for stormwater collection, conveyance and discharge; (ii) impoundment dams, catch basins, inlets, pipes and all other stormwater lateral facilities that connect surface water drains to storm conveyances which discharge to surface waters; (iii) interest in real estate directly associated with (i) and (ii) and (iv) any related permits.

"**Supplies**" means all lubricants, spare parts, fuel, chemicals, raw materials, and other supplies and inventory, and all rights to warranties received from suppliers with respect to the foregoing, and related claims, credits, and rights of recovery with respect thereto.

"**System**" has the meaning specified in the recitals to this Agreement and includes the Acquired Assets and excludes the Excluded Assets.

"**Taxes**" means any federal, state, local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, permit fees, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, parking, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated or other tax, levy, impost, stamp tax, duty, fee, withholding or similar imposition of any kind payable, levied, collected, withheld or assessed at any time, including any interest, penalty or addition thereto, whether disputed or not.

"**Third Party Claim**" has the meaning specified in Section 8.04(a).

"**Threshold Amount**" has the meaning specified in Section 8.05(a).

"**Title Commitment**" has the meaning specified in Section 6.01.

"**Title Company**" has the meaning specified in Section 6.01.

"**Title Policy**" has the meaning specified in Section 2.03.

"Transferred Personnel" has the meaning specified in Section 7.03(a).

"**UCC Search**" has the meaning specified in Section 6.04.

"**Unscheduled Real Property**" has the meaning specified in Section 6.06.

"**Utility Valuation Expert**" means an expert that has been approved by the PaPUC and is on the Effective Date (and at the time of initiating the proceedings set forth in Section 7.06), on the list of approved appraisers maintained by the PaPUC.

ARTICLE II.

TERMS OF PURCHASE AND ASSUMPTION OF LIABILITIES

Section 2.01. **Purchase and Sale of Acquired Assets**

Subject to the terms and conditions set forth in this Agreement, at Closing, Buyer shall purchase from the Seller and the Seller shall sell, transfer, assign and deliver to Buyer, free and clear of all Liens except for Permitted Liens, all of Seller's right, title and interest in and to all assets, facilities, business, goodwill, properties and rights of the Seller of every kind and description, whether tangible or intangible, real, personal or mixed, wherever situated, in each case used in, held for use in, or acquired or developed for use in, the System, or otherwise related to, or arising out of the operation or conduct of the System (whether or not any such assets have any value for accounting purposes or are carried or reflected on the books or financial records of the Seller), other than the Excluded Assets (the foregoing collectively referred to as the "Acquired Assets"), including:

(a) all real property and appurtenant interests necessary for the operation of the System, including without limitation (i) good and marketable fees simple title to the Owned Real Property described and identified on Schedule 4.09, and (ii) all Easements, including without limitation those identified on Schedule 4.09;

(b) all sanitary wastewater related treatment, disposal, sludge receiving assets and conveyance facilities, including but not limited to the Seller's buildings, pipes, pipelines, treatment facilities, odor control stations, pumping stations, lift stations, holding tanks, storage tanks, plants, structures, improvements, fixtures, excess treatment capacity and all hereditaments, tenements and appurtenances belonging, appertaining or relating to the Acquired Assets;

(c) all contracts, licenses and leases identified on Schedule 4.15 to which the Seller is a party (the "Assigned Contracts");

(d) all Supplies;

(e) all personal property and fixed assets, including all Equipment and Machinery, auxiliary equipment and plant equipment;

(f) all prepaid expenses and security deposits;

(g) all Files and Records;

(h) all Authorizations and Permits of or held by the Seller (to the extent transferrable to Buyer under Law), including all Authorizations and Permits which are environmental permits, the Seller's NPDES Permits, other operating permits and those items listed or described on Schedule 4.14; and

(i) all goodwill of the System.

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY OF ANY KIND WHATSOEVER, INCLUDING ANY REPRESENTATION AS TO THE PHYSICAL CONDITION OR VALUE OF ANY OF THE ACQUIRED ASSETS OR THE SYSTEM, OR THE FUTURE PROFITABILITY OR FUTURE EARNINGS PERFORMANCE OF THE ACQUIRED ASSETS OR THE SYSTEM OR ANY FUTURE RATEMAKING THAT MAY BE ALLOWED BY THE PAPUC FOR ANY OF THE ACQUIRED ASSETS. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

Section 2.02. **Excluded Assets**

Notwithstanding anything in this Agreement to the contrary, the Acquired Assets shall not include the following (the "Excluded Assets"):

(a) all contracts, licenses and leases that are not Assigned Contracts;

(b) the seals, organizational documents, minute books, Tax returns, books of account or other records having to do with the organization of Seller and all employee-related or employee benefit-related files or records;

(c) cash (including any EDU fee cash and any unused bond money received on or prior to the Closing Date) and cash equivalents, including accounts receivable and existing financial security guaranteeing installation of public improvements (including sewer facilities);

(d) all insurance policies of Seller and all rights to applicable claims and proceeds thereunder;

(e) all rights to any action, suit or claim of any nature available to or being pursued by Seller, whether arising by way of counterclaim or otherwise;

(f) all assets, properties and rights used by Seller other than those which primarily relate to the operations of the System;

(g) the assets, properties and rights specifically set forth on Schedule 2.02(g); and

(h) the rights which accrue or will accrue to Seller under this Agreement and any related agreement, exhibit or schedule.

Section 2.03. **Sale Free of Liens**

After Buyer fulfills its obligations pursuant to Section 3.01, the Acquired Assets to be sold, conveyed, transferred, assigned and delivered by the Seller to Buyer, as provided in this Agreement, shall be on the Closing Date, free and clear of all Liens other than Permitted Liens. Seller shall convey the Acquired Assets by appropriate special warranty or other deed (subject to Section 6.02(c)), bills of sale, endorsements, assignments and other instruments of transfer or conveyance described in this Agreement, and if not expressly described in this Agreement, then by transfer documents satisfactory in form and substance reasonably acceptable to Buyer and Seller and their counsel in their reasonable, good faith discretion. With respect to the Owned Real Property, at Closing title to the same shall be insured by the Title Company, at the Title Company's filed rates, as a good and marketable title, free and clear of all Liens and exceptions to coverage, except for the Permitted Liens, pursuant to an owner's policy of title insurance on the American Land Title Association's ("ALTA") Owner's Form 2006, subject to the terms of Section 6.02 below (the "Title Policy").

Section 2.04. **Assumption of Liabilities**

(a) On the terms and conditions set forth in this Agreement and excluding the Excluded Liabilities, Buyer shall assume and pay, perform and discharge when due any and all liabilities and obligations of the Seller (1) arising under the Seller's NPDES Permits (arising from, related to, or based on events or circumstances occurring on or after the Closing Date), (2) arising under the Collective Bargaining Agreement, subject to Section 7.03(m), (3) arising under the CAPs and (4) arising out of or relating to the System or the Acquired Assets on or after the Closing Date, specifically described as the following:

(i) all liabilities and obligations under the Assigned Contracts and Authorizations and Permits;

(ii) any litigation initiated against Seller related to the System or the Acquired Assets resulting from events that occur on or after the Closing;

(iii) all liabilities and obligations for Taxes relating to the System, its operation, the Acquired Assets and the Assumed Liabilities attributable to the period beginning on the Closing Date; and

(iv) all other liabilities and obligations arising out of or relating to Buyer's ownership or operation of the System and the Acquired Assets on or after the Closing (all the aforementioned liabilities in this Section 2.04(a) are referred to as the "Assumed Liabilities").

(b) At the Closing, Buyer shall indemnify Seller against any obligations under the Assumed Liabilities in accordance with Section 8.03.

(c) Buyer shall not assume or be liable to pay any liabilities or obligations relating to the Excluded Liabilities or any other liabilities or obligations that are not Assumed Liabilities.

Section 2.05. **Further Assurances**

At any time and from time to time after the Closing Date, the Seller shall, upon the request of Buyer, and Buyer shall, upon the request of the Seller, at the cost of requesting Party, promptly execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate, (a) the sale, conveyance, transfer, assignment and delivery hereunder of the Acquired Assets to Buyer, (b) the assumption by Buyer of any of the Assumed Liabilities, (c) performance by the Parties of any of their other respective obligations under this Agreement, (d) the vesting in Buyer of all right, title and interest in the Acquired Assets and the System as provided in this Agreement, and (e) any other matters reasonably requested by a Party to carry out the provisions, purposes and intent of this Agreement.

Section 2.06. **Certain Transfers; Assignment of Contracts**

(a) Notwithstanding anything to the contrary in this Agreement, and subject to the provisions of this Section 2.06(a) and Section 2.06(b), to the extent that the sale, transfer, assignment, conveyance and delivery, or attempted sale, transfer, assignment, conveyance and delivery, to Buyer of any Assigned Contract or other Acquired Asset would result in a violation of Law, or would require the consent, authorization, approval or waiver of any Person (other than the Parties), including any Governmental Authority, and such consent, authorization, approval or waiver shall not have been obtained prior to the Closing, this Agreement shall not constitute a sale, transfer, assignment, conveyance and delivery, or an attempted sale, transfer, assignment, conveyance and delivery, thereof (any such Acquired Asset, a "Nonassignable Asset"). Following the Closing, the Seller and Buyer shall use commercially reasonable efforts (at the cost and expense of the Party that is responsible for compliance with such Law or obtaining such consent, authorization, approval or waiver), and shall cooperate with each other, to obtain any such required consent, authorization, approval or waiver, or any release, substitution, novation or amendment required to sell, transfer, assign, convey and deliver any such Nonassignable Asset to Buyer; *provided, however,* that in no event shall Buyer be required to pay any consideration therefor. Once any necessary consent, authorization, approval, waiver, release, substitution or amendment is obtained, the Seller shall sell, transfer, assign, convey and deliver to Buyer the relevant Acquired Asset to which such consent, authorization, approval, waiver, release, substitution or amendment relates for no additional consideration. Any applicable sales, transfer

and other similar Taxes in connection with such sale, transfer, assignment, conveyance and delivery shall be paid by the Buyer.

(b) Until such time as a Nonassignable Asset is transferred to Buyer pursuant to this Article II, Buyer and the Seller shall cooperate in any commercially reasonable and economically feasible arrangements (such as leasing/subleasing, licensing/sublicensing or contracting/subcontracting) to provide to the Parties the economic and, to the extent permitted under Law, operational equivalent of the transfer of such Nonassignable Asset to Buyer at the Closing and the performance by Buyer of its obligations with respect thereto, and so long as the Seller transfers and turns over all economic and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under Law and the terms of any applicable contract that constitutes a Nonassignable Asset, as agent or subcontractor for the Seller, pay, perform and discharge the liabilities and obligations of the Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would constitute Assumed Liabilities if the applicable consent or approval had been obtained on or prior to the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, the Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by the Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and prior to the Closing, Buyer identifies any contract to which the Seller is a party which is not identified on Schedule 4.15 as an Assigned Contract as of the Effective Date, and Buyer reasonably determines such contract is necessary to the operation of the System, Buyer shall give notice of such determination to the Seller and the Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.15 identifying the contract(s).

(d) If, during the twelve (12) month period following the Closing Date, Buyer identifies any contract to which the Seller was a party as of the Closing and which (i) was not set forth on or properly identified on Schedule 4.15 (as may be updated pursuant to Section 9.03) and (ii) Buyer reasonably believes is necessary to the operation of the System, the Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract shall be deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

ESCROW; PURCHASE PRICE AND ADDITIONAL PURCHASE PRICE

Section 3.01. **Letter of Credit.**

On the Effective Date, Buyer shall provide a Letter of Credit in the amount of Three Million Dollars ($3,000,000) issued by PNC Bank in favor of Seller (the "Letter of Credit"), substantially in the form attached hereto as **Exhibit C**.

Section 3.02 **Escrow Amounts.**

At Closing, two escrows will be established:

(a) First, Nine Million Two Hundred Thousand Dollars ($9,200,000) of the Purchase Price shall be deposited in escrow (the "Indemnity Escrow Fund") with the Escrow Agent pursuant to an escrow agreement in the form of **Exhibit B-1**, by and among the Seller, the Buyer, and the Escrow Agent (the "Indemnity Escrow Agreement") to provide for Seller's post-Closing obligations pursuant to Article VIII. The Indemnity Escrow Fund shall be released in accordance with the Indemnity Escrow Agreement. After the Closing Date and notwithstanding any other provision of this Agreement, the Indemnity Escrow Fund is Buyer's sole recourse with respect to providing for Seller's post-Closing obligations pursuant to Article VIII.

(b) Second, an amount to be determined according to Section 6.05(d) to be credited at Closing against the Purchase Price shall be deposited in escrow (the "Easement Escrow Fund") with the Escrow Agent pursuant to an escrow agreement in the form of **Exhibit B-2**, by and among the Seller, the Buyer, and the Escrow Agent (the "Easement Escrow Agreement") to provide for any amounts determined in accordance with Section 6.05(d). The Easement Escrow Fund shall be released in accordance with the Easement Escrow Agreement. After the Closing Date and notwithstanding any other provision of this Agreement, the Easement Escrow Fund is Buyer's sole recourse with respect to Seller's obligations pursuant to Section 6.05(d). The Easement Escrow Agreement together with the Indemnity Escrow Agreement shall hereinafter sometimes be collectively referred to as the "Escrow Agreements".

Section 3.03. **Purchase Price and Adjustments to Purchase Price**

The purchase price for the Acquired Assets shall be Two Hundred Thirty-One Million Five Hundred Thousand Dollars ($231,500,000) (the "Purchase Price"). The Purchase Price shall be adjusted as follows:

(a) Final Billing: The Buyer is entitled to all customer billings with respect to sanitary wastewater customers services for the period on or after the Closing Effective Time, and the Seller is entitled to all such billings prior to the Closing Effective Time. The Parties shall cooperate to calculate an agreed upon proration of billing amounts and to credit the Purchase Price for the appropriate Party on the Closing Date. To the extent that either Party collects billings that are attributable to service provided by the other Party, the Party holding the other Party's billing collections shall pay such amount to the other Party.

Section 3.04. **Payment of Purchase Price**

The Purchase Price shall be paid by wire transfer of immediately available funds as follows at Closing:

(i) the Purchase Price as adjusted by Section 3.03;

(ii) minus the total amount of Outstanding Indebtedness, which the closing agent shall pay in full, fully refund or defease at Closing;

(iii) minus the Indemnity Escrow;

(iv) minus the Easement Escrow;

Seller shall designate and provide to Buyer the account or accounts to which the Final Purchase Price will be paid along with wiring instructions at least three (3) Business Days before the Closing Date; and

Section 3.05. **Fair Consideration**

The Parties acknowledge and agree that the consideration provided for in this Article III represents fair consideration and reasonable equivalent value for the sale and transfer of the Acquired Assets and the transactions, covenants and agreements set forth in this Agreement, which consideration was agreed upon as the result of arm's-length good faith negotiations between the Parties and their respective Representatives.

Section 3.06. **Transfer Taxes**

Any and all deed stamps or transfer Taxes that are due the Commonwealth of Pennsylvania or any political subdivision in connection with the sale, transfer, assignment, conveyance and delivery of the Acquired Assets to Buyer (collectively, "Transfer Taxes"), shall be paid by Buyer.

ARTICLE IV.

REPRESENTATIONS AND WARRANTIES OF THE SELLER

The Seller makes only the specified representations and warranties which are set forth in this Article IV.

As a material inducement to Buyer to enter into this Agreement and to consummate the transactions contemplated by this Agreement, the Seller represents and warrants, as of the Effective Date (except to the extent any of the following representations and warranties specifically apply to or relate to another date, in which event such representations and warranties shall be true and correct as of such other date), as follows:

Section 4.01. **Organization**

The Seller is duly organized and existing under the Municipality Authorities Act and incorporated by appropriate legal action by the Creating Municipalities.

Section 4.02. **Power and Authority**

The Seller has (i) duly adopted resolutions authorizing the transactions contemplated in this Agreement, which remains in full force and effect, (ii) duly authorized and approved the execution and delivery of this Agreement and (iii) duly authorized and approved the performance by the Seller of its obligations contained in this Agreement. The Seller has all requisite power and authority to own, lease and operate the Acquired Assets and the System and has the power and authority to enter into this Agreement and to do all acts and things and execute and deliver all other documents as are required under this Agreement to be done, observed or performed by it in accordance with the terms hereof.

Section 4.03. **Enforceability**

This Agreement has been duly authorized, executed and delivered by the Seller and is a valid and legally binding obligation of the Seller, enforceable against the Seller in accordance with the terms hereof, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and to general principles of equity.

Section 4.04. **No Conflict or Violation**

The execution and delivery of this Agreement by the Seller, the consummation of the transactions contemplated by this Agreement and the performance by the Seller of the terms, conditions and provisions hereof has not and will not contravene or violate or result in a breach of (with or without the giving of notice or lapse of time, or both) or acceleration of any material obligations of the Seller under (i) any Law or (ii) any agreement, instrument or document to which the Seller is a party or by which it is bound.

Section 4.05. **Consents and Approvals**

Schedule 4.05 sets forth a list of each consent, waiver, authorization or approval of any Governmental Authority, or of any other Person, and each declaration to or filing or registration with any Governmental Authority required in connection with the execution and delivery of this Agreement by the Seller or the performance by the Seller of its obligations under this Agreement.

Section 4.06. **Undisclosed Liabilities**

Except as set forth on Schedule 4.06, there are no liabilities or obligations of Seller, either accrued, absolute, contingent or otherwise, relating to the Acquired Assets, other than liabilities incurred in the ordinary course that could not reasonably be expected to have a Material Adverse Effect. All of the Outstanding Indebtedness can be repaid or defeased by Seller and any security interests granted by Seller to secure its obligations pursuant thereto can be extinguished or terminated at or prior to the Closing pursuant to the contractual terms applicable to such Outstanding Indebtedness.

Section 4.07. **Absence of Certain Changes or Events**

Except as set forth on Schedule 4.07, since December 31, 2019, there has not been any transaction or occurrence that has resulted or is reasonably likely to result in a Material Adverse

Effect and the Seller has operated and maintained the System since December 31, 2019 in the ordinary course.

Section 4.08. **Unpaid Taxes and Tax Claims**

Except as set forth on Schedule 4.08 or as would not have a Material Adverse Effect, (i) Seller has timely paid all Taxes that may have been or may be due and payable by Seller on or before the Closing Date, arising from the ownership or operation of the Acquired Assets or the System on or before the Closing Date (ii) no taxing authority has asserted any claim against the Seller for the assessment of any additional tax liability or initiated any action or proceeding which could result in such an assertion; and (iii) the Seller has made all withholding of Taxes required to be made under all Laws and regulations, including without limitation, withholding with respect to compensation paid to employees, and the amounts withheld have been properly paid over to the appropriate taxing authorities.

Section 4.09. **Owned Real Property and Easements**

Schedule 4.09 sets forth all of Seller's rights in and to real property, including fee interests ("Owned Real Property") and Easements (Owned Real Property and Easements are collectively referred to as "Real Property") Seller owns and/or uses in the operation of the System and identifies the nature of interest held in each item set forth on Schedule 4.09. Except as set forth on Schedule 4.09, the Seller does not lease (as lessee) any real property that is used in the operation of the System. There are no pending condemnation proceedings relating to any of the Owned Real Property or Easements nor has Seller actually received any written threats of any condemnation proceedings and, to the Knowledge of Seller, no such proceedings are threatened. The Seller has not received any written notices of any violations of any Law from any Governmental Authority with respect to the Owned Real Property or the Easements which has not been cured in all material respects and, to Seller's Knowledge, no such violations of Law exist. With respect to the Real Property (i) there are no leases, options, rights of reversions or other rights of use or rights to acquire the Real Property held by third parties, (ii) Seller is in sole possession of the Real Property, and (iii) to Seller's Knowledge there are no encroachments either way across the boundary of the Real Property, nor any dispute with adjacent property owners over the location of boundaries or potential claims adverse to title.

Section 4.10. **Equipment and Machinery**

All Equipment and Machinery included in the Acquired Assets is set forth on Schedule 4.10. Except as set forth on Schedule 4.10, the Seller has good title, free and clear of all Liens (other than the Permitted Liens and Liens that will be released on or prior to Closing) to the Equipment and Machinery owned by Seller.

Section 4.11. **Employee Benefit Plans**

(a) Schedule 4.11(a) sets forth a true and complete list of all Seller's Plans and Seller's Benefit Obligations with respect to Personnel, including amounts owed to current or past employees for severance, unpaid and unused vacation pay or sick leave, or similar obligations. All such Seller's Plans and Seller's Benefit Obligations are in full force and effect and are in

material compliance both as to form and operation, with applicable provisions of the Code, and any other Laws, and with the Collective Bargaining Agreement. To Seller's Knowledge, no event has occurred which has resulted or is likely to result in the imposition of any liability on the Seller under the Code or other Law with respect to any Seller's Plans or Seller's Benefit Obligations;

(b) Except as set forth on Schedule 4.11(b), with respect to the System, the Seller does not sponsor, maintain, contribute to, nor is it required to contribute to, any "multiemployer plan" within the meaning of Section 414(f) of the Code, and has no liability of any nature, whether known or unknown, fixed or contingent, with respect to any such multiemployer plan;

(c) Except as set forth on Schedule 4.11(c), Seller does not sponsor, maintain, contribute to, nor is it required to contribute to, any medical, health, life or other welfare plan or benefits for present or future terminated or current or future retired Personnel or their spouses or dependents, other than as required by COBRA, or any comparable state law, and has no liability of any nature, whether known or unknown, fixed or contingent, with respect to any such post - termination welfare benefits;

(d) The Seller is and has been in material compliance with the requirements of COBRA and is not subject to any excise tax under Code Section 4980B for the current or any prior taxable year; and

(e) Except as set forth on Schedule 4.11(e), Seller has not entered into any severance or similar arrangement with respect to any present or former Personnel that will result in any obligation (absolute or contingent) of Buyer to make any payment to any present or former Personnel following termination of employment, including the termination of employment effected by the transactions contemplated by this Agreement. The consummation of the transactions contemplated by this Agreement will not trigger any severance or other obligation of Seller for which Buyer shall have any liability.

Section 4.12. **Seller's Personnel**

(a) Except as set forth on Schedule 4.12(a), Seller shall timely pay, or cause to be timely paid, to the Personnel as required under its policies and/or by Law for accrued but unused and unpaid vacation, sick leave and other benefits accrued as of the Closing Date.

(b) Seller has not, in the past five (5) years, effectuated:

(i) a "plant closing" (as defined in the Worker Adjustment and Retraining Notification Act ("WARN Act")) affecting any site of employment or one or more facilities or operating units within any site of employment or facility of the System; or

(ii) a "mass layoff" (as defined in the WARN Act) affecting any site of employment or facility of the System; nor has the System been affected by any transaction or engaged in layoffs or employment terminations sufficient in number to trigger application of any similar state or local Law.

(c) None of the Personnel has suffered an "employment loss" (as defined in the WARN Act) during the previous six months.

Section 4.13. **Environmental Compliance**

Except as set forth on Schedule 4.13 or that otherwise could not be expected to have a Material Adverse Effect:

(a) To the Seller's knowledge, the System as currently operated by the Seller and all operations and activities conducted by the Seller with respect to the System are in compliance in all material respects with all applicable Environmental Requirements.

(b) To the Seller's knowledge, the Seller has generated, used, handled, treated, stored and disposed of all Hazardous Materials in (i) compliance in all material respects with all applicable Environmental Requirements and (ii) a manner that has not given, and could not reasonably be anticipated to give, rise to Environmental Liabilities.

(c) The Seller is not aware of any Material Adverse Effects arising from Seller's generation, use, handling, treatment, storage or disposal of all Hazardous Materials.

(d) Except as has been disclosed to Buyer on Schedule 4.13, the Seller has not received notice of any Environmental Claims related to the System that have not been fully and finally resolved, and to the knowledge of Seller no claims of Environmental Liabilities have been threatened allegedly arising from or relating to the System that have not been fully and finally resolved.

(e) Except as has been disclosed to Buyer on Schedule 4.13, To the Seller's knowledge, Hazardous Materials are not present at or on the System or Acquired Assets, there has been no Release of Hazardous Materials at, on or from any part of the System or the Acquired Assets, in each case in a manner that violates any Environmental Requirements or has resulted in, or could reasonably be anticipated to give rise to Environmental Liabilities.

(f) No Lien or activity use limitation or institutional control has been recorded affecting any Acquired Assets by any Governmental Authority due to either the presence of any Hazardous Material on or off the Acquired Assets or a violation of any Environmental Requirement except as has been disclosed by Seller to Buyer.

(g) Except as has been disclosed to Buyer on Schedule 4.13, Seller is not aware of any underground storage tanks on or at any of the Acquired Assets. To the Seller's knowledge, any underground storage tanks previously located at the Acquired Assets have been removed or otherwise closed, plugged and abandoned in compliance with applicable Environmental Requirements in effect at the time of such closure.

(h) To the Seller's knowledge, no PCB Equipment is on or at any of the Acquired Assets. Any PCB Equipment that previously existed at the Acquired Assets has been flushed of polychlorinated byphenyls or has been removed and properly disposed of, in compliance with applicable Environmental Requirements, and any remaining PCB Equipment is labeled

to the extent required under applicable Environmental Requirements and being managed in compliance with applicable Environmental Requirements.

(i) Except as has been disclosed to Buyer on Schedule 4.13, Seller is not aware of any Regulated Asbestos Containing Material in or on the Acquired Assets.

(j) The Seller has delivered to Buyer (1) all material environmental site assessments pertaining to the System of which Seller is aware, (2) all material compliance audits or compliance assurance reviews prepared within the previous five (5) years relating to compliance with Environmental Requirements by the System, and (3) all documents pertaining to, any known and unresolved Environmental Liabilities incurred in relation to the System, to the extent possessed by or under the reasonable control of the Seller.

Section 4.14. **Authorizations and Permits**

Schedule 4.14 sets forth the Authorizations and Permits of Seller that are currently in full force and effect. The Seller has made true and complete copies of all Authorizations and Permits available to Buyer. Except as set forth on Schedule 4.14, the Seller is in compliance in all material respects with all terms, conditions and requirements of all Authorizations and Permits, except in each case where such violation or failure, individually or in the aggregate, would not have a Material Adverse Effect, and no proceeding is pending or, to the Knowledge of the Seller threatened relating to the revocation or limitation of any of the Authorizations or Permits, other than those revocations or limitations that do not individually or in the aggregate have a Material Adverse Effect.

Section 4.15. **System Contracts**

(a) Schedule 4.15 sets forth a complete and accurate list of all the Assigned Contracts.

(b) The Seller has made available to Buyer true and complete copies of all the foregoing Assigned Contracts.

(c) All of the Assigned Contracts set forth on Schedule 4.15 are in full force and effect. The Seller has not, nor to the Knowledge of the Seller has any other party thereto, breached any material provision of or defaulted under the material terms of, nor does any condition exist which, with notice or lapse of time, or both, would cause the Seller, or to the knowledge of Seller, any other party, to be in default under any Assigned Contract.

Section 4.16. **Compliance with Law; Litigation**

(a) The Seller has operated and is operating the System in compliance, in all material respects, with all Laws, Authorizations and Permits and is not in breach of any Law, Authorization or Permit that would have a Material Adverse Effect. There are no Authorizations or Permits from any Governmental Authority necessary for the operation of the System as currently being operated except for those Authorizations and Permits set forth on Schedule 4.14.

(b) Except as disclosed to the Buyer in the Disclosure Schedules (as those are updated pursuant to Section 9.03 below), to the knowledge of Seller, there are no facts, circumstances, conditions or occurrences regarding the System that could reasonably be expected to give rise to any environmental claims or governmental enforcement actions that could reasonably be expected to have a Material Adverse Effect, and there are no past, pending or, to the knowledge of Seller, threatened environmental claims or governmental enforcement actions against the Seller that individually or in the aggregate could reasonably be expected to have a Material Adverse Effect.

(c) Except as disclosed to the Buyer in Schedule 4.16(c), there is no action, suit or proceeding, at law or in equity, or before or by any Governmental Authority, pending nor, to the knowledge of the Seller, threatened against the Seller, which will have a Material Adverse Effect. As of the Effective Date, there is no action, suit or proceeding, at Law or in equity, or before or by any Governmental Authority, pending nor, to the knowledge of the Seller, threatened against the Seller which could materially affect the validity or enforceability of this Agreement.

Section 4.17. **Title to the Acquired Assets; Sufficiency**

(a) Except as set forth on Schedule 4.17(a), the Seller has good and marketable title to a valid leasehold interest in or valid licenses to use, all of the Acquired Assets, free and clear of all Liens, other than Permitted Liens and Liens which will be fully and unconditionally released at or prior to Closing. The use of the Acquired Assets is not subject to any Liens, other than Permitted Liens, and such use does not encroach on the property or the rights of any Person.

(b) Except as set forth on Schedule 4.17(b), the Acquired Assets are sufficient for, and constitute all the assets, properties, business, goodwill and rights of every kind and description, and services required for the continued conduct and operation of the System by Buyer in substantially the same manner as currently conducted and operated by Seller.

Section 4.18. **Broker's and Finder's Fees**

No broker, finder, or Person is entitled to any commission or finder's fee by reason of any agreement or action of Seller in connection with this Agreement or the transactions contemplated by this Agreement.

Section 4.19. **Customer Sewer Laterals**

Seller does not own and will not transfer to Buyer any of the connecting facilities originating from the Seller's main to the customer's structure/property when the facilities are not located within a public right-of-way or within an easement and where the collection facilities are located within private property to and throughout the customer's property (the "Customer Sewer Laterals"). Such Customer Sewer Laterals are owned by each customer and are considered such customer's property for which such customer is solely responsible for all maintenance, repair and replacement.

Section 4.20. **MS4 Systems**

Seller does not own, and will not transfer to Buyer, any Stormwater System Assets.

Section 4.21. **Free Service; Prepayments**. Except as set forth on Schedule 4.21, Seller has not entered into any agreements or other understandings for the provision of free or otherwise subsidized or discounted services to any parties nor has Seller received payments made in advance by any third party (excluding Seller's residential water customers) for future service (including service after the Closing) with regard to the System or the Acquired Assets.

ARTICLE V.

REPRESENTATIONS AND WARRANTIES OF BUYER

Buyer makes only the representations and warranties which are set forth in this Article V.

As a material inducement to the Seller to enter into this Agreement and to consummate the transactions contemplated hereby, Buyer hereby represents and warrants to the Seller, as of the Effective Date and as of the Closing Date (except to the extent any of the following representations and warranties specifically apply or relate to another date, in which event such representations and warranties shall be true and correct as of such other date), as follows:

Section 5.01. **Organization**

The Buyer is duly organized, validly existing and in good standing under the laws of the state of its organization.

Section 5.02. **Authorization and Validity of Agreement**

The Buyer has the power and authority to enter into this Agreement and to do all acts and things and execute and deliver all other documents as are required hereunder to be done, observed or performed by it in accordance with the terms hereof. This Agreement has been duly authorized, executed and delivered by the Buyer and constitutes a valid and legally binding obligation of the Buyer, enforceable against it in accordance with the terms hereof, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and to general principles of equity.

Section 5.03. **No Conflict or Violation**

The execution and delivery of this Agreement by the Buyer, the consummation of the transactions contemplated hereby and the performance by the Buyer of the terms, conditions and provisions hereof has not and will not contravene or violate or result in a material breach of (with or without the giving of notice or lapse of time, or both) or acceleration of any material obligations of the Buyer under (i) any Law, (ii) any material agreement, instrument or document to which the Buyer is a party or by which it is bound or (iii) the articles, bylaws or governing documents of the Buyer.

Section 5.04. **Consents and Approvals**

Schedule 5.04 sets forth a list of each consent, waiver, authorization or approval of any Governmental Authority, or of any other Person, and each declaration to or filing or registration with any Governmental Authority required in connection with the execution and delivery of this Agreement by Buyer or the performance by Buyer of its obligations under this Agreement.

Section 5.05. **Broker's and Finder's Fees**

No broker, finder or third party is entitled to any commission or finder's fee in connection with this Agreement or the transactions contemplated by this Agreement.

Section 5.06. **Sufficient Funds and Financial Wherewithal**

Buyer shall have sufficient funds available at Closing to consummate the transactions contemplated by this Agreement, including payment of the Purchase Price in accordance with Article III and payment of expenses related to the transactions contemplated by this Agreement. Upon Closing, and after giving effect to the consummation of the transactions contemplated hereby and the incurrence of any indebtedness in connection therewith, Buyer shall have the financial ability and will have sufficient working capital for its needs and anticipated needs to operate the System as a certificated public utility system regulated by the PaPUC authorized, among other things, to provide wastewater utility services to retail residential, commercial, public and industrial customers in the System and to assure that the customers of the System will receive safe, adequate and reliable wastewater service equal to or better than such customers would have received without the transactions contemplated by this Agreement and at all times consistent with the provisions of the Pennsylvania Public Utility Code, 66 Pa. C. S. § 101 *et seq,* and Law.

Section 5.07. **Independent Decision**

Except as expressly set forth in this Agreement, or any of the related agreements, Buyer acknowledges that (a) neither Seller nor any other Person has made any representation or warranty, express or implied, as to the accuracy or completeness of the System or information provided to Buyer, and (b) neither Seller nor any other Person shall have or be subject to any liability to Buyer or any other Person resulting from the distribution to Buyer, or Buyer's use of, any information regarding the System or Acquired Assets that has been furnished or made available to Buyer and its Representatives. Buyer acknowledges that other than as expressly set forth in this Agreement or any related agreement, Seller expressly disclaims any warranty of physical condition, value, income potential, operating expenses, costs of operation, or uses or fitness for a particular purpose of any Acquired Assets or the System.

Section 5.08. **Scheduled Matters**

Buyer acknowledges that: (a) the inclusion of any matter on any Schedule shall not necessarily be deemed an admission by Seller that such listed matter is material or that such listed matter has or could have a Material Adverse Effect or constitutes a material liability with respect to the Acquired Assets; (b) matters reflected in the Schedules are not necessarily limited to matters required by this Agreement to be reflected in such Schedules; and (c) such additional matters are

set forth for informational purposes only and do not necessarily include other matters of a similar nature.

Section 5.09. **Independent Investigation**

Buyer acknowledges that it has conducted an independent investigation of the financial condition, assets, liabilities, properties and projected capital needs and operations of the System in making its determination as to the propriety of the transaction contemplated by this Agreement and, in entering into this Agreement and related agreements**,** has relied solely on the results of its investigation and on the representations and warranties of the Seller expressly contained in Article IV of this Agreement.

Section 5.10. **Litigation**

The Buyer is not in breach of any Law that could have a Material Adverse Effect. Neither the Buyer nor any Affiliate of the Buyer is listed on any of the following lists maintained by the Office of Foreign Assets Control of the United States Department of the Treasury, the Bureau of Industry and Security of the United States Department of Commerce or their successors, or on any other list of Persons with which the Seller may not do business under Law: the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List and the Debarred List. Except as set forth on Schedule 5.10, there is no action, suit or proceeding, at law or in equity, or before or by any Governmental Authority, pending nor, to the Knowledge of the Buyer, threatened against the Buyer, which will have a material adverse effect on (i) the transactions contemplated by this Agreement or (ii) the validity or enforceability of this Agreement.

ARTICLE VI.

TITLE TO REAL ESTATE; EASEMENTS

Section 6.01. **Evidence of Title**

Promptly after the Effective Date, and to the extent the same are in the Seller's possession or control, the Seller shall provide to the Buyer all deeds or other instruments evidencing the Seller's title to Owned Real Property as well as any plans depicting Owned Real Property. Subject to Section 6.06, with respect to each parcel of Owned Real Property, Buyer shall obtain, at its sole cost and expense, a commitment for an owner's policy of title insurance on the American Land Title Association's ("ALTA") Owner's Form 2006 (each, a "Title Commitment"), issued by a title insurance company selected by Buyer and licensed to insure title to real property by the Commonwealth of Pennsylvania (the "Title Company"), having an effective date after the Effective Date. Promptly following the Effective Date, Buyer shall order the Title Commitment from the Title Company and shall provide Seller evidence of the same. Notwithstanding anything to the contrary in Section 6.02(a) below, Buyer shall not be entitled to send an Objection Notice with respect to any parcel of Owned Real Property and the Title Commitment for the same if, within thirty (30) Business Days after the Effective Date (or, for Unscheduled Real Property, within thirty (30) Business Days after the discovery of the existence of the same), Buyer has not ordered the Title Commitment from the Title Company for such parcel of Owned

Real Property. In order to take advantage of the protections of this Section 6.03, Buyer must provide Seller with evidence that Buyer timely ordered the Title Commitment.

Section 6.02. **Objections to Title**

(a) Notice of Objections. Within thirty (30) days of Buyer's receipt from the Title Company of a Title Commitment for any of the parcels of Owned Real Property, Buyer shall deliver to Seller a true, correct and complete copy of the Title Commitment and true, correct, complete and legible copies of any and all exception documents listed in the same, along with Buyer's notice to Seller of any of the exceptions to title set forth on Schedule B of such Title Commitment to which Buyer objects (such notice of Buyer being referred to as the "Objection Notice") provided such exceptions (a) are not Permitted Liens, (b) pertain to the Buyer or any requirements, conditions or obligations of the Buyer, and (c) are not standard Title Company exceptions (such as the "survey" exception) (such exceptions objected to in the Objection Notice, provided the same are not as described in (a) through and including (c) aforesaid, being referred to as the "Title Objection Items"). Any Objection Notice shall include a true, correct and complete copy of the Title Commitment and true, correct, complete and legible copies of any and all exception documents listed in the same. If Buyer provides the Seller with an Objection Notice, the Seller shall use its commercially reasonable efforts to have all of the Title Objection Items cured, satisfied or released of record (individually, "Cure" and collectively, "Cured") prior to or as of the Closing. At or prior to the Closing, the Seller shall deliver written evidence to Buyer, in form and substance reasonably satisfactory to Buyer, evidencing all of the Title Objection Items Seller has Cured. After the Closing Date, Buyer shall assume the responsibility to Cure all remaining Title Objection Items as contemplated in, and subject to the terms of, the Easement Escrow Agreement.

(b) Liens. Without limiting the Seller's obligations pursuant to Section 6.02(a), prior to or as of the Closing, the Seller shall be obligated, at its sole cost and expense, to Cure any Lien encumbering the Real Property which can be Cured by the payment of money (other than Permitted Liens).

(c) Title Endorsements/Survey. Buyer shall pay for any endorsements required by Buyer or any mortgagee of Buyer to Buyer's Title Policy. If any survey is required by Buyer or its mortgagee, either as a condition to any endorsement or otherwise, Buyer shall pay to obtain the survey and Buyer shall pay all related costs and expenses. If Buyer obtains a survey of any Owned Real Property and if Buyer wants the deed to contain the legal description based on a survey, if the same is not identical to the legal description contained in Seller's deed of record, Seller is not obligated to include the same in the deed to Buyer unless the survey is certified to Seller and such description is included in the deed on a "quitclaim" basis only and without warranty of title.

(d) License at Closing. Without limiting the Seller's obligations pursuant to Section 6.02(a) or (b), Seller shall provide Buyer with a license agreement granting Buyer a license in all of Seller's rights to access such Real Property in order to allow Buyer to operate and maintain the System until such time as Buyer is provided title to such Real Property as provided for in this Agreement. For the avoidance of doubt, Seller shall provide such title as soon as reasonably practicable in accordance with Section 6.01.

(e) Insurable Claims. To the extent any Claim for Losses under Article VIII is an Insurable Claim (which, for purpose of clarity, shall exclude claims covered by the Easement Escrow Fund per this Article VI and Section 6.05(d)), Buyer shall assert and pursue with reasonable diligence the Insurable Claim against the Title Company (which includes commencing litigation and diligently prosecuting the Insurable Claim to judgment) before pursuing a Claim for Losses under Article VIII. Following a non-favorable judgment that substantially denies the relief sought by Buyer from the Title Company in connection with the Insurable Claim (each a "Non-Favorable Judgment"), Buyer may pursue Seller with a Claim for Losses under Article VIII (any Claim against Seller following an attempted Insurable Claim against the Title Company is a "Residual Title Claim"). Notwithstanding anything to the contrary in Article VIII, Buyer must assert a Claim for Losses based upon a Residual Title Claim within sixty (60) days of the Non-Favorable Judgment. For purposes of this Section 6.02(e), an "Insurable Claim" means a Claim that: (i) arises out of Buyer's discovery of a title defect or encumbrance with respect to any of the Real Property following the Closing Date that materially restricts or prevents the use of such Real Property in the operation of the System; and (ii) is a claim against the Title Company under the Title Policy. Buyer acknowledges that any Claims that it could otherwise bring as a breach of a covenant of title under the special warranty deed to the Real Property is included within the Claim for Losses under Article VIII and is subject to the terms of this Section 6.02(e) of first pursuing the same as an Insurable Claim.

Section 6.03. **Title Expenses**

Irrespective of whether the transactions described by this Agreement are consummated and Closing occurs, all costs and expenses of obtaining the Title Commitment, Title Policy and any survey shall be paid by Buyer.

Section 6.04. **UCC Search; Releases**

Not later than sixty (60) days after the Effective Date, Buyer shall commence at its sole cost and expense a Uniform Commercial Code search against Seller covering any of the personal property or fixtures included among the Acquired Assets from the Office of the Secretary of the Commonwealth of Pennsylvania and the Recorder of Deeds of all applicable counties in the Commonwealth of Pennsylvania (the "UCC Search"). On or prior to the Closing Date, Seller shall at its sole cost and expense obtain releases of any and all security interests in any of the Acquired Assets which are not Permitted Liens. The form of the releases of such security interests shall be provided by the Seller to Buyer on or prior to the Closing Date.

Section 6.05. **Easements**

(a) Promptly after the Effective Date, the Seller shall provide access to the Buyer to all Easements in its possession and all plans and maps in its possession depicting the location of all Acquired Assets referenced in Section 2.01(a). Promptly after the Effective Date and prior to the Closing, the Buyer shall, at its sole cost and expense, cause an abstractor selected by the Buyer (the "Abstractor"), to perform, at the Buyer's sole cost and expense, a search of the public land records of all applicable counties, based on the Seller's records and plans of the System (and such other sources of information as are reasonably related thereto), by means of searching the grantee index in the names of the Seller and such other searches as the Abstractor may

reasonably make, to (i) identify and provide Buyer with title information on any and all recorded Easements (including information related to any Liens or encumbrances on Seller's title thereto), and (ii) together with the Seller, identify all Missing Easements. During such process, as the Abstractor provides written search results to Buyer for each Easement, the Buyer will promptly provide the same to Seller, and, without limiting the foregoing, the Buyer shall, or shall cause the Abstractor to, provide Seller with periodic updates on the status of the activities set forth on the previous sentence. Seller shall cooperate with Buyer in any commercially reasonable and economically feasible request made by Buyer or the Abstractor.

(b) Notice of Objections. Within thirty (30) days of Buyer's receipt from the Abstractor of the information described in subsection (a) above for each Easement, Buyer shall deliver to Seller an Objection Notice identifying the encumbrances on the Easements that are unacceptable to Buyer, provided such exceptions are not Permitted Liens (an "Easement Objection Notice"). If the Buyer provides the Seller with an Easement Objection Notice, the Seller shall use its commercially reasonable efforts to have such objections Cured, prior to or as of the Closing. At or prior to the Closing, the Seller shall deliver written evidence to Buyer, in form and substance reasonably satisfactory to Buyer, evidencing all of the objection items identified in the Easement Objection Notice that Seller has Cured. After the Closing Date, Buyer shall assume the responsibility to Cure all remaining objection items identified in the Easement Objection Notice as contemplated in, and subject to the terms of, the Easement Escrow Agreement.

(c) If during the process of Abstractor's review and investigation of all applicable counties' land records, Buyer determines, based on the Abstractor's investigation or Buyer's own investigation, that there is a Missing Easement, the Seller shall use its commercially reasonable efforts (including the use of its power of condemnation) to obtain any such Missing Easements so that the same may be sold, assigned, transferred and conveyed to Buyer at the Closing pursuant to the terms and conditions of this Agreement. Prior to Closing, all costs and expenses incurred in connection with obtaining each Missing Easement (including any consideration payable to the landowner in connection with condemnation, in lieu of condemnation or otherwise to obtain Missing Easements) shall be paid by the Seller. If Seller has not obtained all Missing Easements by the date that is ninety (90) days after the date that Abstractor has completed his review of the County land records and delivered the last results of the same to Seller (the "Abstract Completion Date"), then the Seller shall commence and file in the Court of Common Pleas, Butler County, a condemnation or eminent domain proceeding to obtain any and all such Missing Easements it can prior to Closing. For the purposes of clarity, upon obtaining each Missing Easement (including upon the final resolution of a condemnation proceeding), each Missing Easement that has been acquired or obtained by the Seller shall be considered an Easement. After the Closing Date, Buyer shall obtain all remaining Missing Easements as contemplated in the Easement Escrow Agreement.

(d) Escrow at Closing for Missing Easements. For all of the Missing Easements listed on attached Schedule 6.05(d) as of the Closing Date, Seller will fund the Easement Escrow Fund in the amount of Two Thousand Dollars ($2,000) per Missing Easement listed on attached Schedule 6.05(d) as of the Closing Date, which shall be held in accordance with the Easement Escrow Agreement.

Section 6.06. **Unscheduled Property**

The Parties acknowledge that the Seller may own interests in or have the legal right to use or occupy the Real Property that is necessary or essential to the operation of the System and that is not specifically identified on Schedule 4.09 (the "Unscheduled Real Property"). If the Parties discover prior to or after the Closing Date, one or more parcels of Unscheduled Real Property, the discovering Party shall give notice of such discovery to the non-discovering Party. In addition to its obligations in Section 2.03, Seller shall convey, assign or otherwise transfer any rights to each parcel of Unscheduled Real Property, with no adjustment to the Purchase Price, in such a manner as to provide Buyer with reasonable assurances that Buyer shall have the right to use or occupy the Unscheduled Real Property as it was used by Seller as of the Effective Date.

ARTICLE VII.

OTHER AGREEMENTS

Section 7.01. **Taxes**

Except as otherwise provided in this Agreement, the Seller shall pay any and all Taxes, if any, arising out of the ownership of the Acquired Assets and out of the operation of the System before the Closing Date.

Section 7.02. **Cooperation on Tax Matters**

The Seller shall furnish or cause to be furnished to Buyer, as promptly as practicable, whether before or after the Closing Date, such information and assistance relating to the System as is reasonably necessary for the preparation and filing by Buyer of any filings relating to any Tax matters.

Section 7.03. **Personnel Matters**

(a) Within ninety (90) days of the Effective Date, Representatives of Buyer shall meet with all of Seller's non-union personnel to discuss employment opportunities with Buyer. Buyer shall offer in writing employment effective on the Closing Date, to all active Personnel set forth on Schedule 7.03(a) who are employed by Seller in operating the System as of the Closing Date, subject to Buyer's existing standard hiring policies and procedures applicable to new employees, including but not limited to, a criminal background check and drug screening of all Personnel. The written employment offer shall include the language set forth in **Exhibit D**, which will inure to the benefit of Personnel who accept such employment and commence employment on or shortly after the Closing Date. The active Personnel who accept such offer of employment and commence employment with Buyer on the Closing Date, shall be referred to in this Agreement as the "Transferred Personnel." Buyer may make the required offer of employment at a reasonable time prior to the Closing Date to ensure there will be adequate staffing on the Closing Date. For purposes of clarity, nothing contained in this Section 7.03 shall be deemed to limit, restrict or prohibit Buyer from interviewing the applicable Personnel for informational purposes only in connection with the transfer of employment of the Personnel to Buyer as provided in this Section 7.03.

(b) Subject to Law, if, following the Closing, any non-union Transferred Personnel are required by Buyer to permanently perform their job at a location in excess of thirty (30) miles from the location of their job as of the Closing Date, then such Transferred Personnel may terminate employment with the Buyer for "good reason". For the purposes of Sections 7.03(b) and (c), the term "permanently" means a duration of more than ten (10) working days in a rolling twelve (12) month period. Buyer will provide in its offers to non-union Personnel that, in the event of a termination for "good reason," as set forth in this Section 7.03(b), Buyer will give any such affected Transferred Personnel the right to (i) 1.5 times their annual pay and (ii) continued medical, dental and vision coverage under COBRA, at Buyer's expense, for a period of twelve (12) months. The termination payments described herein shall be conditioned upon affected Transferred Personnel's execution and delivery to the Buyer of a general release of liability for the Buyer covering all claims except those that cannot be waived under applicable Laws in a form consistent with **Exhibit E**. Buyer will use commercially reasonable efforts to not eliminate positions of non-union Transferred Personnel due to redundancy.

(c) Prior to Closing, Seller will provide a Memorandum of Understanding in the form of **Exhibit F** to each union that is a party to a Collective Bargaining Agreement, that no Transferred Personnel represented by a union shall be forced to permanently work at a location that is more than thirty (30) miles from the location of their job.

(d) Subject to Law, non-union Transferred Personnel shall be employees-at-will of Buyer.

(e) Buyer shall provide each of the non-union Transferred Personnel with compensation and benefits which are substantially similar in the aggregate to the compensation and benefits which are provided by Seller to the non-union Transferred Personnel as of the Closing Date, provided, the Buyer agrees that, on the Closing Date, it will increase the base pay of any non-union Transferred Personnel to offset a difference in employee healthcare (including dental and vision) premiums. This increase will equal the difference between the non-union Transferred Personnel's total annual premiums costs for healthcare coverages under Buyer's plan subtracted by the non-union Transferred Personnel's total annual premium costs for identical healthcare coverages under Seller's healthcare plan, as of the Closing Date. At Closing, all Transferred Personnel will be eligible to participate in Buyer's health savings account and/or flexible spending account plans, as determined by the Buyer's plan documents, in order to take advantage of pre-tax deductions.

(f) Buyer shall provide a retirement plan to the Transferred Personnel that provides an employer contribution rate of 7.5% or greater and an employee participation rate of 5% or higher. Buyer shall amend its existing 401(k) plan to the extent (if any) that is necessary in order to provide to the Transferred Personnel the same or better salary deferral opportunities as are provided under the Seller's 457 deferred-compensation plans. All Transferred Personnel shall be immediately eligible to participate in the Buyer's retirement plans at the Closing Date. Buyer's defined benefit and post-retirement medical plans that have been closed prior to the Effective Date are excluded from the forgoing sentence. If any Transferred Personnel separates from service with Buyer prior to becoming fully vested in their plan account under the Buyer's Savings Plan for Employees of American Water Works Company, Inc. and Its Designated Subsidiaries, Buyer shall provide an amount equivalent to any forfeited non-elective employer

contributions outside the plan to such Transferred Personnel. Buyer shall permit Transferred Personnel to roll over (or arrange for direct transfers of) their plan account balances from the Seller's terminated retirement plans into one or more of Buyer's tax-qualified retirement plans.

(g) Buyer shall recognize the Transferred Personnel's service with Seller as if such service were with Buyer for eligibility and vesting purposes under Buyer's other benefit plans and programs to be offered to the Transferred Personnel but not specifically referenced in this Agreement.

(h) The Transferred Personnel shall cease active participation in the Seller's Plans effective as of the Closing Date. Seller shall remain liable for all eligible claims for benefits under the Seller's Plans that are incurred by Transferred Personnel prior to the Closing Date. For purposes of this Agreement, the following claims shall be deemed to be incurred as follows: (i) life, accidental death and dismemberment, short-term disability, and workers compensation insurance benefits, on the event giving rise to such benefits, (ii) medical, vision, dental, and prescription drug benefits, on the date the applicable services, materials or supplies were provided, (iii) long-term disability benefits, on the eligibility date determined by the long-term disability insurance carrier for the plan in which the applicable Personnel participates.

(i) At Closing, Buyer will provide Transferred Personnel who retire after Closing with substantially similar post-retirement health benefits as currently maintained by the Seller for its eligible employees. Seller will retain the post-retirement health benefit obligations and liabilities for all union and non-union BASA employees who retire, or have retired, on or before the Closing.

(j) Except as provided herein, this Section 7.03 shall be binding upon and inure solely to the benefit of each of the Parties to this Agreement, and nothing in this Section 7.03, express or implied, shall confer upon any other Person any rights or remedies of any nature whatsoever under or by reason of this Section 7.03. The Parties acknowledge and agree that the terms set forth in this Section 7.03 shall not create any right in any non-union Transferred Personnel or any other Person to any continued employment with the Buyer or any of its Affiliates or compensation or benefits of any nature or kind whatsoever, and shall not be deemed to restrict the Buyer in the exercise of its independent business judgment in establishing or modifying any of the terms or conditions of the employment of the non-union Transferred Personnel other than as provided for in this Section 7.03. Except as otherwise expressly provided in this Section 7.03, nothing contained in this Section 7.03 shall constitute an amendment of, or an undertaking to amend, any employee benefit plan, program or arrangement maintained by Buyer or its Affiliates or is intended to prevent Buyer or its Affiliates from amending or terminating any such employee benefit plan, program or arrangement in accordance with its terms.

(k) Except as otherwise provided in this Section 7.03, it is expressly understood that Buyer will not acquire any asset, or assume any liability or obligation in connection with the transactions contemplated by the Agreement relating to any of the Seller's Plans or Seller's Benefit Obligations, and Seller shall be solely responsible for any liability, funding obligation, claim, or expense arising from the Seller's Plans, Seller's Benefit Obligations, both prior to and after the Closing Date.

(l) No later than the Closing Date, Seller shall transfer all records pertaining to the employment of the Transferred Personnel to Buyer including, but not limited to, all personnel and human resources Files and Records.

(m) Buyer shall have the right, before Closing, to renegotiate the Collective Bargaining Agreement. If the Buyer and union fail to reach agreement on an updated collective bargaining agreement, Buyer shall assume, at Closing, the Collective Bargaining Agreement.

Section 7.04. **Rates**

(a) Rates. Seller's current wastewater rates in effect as of the Effective Date are set forth on Schedule 7.04(a)-1. Prior to Closing, Seller shall implement a monthly rate of $45.50/EDU ("Seller Base Rates") in the same manner as Buyer's Resolution No. 2-09-2021-1 and as set forth on Schedule 7.04(a)-2. Buyer shall not propose to increase Seller Base Rates until the later to occur of (i) the first anniversary of Closing, or (ii) January 1, 2025. The Buyer may apply PaPUC permitted or required surcharges or pass-through costs (e.g., Distribution System Improvement Charge and/or State Tax Adjustment Surcharge). After the Closing, the Buyer shall institute its grant or discount program for low-income customers currently served by the Seller to the Seller Base Rates after Closing.

(b) In Buyer's first base rate proceeding with respect to the System following Closing, Buyer shall propose to the PaPUC that Buyer move from the Seller's flat rate to a rate that is based on metered usage.

(c) The rate provisions of this Section 7.04 shall be part of the Buyer's requested PaPUC Governmental Approval.

Section 7.05. **Buyer Taxpayer**

From and after the Closing Date, Buyer acknowledges that, upon conveyance of the Acquired Assets to Buyer, the Buyer will be subject to, among other Taxes, real estate Taxes, which shall be paid by Buyer.

Section 7.06. **PaPUC Approval**

(a) Promptly after the Effective Date, Buyer shall timely initiate and faithfully prosecute the necessary proceedings to obtain from the PaPUC (i) the issuance of certificates of public convenience to Buyer to provide wastewater services in the Service Area and (ii) the approval of the acquisition of the System by Buyer under terms and conditions that are reasonably acceptable to Seller and Buyer. Seller shall use its commercially reasonable efforts to assist Buyer in the preparation of the filing and shall cooperate with and assist the Buyer in proceedings before the PaPUC. Seller and the Creating Municipalities shall intervene in the proceedings before the PaPUC in support of the application for all necessary approvals from the PaPUC. Buyer and Seller hereby agree that the procedures for determining fair market value of the System and Acquired Assets outlined in Section 1329(a) of Title 66 of the Pennsylvania Consolidated Statutes shall be utilized and filed with the PaPUC as contemplated by Section 1329(c) of Title 66 of the Pennsylvania Consolidated Statutes, with the Buyer

discharging the requirements imposed on the "acquiring utility" and the Seller discharging the requirements of said statues imposed on the "selling utility". Buyer and Seller hereby agree that the fees and expenses related to the mutually agreed upon licensed engineer that will conduct the engineering assessment for the application to the PaPUC shall be borne fifty percent (50%) by the Buyer and fifty percent (50%) by the Seller.

(b) Buyer, in Buyer's first base rate proceeding with respect to the System following the Closing, shall propose the use of statutory and regulatory mechanisms available to benefit the Buyer's acquired customers for ratemaking purposes, including the proposed utilization of 66 Pa. C.S. Section 1311(c) with respect to the Acquired Assets.

(c) Due to the uncertainty and potential non-feasibility of obtaining an adequate remedy after a material delay in Closing, if Buyer does not file an application with the PUC seeking approval of the transaction pursuant to this Section 7.06 hereof within six (6) months of completion of both appraisals by the Utility Valuation Experts, Seller has the right, in its sole discretion, to terminate this Agreement, and draw upon the Letter of Credit, which shall become non-refundable and serve as a liquidated damages payment to Seller by Buyer.

Section 7.07. **Remedies for Breach of Article VII Agreements**

If Buyer breaches any of the covenants and agreements set forth in this Article VII, in addition to all other rights and remedies available at law or in equity, including specific performance and/or injunctive relief, Seller may commence proceedings before the PaPUC seeking enforcement of such covenants and agreements.

Section 7.08. **Utility Valuation Experts**

Buyer and Seller shall each be responsible for the costs associated with their respective Utility Valuation Expert for the preparation and completion of their respective Utility Valuation Expert's appraisal report and any additional work by their respective Utility Valuation Expert necessary to assist in the processing and prosecution of the application to the PaPUC in regard to this transaction under Section 1329.

Section 7.09. **Headquarters**

On the Closing Date, and for a period of at least 10 years thereafter, Buyer shall maintain an operations center at Seller's headquarters at 100 Litman Road, Butler, Pennsylvania 16001-3256 consisting of various managers, customer service representatives, and operators of Buyer's western Pennsylvania wastewater division (the "Operations Center").

Section 7.10. **Customer-Owned Damaged Wastewater Service Laterals Pilot**

Upon the Effective Date of this Agreement, Buyer shall use its commercially reasonable efforts to develop a pilot program for a customer-owned damaged wastewater service lateral replacement program, consistent with 66 Pa. C.S. § 1311(b)(2) and subject to PaPUC approval, focused on the System. Prior to the second anniversary of Closing, Buyer shall petition the PaPUC for, and use commercially reasonable efforts to obtain approval for the pilot program. If

the pilot program is approved by the PaPUC and implemented and Buyer petitions the PaPUC to establish a state-wide customer-owned damaged wastewater service lateral replacement program, Buyer shall include the System in that petition.

Section 7.11. **Required Capital Investment**

On or prior to the fifth (5^{th}) anniversary of Closing, Buyer shall complete the capital projects set forth on Schedule 7.11 ("Capital Projects"). Buyer shall use its reasonable commercial efforts to use qualified Butler County based contractors on Capital Projects, provided Buyer shall not be required to pay premium costs or to delay implementation of Capital Projects if Butler County contractors are not available in order to meet the requirements of any Capital Project. Buyer and the Creating Municipalities will form a committee (the "Capital Project Committee") consisting of two (a) representatives from each of Buyer and the Creating Municipalities, and engineers chosen by Buyer and each Creating Municipality, to monitor the use of qualified Butler County based contractors, facilitate cooperative communications are maintained, and track Buyer's compliance with Schedule 7.11. If Buyer fails to undertake all of the Capital Projects on or prior to the fifth (5^{th}) anniversary of Closing, given the uncertainty regarding the amount of potential damages and the likelihood of irreparable harm to Seller and the Creating Municipalities, in addition to all other rights and remedies available at law or in equity, Seller may commence proceedings before the PaPUC or the Court of Common Pleas for Butler County seeking specific enforcement of this covenant by Buyer to complete the Capital Projects, with all reasonable costs incurred by Seller and the Creating Municipalities to be reimbursed by Buyer.

Section 7.12. **Covenant Survival**

The covenants set forth in this Article VII survive Closing.

ARTICLE VIII.

INDEMNIFICATION

Section 8.01. **Survival**

All representations and warranties contained in this Agreement survive until twelve (12) months following the Closing Date. The covenants and agreements of the Parties contained in this Agreement survive the Closing indefinitely or for the shorter period explicitly specified therein, except that for such covenants and agreements that survive for such shorter period, breaches thereof shall survive indefinitely or until the latest date permitted by Law. Notwithstanding the preceding sentences, (i) any breach of representation, warranty, covenant or agreement in respect of which indemnity may be sought under this Agreement survives the time at which it would otherwise terminate pursuant to the preceding sentences, if notice of the inaccuracy or breach thereof giving rise to such right of indemnity shall have been given to the party against whom such indemnity may be sought prior to such time, and (ii) nothing contained in this Section 8.01 limits in any way any rights a Party may have to bring claims grounded in fraud, intentional misrepresentation or willful misconduct, which rights survive the Closing indefinitely.

Section 8.02. **Indemnification by the Seller**

To the maximum extent permitted by Law and subject to the terms and conditions of this Article VIII, the Seller shall, out of Indemnity Escrow Fund, indemnify, defend and hold harmless, Buyer and its successors and Affiliates and their respective employees, officers, directors, trustees and agents (the "Buyer Indemnified Persons"), from and against any and all claims for Losses arising from or relating to: (a) any material misrepresentation as to, or any material inaccuracy in, any of the representations and warranties of the Seller contained in this Agreement or in any exhibit, schedule, certificate or other instrument or document furnished or to be furnished by the Seller prior to the Closing pursuant to this Agreement (without regard to any materiality, Material Adverse Effect or related qualifications in the relevant representation or warranty (except where such provision requires disclosure of lists of items of a material nature or above a specified threshold)); (b) any material breach or material nonfulfillment of any of the covenants or agreements of the Seller contained in this Agreement or in any exhibit, schedule, certificate or other instrument or document furnished or to be furnished by the Seller prior to the Closing pursuant to this Agreement; or (c) any Excluded Liability or Excluded Asset.

Section 8.03. **Indemnification by Buyer**

To the maximum extent permitted by Law and subject to the terms and conditions of this Article VIII, Buyer shall defend, indemnify and hold harmless the Seller, the Creating Municipalities and its successors and Affiliates and each of their respective employees, officers, directors, trustees and agents (the "Seller Indemnified Persons") from and against any and all claims for Losses arising from or relating to: (a) any material misrepresentation as to, or any material inaccuracy in, any of the representations and warranties of Buyer contained in this Agreement or in any exhibit, schedule, certificate or other instrument or document furnished or to be furnished by Buyer pursuant to this Agreement (without regard to any materiality, Material Adverse Effect or related qualifications in the relevant representation or warranty (except where such provision requires disclosure of lists of items of a material nature or above a specified threshold)); (b) any material breach or material nonfulfillment of any of the covenants or agreements of Buyer contained in this Agreement or in any exhibit, schedule certificate or other instrument or document furnished or to be furnished by the Buyer pursuant to this Agreement; (c) any Assumed Liability as and when payment and performance is due, including without limitation any liability related to any claims by any Governmental Authority; (d) Buyer's actions involving Environmental Requirements, Hazardous Materials or environmental claims from and after the Closing Date; or (e) the ownership, operation or control of the Acquired Assets or the System from and after the Closing Date.

Section 8.04. **Indemnification Procedure**

(a) Third Party Claims. If any Indemnified Party receives notice of the assertion or commencement of any action, suit, claim or other legal proceeding made or brought by any Person who is not a party to this Agreement or an Affiliate of a party to this Agreement or a Representative of the foregoing (a "Third Party Claim") against such Indemnified Party with respect to which the Indemnifying Party may be obligated to provide indemnification under this Agreement, the Indemnified Party shall give the Indemnifying Party prompt notice thereof. The failure to give such prompt notice shall not, however, relieve the Indemnifying Party of its indemnification obligations, except and only to the extent that the Indemnifying Party forfeits material rights or material defenses by reason of such failure. In the notice, the Indemnified Party

shall describe the Third Party Claim in reasonable detail and shall indicate the estimated amount, if reasonably practicable, of the Loss that has been or may be sustained by the Indemnified Party. The Indemnifying Party shall have the right to participate in, or by giving notice to the Indemnified Party (and subject to the other requirements of this Agreement) to assume the defense of any Third Party Claim at the Indemnifying Party's expense and by the Indemnifying Party's own counsel (which counsel shall be reasonably acceptable to the Indemnified Party), so long as (i) the Indemnifying Party notifies the Indemnified Party, within ten (10) Business Days after the Indemnified Party has given notice of the Third Party Claim to the Indemnifying Party (or by such earlier date as may be necessary under applicable procedural rules in order to file a timely appearance and response) that the Indemnifying Party is assuming the defense of such Third Party Claim, *provided*, that if the Indemnifying Party assumes control of such defense it must first agree and acknowledge in such notice that the Indemnifying Party is fully responsible (with no reservation of any rights other than the right to be subrogated to the rights of the Indemnified Party) for all Losses relating to such Third Party Claim, (ii) the Indemnifying Party conducts the defense of the Third Party Claim actively and diligently and at its own cost and expense, and (iii) the Third Party Claim (A) does not involve injunctive relief, specific performance or other similar equitable relief, any claim in respect of Taxes, any Governmental Authority, any criminal allegations, or any potential damage to the goodwill, reputation or overriding commercial interests of the Indemnified Party or its Affiliates, (B) is not one in which the Indemnifying Party is also a party and joint representation would be inappropriate or there may be legal defenses available to the Indemnified Party which are different from or additional to those available to the Indemnifying Party, or (C) does not involve a claim which, upon petition by the Indemnified Party, the appropriate court rules that the Indemnifying Party failed or is failing to vigorously prosecute or defend. The Indemnified Party shall reasonably cooperate in good faith in such defense. If the Indemnifying Party assumes the defense of any Third Party Claim, subject to Section 8.04(b), it shall have the right to take such action as it deems necessary to avoid, dispute, defend, appeal or make counterclaims pertaining to any such Third Party Claim in the name and on behalf of the Indemnified Party. The Indemnified Party shall have the right, at its own cost and expense, to participate in the defense of any Third Party Claim with counsel selected by it subject to the Indemnifying Party's right to control the defense thereof. If the Indemnifying Party elects not to compromise or defend such Third Party Claim or fails to promptly notify the Indemnified Party in writing of its election to defend as provided in this Agreement, the Indemnified Party may, subject to Section 8.04(b), pay, compromise, or defend such Third Party Claim and seek indemnification for any and all Losses based upon, arising from or relating to such Third Party Claim. The Seller and Buyer shall reasonably and in good faith cooperate with each other in all reasonable respects in connection with the defense of any Third Party Claim, including making available records relating to such Third Party Claim and furnishing, without expense (other than reimbursement of actual out-of-pocket expenses) to the defending party, management employees of the non-defending party as may be reasonably necessary for the preparation of the defense of such Third Party Claim.

(b) Settlement of Third Party Claims. Notwithstanding any other provision of this Agreement, the Indemnifying Party shall not enter into settlement of any Third Party Claim without the prior written consent of the Indemnified Party (which consent shall not be unreasonably withheld or delayed), except as provided in this Section 8.04(b). If a firm offer is made to settle a Third Party Claim without leading to liability or the creation of a financial or

other obligation on the part of the Indemnified Party and provides, in customary form, for the unconditional release of each Indemnified Party from all liabilities and obligations in connection with such Third Party Claim and the Indemnifying Party desires to accept and agree to such offer, the Indemnifying Party shall give prompt notice to that effect to the Indemnified Party. If the Indemnified Party fails to consent to such firm offer within fifteen (15) days after its receipt of such notice, the Indemnified Party may continue to contest or defend such Third Party Claim and in such event, the maximum liability of the Indemnifying Party as to such Third Party Claim shall not exceed the amount of such settlement offer. If the Indemnified Party fails to consent to such firm offer and also fails to assume defense of such Third Party Claim, the Indemnifying Party may settle the Third Party Claim upon the terms set forth on such firm offer to settle such Third Party Claim. If the Indemnified Party has assumed the defense pursuant to Section 8.04(a), it shall not agree to any settlement without the written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

(c) Direct Claims. Any claim by an Indemnified Party with respect to any Loss which does not arise or result from a Third Party Claim (a "Direct Claim") shall be asserted by the Indemnified Party giving the Indemnifying Party prompt notice thereof. The failure to give such prompt notice shall not, however, relieve the Indemnifying Party of its indemnification obligations, except and only to the extent that the Indemnifying Party forfeits material rights or material defenses by reason of such failure. Such notice by the Indemnified Party shall describe the Direct Claim in reasonable detail and shall indicate the estimated amount, if reasonably practicable, of the Losses that have been or may be sustained by the Indemnified Party. The Indemnifying Party shall have thirty (30) days after its receipt of such notice to respond in writing to such Direct Claim. During such thirty (30) day period, the Indemnified Party shall reasonably cooperate and assist the Indemnifying Party in determining the validity and amount of such Direct Claim. If the Indemnifying Party does not so respond within such thirty (30) day period, by delivery of notice disputing the basis or amount of the Direct Claim, the Indemnifying Party shall be deemed to have rejected such claim, in which case the Indemnified Party shall be free to pursue such remedies as may be available to the Indemnified Party on the terms and subject to the provisions of this Agreement. If the Indemnifying Party has timely disputed its indemnity obligation for any Losses with respect to such Direct Claim, the Parties shall proceed in good faith to negotiate a resolution of such dispute and, if not resolved through negotiations, such dispute shall be resolved by litigation in an appropriate court of jurisdiction determined pursuant to this Agreement.

Section 8.05. **Limitations on Indemnification Obligations**

(a) Subject to the other limitations contained in this Section 8.05, neither Buyer nor Buyer Indemnified Persons is entitled to indemnification pursuant to Section 8.02 (other than for an intentional breach of any agreement or covenant contained in this Agreement) unless the aggregate amount of Losses incurred by Buyer and Buyer Indemnified Persons under this Agreement exceeds 1% of the Purchase Price (the "Threshold Amount"), in which case Seller shall then be liable for Losses in excess of the Threshold Amount; *provided*, *however*, that the foregoing limitations contained in this Section 8.05(a) shall not apply to any claims for indemnification based on fraud, intentional misrepresentation or willful misconduct or to claims under the Easement Escrow Agreement.

(b) Subject to the other limitations contained in this Section 8.05 neither Seller nor the Seller Indemnified Persons is entitled to indemnification pursuant to Section 8.03 (other than for an intentional breach of any agreement or covenant contained in this Agreement) unless the aggregate amount of Losses incurred by Seller and Seller Indemnified Persons under this Agreement exceeds the Threshold Amount, in which case Buyer shall then be liable for Losses in excess of the Threshold Amount; *provided*, *however*, that the foregoing limitations contained in this Section 8.05(b) shall not apply to any claims for indemnification based on fraud, intentional misrepresentation or willful misconduct.

(c) Except in the case of fraud, intentional misrepresentation or willful misconduct (for which all applicable legal and equitable remedies will be available to Buyer), the Buyer Indemnified Parties are only entitled to assert claims under Section 8.02 up to the aggregate amount of 5% of the Purchase Price (the "Liability Cap"), which shall represent the sole and exclusive remedy of Buyer and the other Buyer Indemnified Parties for any such claims under Section 8.02 (other than claims of fraud, intentional misrepresentation or willful misconduct which shall not be subject to the Liability Cap, but shall be capped at the Purchase Price).

(d) Payments by an Indemnifying Party pursuant to Section 8.02 or Section 8.03 in respect of any Loss shall be limited to the amount of any liability or damage that remains after deducting therefrom any insurance proceeds actually received and any indemnity, contribution or other similar payment received or reasonably expected to be received by the Indemnified Party in respect of any such claim. The Indemnified Party shall use its commercially reasonable efforts to recover under insurance policies or indemnity, contribution or other similar agreements for any Losses prior to seeking indemnification under this Agreement.

(e) Payments by an Indemnifying Party pursuant to Section 8.02 or Section 8.03 in respect of any Loss shall be reduced by an amount equal to any Tax benefit realized or reasonably expected to be realized as a result of such Loss by the Indemnified Party.

(f) Each Indemnified Party shall take, and cause its Affiliates to take, all reasonable steps to mitigate any Loss upon becoming aware of any event or circumstance that would be reasonably expected to, or does, give rise thereto, including incurring costs only to the minimum extent necessary to remedy the breach that gives rise to such Loss.

(g) Subject to the provisions of Sections 7.07, 15.11 and any other provisions for equitable relief and/or specific performance, the Parties acknowledge and agree that their sole and exclusive remedy with respect to any and all claims for any breach of any representation, warranty, covenant, agreement or obligation set forth of this Agreement or otherwise relating to the subject matter of this Agreement, shall be pursuant to the indemnification provisions set forth in this Article VIII. In furtherance of the foregoing, each party hereby waives, to the fullest extent permitted under Law, any and all rights, claims and causes of action for any breach of any representation, warranty, covenant, agreement or obligation set forth in this Agreement or otherwise relating to the subject matter of this Agreement it may have against the other Party and their Affiliates and each of their respective representatives arising under or based upon any Law, except pursuant to the indemnification provisions set forth in this Article VIII. Nothing in this Section 8.05(g) limits any Person's right to seek and obtain any equitable relief and/or specific performance to which any Person is entitled pursuant to this Agreement.

Section 8.06. **Knowledge of Breach**

Neither Party shall be liable under this Article VIII for any Losses based upon or arising out of any inaccuracy in or breach of any of the representations or warranties of such Party contained in this Agreement if the Party asserting the claim for Losses had actual knowledge of such inaccuracy or breach prior to the Closing.

ARTICLE IX.

PRE-CLOSING COVENANTS OF THE SELLER

Section 9.01. **Operation of the System**

Except as otherwise expressly permitted by this Agreement, as required by Law or with the prior written consent of Buyer (which consent shall not be unreasonably withheld, delayed or conditioned), from the Effective Date until the Closing, the Seller shall (i) operate and manage the System only in the ordinary course of business in accordance with past practices and procedures, (ii) comply in all material respects with all Laws and Authorizations and Permits, (iii) use commercially reasonable efforts to maintain and preserve intact the business and assets of the System and preserve the rights, franchises, goodwill and relationships of the Seller and the System and their customers, lenders, suppliers, regulators and others having business relationships with the Seller and the System including, but not limited to, the land development agreements in existence as of the Effective Date which such agreements shall not be materially amended without notice to and the consent of Buyer, which consent shall not be unreasonably withheld or delayed, and (iv) continue to make capital expenditures in the ordinary course of business in accordance with past practices and procedures.

Section 9.02. **Cooperation**

The Seller shall use its commercially reasonable efforts and cooperate with Buyer and its employees, attorneys, accountants and other agents and, generally, act in reasonably good faith to timely effectuate the purposes of this Agreement and the consummation of the transactions contemplated by this Agreement, including action necessary to obtain all consents and approvals of third parties required as set forth on Schedule 4.05 and Schedule 5.04.

Section 9.03. **Supplements and Updates**

The Seller shall promptly deliver to Buyer any supplemental information updating the information set forth in the representations and warranties set forth in Article IV of this Agreement so that such representations and warranties as supplemented by such information will be true and correct as of the Closing Date (or such other date as provided in such representations and warranties) as if then made. Within three (3) Business Days of having Knowledge of the same, the Seller shall advise Buyer of any facts which would constitute a breach of a representation or warranty as of the date made or a default in a covenant contained in this Agreement. Seller's cooperation under this Section 9.03 shall include providing Buyer reasonable access to the files and documents set forth on Schedule 2.02(g) after the Closing.

Section 9.04. **Consents and Approvals**

Promptly after the execution of this Agreement, or as required by Law, except as provided in Section 7.06 or otherwise expressly provided in this Agreement, the Seller shall file all applications and reports that are required to be filed by Seller with any Governmental Authority as set forth on Schedule 4.05. The Seller shall also promptly provide all information that any Governmental Authority may require in connection with any such application or report. The Seller shall use its commercially reasonable efforts to obtain each consent, waiver, authorization or approval of any kind from any Person in connection with the transactions contemplated under this Agreement. If a party to the PaPUC proceeding appeals PaPUC authorization of the transaction, the Buyer and the Seller may still mutually agree to proceed to the Closing.

Section 9.05. **Creating Municipalities**

The Creating Municipalities shall use their commercially reasonable efforts and cooperate with Buyer and its employees, attorneys, accountants and other agents and, generally, act in reasonably good faith to timely effectuate the purposes of this Agreement and the consummation of the transactions contemplated by this Agreement. The Creating Municipalities shall hereby be a successor to all of Seller's post-closing rights and obligations under this Agreement.

ARTICLE X.

PRE-CLOSING COVENANTS OF BUYER

Section 10.01. **Actions Before the Closing Date**

Buyer shall not take any action which shall cause it to be in breach of any representation, warranty, covenant or agreement contained in this Agreement or cause it to be unable to perform in any material respect its obligations in this Agreement, and Buyer shall use its commercially reasonable efforts (subject to any conditions set forth in this Agreement) to perform and satisfy all conditions to Closing to be performed or satisfied by Buyer under this Agreement, including action necessary to obtain all consents and approvals of third parties required to be obtained by Buyer to effect the transactions contemplated by this Agreement.

Section 10.02. **Consents and Approvals**

Promptly after the execution of this Agreement, or as required by Law, except as otherwise expressly provided in this Agreement, Buyer shall file all applications and reports which are required to be filed by Buyer with any Governmental Authority as provided on Schedule 5.04. Buyer shall also promptly provide all information that any Governmental Authority may reasonably require in connection with any such application or report. Buyer shall use all commercially reasonable efforts to obtain all required consents and approvals of any kind from any person in connection with the transactions contemplated hereby.

Section 10.03. **Cooperation**

Buyer shall use its commercially reasonable efforts and cooperate with the Seller and their employees, attorneys, accountants and other agents and, generally, do such other acts and things in good faith as may be reasonable to timely effectuate the purposes of this Agreement and the consummation of the transactions contemplated in accordance with the provisions of this Agreement, including, generally, assisting Seller in the process of its dissolution after the Closing and specifically providing Seller reasonable access to the files and documents set forth on Schedule 10.03.

Section 10.04. **Supplements and Updates**

Buyer shall promptly deliver to the Seller any supplemental information updating the information set forth in the representations and warranties set forth in Article V of this Agreement so that such representations and warranties as supplemented by such information will be true and correct as of the Closing Date (or such other date as provided in such representations and warranties) as if then made. At least three (3) Business Days prior to the Closing Date, Buyer shall advise the Seller of any facts which would constitute a breach of a representation or warranty as of the date made or a default in a covenant contained in this Agreement.

ARTICLE XI.

CONDITIONS PRECEDENT TO OBLIGATIONS OF THE SELLER

The obligation of the Seller to consummate the transactions provided for in this Agreement is subject to the satisfaction, at or before the Closing, of the following conditions, any one or more of which may be waived in writing by the Seller in its sole discretion:

Section 11.01. **Consents and Approvals**

Receipt of all required material, consents, waiver, authorizations or approvals of any Governmental Authority, or of any other Person and any other approvals necessary to consummate the transactions contemplated by this Agreement set forth on Schedule 5.04, including without limitation all required EPA and PaDEP approvals and all such Authorizations and Permits and Governmental Approvals must be final (and not subject to any appeal and any applicable appeal period having expired).

Section 11.02. **Representations and Warranties of Buyer**

The representations and warranties made by Buyer in Article V which are (a) not qualified by materiality shall be true and correct in all material respects on and as of the Closing Date (except for representations or warranties that speak of a specific date or time other than the Closing Date which shall be true and correct in all material respects as of such specified date) and (b) qualified by materiality shall be true and correct in all respects on and as of the Closing Date (except for representations or warranties that speak of a specific date or time other than the Closing Date which shall be true and correct in all respects as of such specified date), and the Seller shall have received a certificate to the effect of the foregoing from a duly authorized officer of Buyer dated as of the Closing Date.

Section 11.03. **PaPUC Approval**

PaPUC shall have issued a Final Order approving the acquisition of the System under terms and conditions that are reasonably acceptable to the Seller and Buyer. If a party to the PaPUC proceeding appeals PaPUC authorization of the transaction, the Buyer and Seller may still mutually agree to proceed to the Closing.

Section 11.04. **No Injunctions**

Neither the Seller nor Buyer shall be subject to any injunction, preliminary restraining order or other similar decree of a court of competent jurisdiction prohibiting the consummation of the transactions contemplated by this Agreement.

Section 11.05. **Performance of the Obligations of Buyer**

Buyer shall have performed in all material respects all obligations required under this Agreement to be performed by Buyer on or before the Closing Date, and the Seller shall have received a certificate to that effect from Buyer dated as of the Closing Date.

Section 11.06. **Deliveries by Buyer**

Buyer shall have made delivery to the Seller of the documents and items specified in Section 13.03.

Section 11.07. **No Material Adverse Effect**

There shall not have occurred any event or condition which gives rise to a Material Adverse Effect with respect to the Acquired Assets or the System.

ARTICLE XII.

CONDITIONS PRECEDENT TO OBLIGATIONS OF BUYER

The obligation of Buyer to consummate the transactions provided for in this Agreement is subject to the satisfaction, at or before the Closing, of the following conditions, any one or more of which may be waived in writing by Buyer in its sole discretion:

Section 12.01. **Consents and Approvals**

(a) Receipt of all required material, consents, waivers, authorizations or approvals of any Governmental Authority, or of any other Person and any other approvals necessary to consummate the transactions contemplated by this Agreement set forth on Schedule 4.05, including without limitation all required EPA and PaDEP approvals and all such Authorizations and Permits and Governmental Approvals must be final (and not subject to any appeal and any applicable appeal period having expired); and

(b) Approval by Seller for: (i)(A) defeasance and redemption of any outstanding bonds issued by the Seller on the System included in the Outstanding Indebtedness and (B)

discharge of any other outstanding debt issued to the Seller and payable to any current lender and (ii) applying any funds held in any construction fund or account under any indenture(s) being held by the Seller or any lender to the Seller on any outstanding debt (it being understood that any debt service funds or debt service reserve funds will be applied to the defeasance, redemption and discharge of outstanding debt.

Section 12.02. **Representations and Warranties of Seller**

The representations and warranties made by the Seller in Article IV this Agreement (disregarding all "materiality" and "Material Adverse Effect" or similar qualifications contained therein) shall be true and correct on and as of the Closing Date (except for representations and warranties expressly stated to relate to a specific date, in which case each such representation and warranty shall be true and correct as of such earlier date), with only such exceptions as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and the Buyer shall have received a certificate to that effect from the Seller dated as of the Closing Date.

Section 12.03. **PaPUC Approval**

PaPUC shall have issued a Final Order approving the acquisition of the System under terms and conditions that are reasonably acceptable to the Seller and Buyer. If a party to the PaPUC proceeding appeals PaPUC authorization of the transaction, the Buyer and Seller may still mutually agree to proceed to the Closing.

Section 12.04. **No Injunctions**

Neither the Seller nor Buyer shall be subject to any injunction, preliminary restraining order or other similar decree of a court of competent jurisdiction prohibiting the consummation of the transactions contemplated by this Agreement.

Section 12.05. **No Material Adverse Effect**

There shall not have occurred any event or condition which gives rise to a Material Adverse Effect with respect to the Acquired Assets or the System.

Section 12.06. **Deliveries by Seller**

Seller shall have made delivery to Buyer of the documents and items specified in Section 13.02.

Section 12.07. **Performance of the Obligations of Seller**

Seller shall have performed in all material respects all obligations required under this Agreement to be performed by Seller on or before the Closing Date, and Buyer shall have received a certificate to that effect from Seller dated the Closing Date.

Section 12.08. **Seller's Rates**

Seller shall have implemented the Seller Base Rates in accordance with Section 7.04, and such Seller Base Rates shall be fully in effect.

ARTICLE XIII.

CLOSING

Section 13.01. **Closing Date**

The Closing shall take place at a place in Pennsylvania that is mutually agreed upon by the Parties, at 10:00 a.m. eastern standard time on the earliest agreed upon date after the date upon which all the conditions precedent to Closing described in this Agreement have been fulfilled or waived and Buyer and the Seller receive the last of the required consents, waivers, authorizations and approvals from the Governmental Authorities, in each case, for the transactions contemplated by this Agreement, or at such other place and time, by such other method, or on such other date, as may be mutually agreed to by the Parties (the "Closing Date"). The Closing shall be effective at 12:01 a.m., eastern time, on the Closing Date (the "Closing Effective Time").

Section 13.02. **Deliveries by Seller**

At the Closing, the Seller shall have delivered or cause to be delivered to Buyer executed copies of the following agreements, documents and other items:

(a) A Bill of Sale transferring all of the Acquired Assets comprising personal property, in the form attached hereto as **Exhibit G**;

(b) Possession of the Acquired Assets, including without limitation, the Owned Real Property, the Easements, including a license from Seller to Buyer, if necessary;

(c) A duly executed counterpart to an Assignment and Assumption Agreement with respect to the Assumed Liabilities (the "Assignment and Assumption Agreement"), in the form attached hereto as **Exhibit H**;

(d) A duly executed counterpart to a Joinder Agreement by and among the Seller, Buyer and the Creating Municipalities (the "Joinder Agreement"), in the form attached hereto as **Exhibit I**;

(e) Duly executed counterparts to the Escrow Agreements;

(f) The consents to transfer all of the Assigned Contracts and Authorizations and Permits (including environmental Authorizations and Permits), to the extent required hereunder;

(g) One or more special warranty or other deeds in recordable form reasonably acceptable to Buyer and Seller transferring fee simple title of Owned Real Property and an instrument of assignment, transfer or other conveyance of Seller's interests in and to all Easements in form reasonably acceptable to Buyer and Seller;

(h) Copies or originals of all Files and Records, materials, documents and records in possession of the Seller relating to the Real Property or the Assigned Contracts;

(i) Certificate of the Seller pursuant to Section 12.02 of this Agreement;

(j) Certificate of the Seller pursuant to Section 12.07 of this Agreement;

(k) Any documents duly executed by Seller required by the Title Company to issue final owner's title policies in accordance with the procedures set forth in Article VI; and

(l) All such other instruments of conveyance or other documents as shall, in the reasonable opinion of Buyer and its counsel, be necessary to transfer to Buyer the Acquired Assets in accordance with this Agreement or to carry out the terms of this Agreement, duly executed and acknowledged by Seller, if necessary, and in a recordable form.

Section 13.03. **Deliveries by Buyer**

At the Closing, Buyer shall have delivered or caused to be delivered to the Seller the following agreements, documents and other items:

(a) Payment in full of the Purchase Price;

(b) A duly executed counterpart to the Assignment and Assumption Agreement;

(c) A duly executed counterpart to the Joinder Agreement;

(d) Duly executed counterparts to the Escrow Agreements;

(e) The consents to transfer all of the Assigned Contracts and Authorizations and Permits (including environmental Authorizations and Permits), to the extent required hereunder;

(f) Certificate of Buyer pursuant to Section 11.02 of this Agreement;

(g) Certificate of Buyer pursuant to Section 11.05 of this Agreement;

(h) Evidence of PaPUC approval as provided in Section 12.03;

(i) Instruments of assumption of Seller's interests in and to all Easements in form reasonably acceptable to Buyer and Seller per Section 13.02(h); and

(j) All such other instruments of assumption as shall, in the reasonable opinion of Seller and its counsel, be necessary for Buyer to assume the Assumed Liabilities in accordance with this Agreement.

ARTICLE XIV.

TERMINATION

Section 14.01. **Events of Termination**

This Agreement may, by notice given, be terminated and abandoned at any time prior to completion of the Closing:

(a) By the mutual consent of the Seller and the Buyer;

(b) By Seller pursuant to Section 7.06(c) hereof;

(c) By either the Seller or the Buyer, upon notice, if:

(i) the Closing does not occur on or prior to the Outside Date, except the Buyer has the one-time right, upon notice to the Seller, to extend the Outside Date for up to ninety (90) days if, in the Buyer's sole discretion, any such amount of time up to ninety (90) days is necessary to obtain a required Governmental Approval;

(ii) any Governmental Authority issues an order, decree or ruling or taken any other action, in each case permanently restraining, enjoining or otherwise prohibiting the material transactions contemplated by this Agreement and such order, decree, ruling or other action becomes final and non-appealable; provided, however, that the Party seeking termination pursuant to this clause (b)(ii) is not in breach in any material respect of any of its representations, warranties, covenants or agreements contained in this Agreement;

(d) By the Seller (if Seller is not then in material breach of any provision of this Agreement) in the event of a material breach of any covenant or agreement to be performed or complied with by the Buyer pursuant to the terms of this Agreement or of any representation or warranty of the Buyer contained in this Agreement, which breach (i) has continued without cure for a period of sixty (60) days following notice thereof by the Seller to the Buyer or if such breach cannot be cured and (ii) would result in a condition to Closing set forth in Article XI of this Agreement not being satisfied (which condition has not been waived by the Seller in writing); or

(e) By the Buyer (if Buyer is not then in material breach of any provision of this Agreement) in the event of a material breach of any covenant or agreement to be performed or complied with by the Seller pursuant to the terms of this Agreement or of any representation or warranty of the Seller contained in this Agreement, which breach (i) has continued without cure for a period of sixty (60) days following notice thereof by the Buyer to the Seller or if such breach cannot be cured and (ii) would result in a condition to Closing set forth in Article XII of this Agreement not being satisfied (which condition has not been waived by the Buyer in writing).

(f) By the Buyer or the Seller, if either Buyer or Seller believes that the other party to this Agreement is not in compliance with Sections 2.06, 6.05, 7.06, 9.02, 9.05 or 10.03 including providing information and/or documentation (either to the noticing party or a third party) in a timely manner for the filing of a petition with the PaPUC, for approval of the transactions contemplated in this Agreement, or once such petition is filed, if the other party is not using their commercially reasonable efforts to obtain approval of the transaction as expeditiously as possible, including, but not limited to, failure to timely respond to discovery, which failure has continued for ten (10) days following notice thereof to Buyer or Seller as the case may be.

This Agreement may not be terminated after the Closing.

Section 14.02. **Effect of Termination**

If this Agreement is terminated by Seller or Buyer pursuant to Section 14.01 or Section 7.06, the terminating Party shall provide notice of termination promptly to the other Party and all further obligations of the Parties will terminate without further action by either Party and without liability or other obligation of either Party to the other Party hereunder, except that no Party will be released from liability hereunder if this Agreement is terminated and the transactions abandoned by reason of any willful breach of this Agreement.

ARTICLE XV.

MISCELLANEOUS

Section 15.01. **Confidentiality**

Except as and to the extent required by Law (including but not limited to the Pennsylvania Right-To-Know Act at 65 Pa § 67.101) or pursuant to an order of a court of competent jurisdiction and as required hereunder to obtain any and all required Governmental Approvals, neither Party shall, directly or indirectly, disclose or use (and no Party shall permit its Representatives to disclose or use) any Confidential Information with respect to the other Party furnished, or to be furnished, by such other Party or its shareholders, directors, officers, agents, or Representatives to the other Party or its employees, directors, officers, agents or representatives in connection herewith at any time or in any manner other than in connection with the completion of the transactions contemplated by this Agreement and related transactions.

Section 15.02. **Public Announcements**

Subject to Law or listing rules of an exchange on which Buyer's parent corporation's stock is listed, and except as otherwise set forth in this Agreement, the initial public announcement relating to the transactions contemplated in this Agreement will be mutually agreed upon and jointly made by the Parties. Subsequent public announcements by one Party shall be subject to review and approval by the other Party prior to issuance, such approval not to be unreasonably withheld, conditioned or delayed.

Section 15.03. **Notices**

The Parties shall deliver all notices, other communications and approvals required or permitted by this Agreement in writing, shall state specifically that they are being given pursuant to this Agreement and shall be addressed as follows:

in the case of the Seller:

Attention:

Butler Area Sewer Authority
100 Litman Road

Butler, Pennsylvania 16001-3256
Attention: Executive Director

with a copy to:

Obermayer Rebmann Maxwell & Hippel LLP
Centre Square West
1500 Market Street
Suite 3400
Philadelphia, PA 19102-2101
Attention: Thomas Wyatt

in the case of the Buyer:

Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Mike Doran, President

with a copy to:

Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Andrew Swope, Managing General Counsel

or such other persons or addresses as a Party may from time to time designate by notice to the other Party. A notice, other communication or approval is deemed to have been sent and received (i) on the day it is delivered, or if such day is not a Business Day or if the notice is received after ordinary office hours (time or place of receipt), the notice, other communication or approval is deemed to have been sent and received on the next Business Day, or (ii) on the fourth Business Day after mailing if sent by United States registered or certified mail.

Section 15.04. **Headings**

The article, section and paragraph headings in this Agreement are for reference purposes only and do not affect the meaning or interpretation of this Agreement.

Section 15.05. **Severability**

If any term, provision, covenant or restriction contained in this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions contained in this Agreement remain in full force and effect and in no way will be affected, impaired or invalidated.

Section 15.06. **Entire Agreement**

This Agreement is the entire agreement between the Parties pertaining to the subject matter hereof and supersedes all prior agreements, negotiations, discussions and understandings, written or oral, between the Parties. There are no representations, warranties, conditions or other agreements, whether direct or collateral, or express or implied, that form part of or affect this Agreement, or that induced any Party to enter into this Agreement or on which reliance is placed by any Party, except as specifically set forth in this Agreement. The Parties acknowledge and agree that (i) each has substantial business experience and is fully acquainted with the provisions of this Agreement, (ii) the provisions and language of this Agreement have been fully negotiated and (iii) no provision of this Agreement shall be construed in favor of any Party or against any Party by reason of such provision of this Agreement having been drafted on behalf of one Party rather than the other Party.

Section 15.07. **Amendments; Waivers**

The Parties may amend this Agreement only by the Parties' written agreement that identifies itself as an amendment to this Agreement. Any waiver of, or consent to depart from, the requirements of any provision of this Agreement will be effective only if it is in writing and signed by the Party giving it, and only in the specific instance and for the specific purpose for which it has been given. No failure on the part of any Party to exercise, and no delay in exercising, any right under this Agreement will operate as a waiver of such right. No single or partial exercise of any such right precludes any other or further exercise of such right or the exercise of any other right.

Section 15.08. **Parties in Interest; Third Party Beneficiary**

This Agreement enures to the benefit of the Parties and their successors and assigns, including, but not limited to, the Creating Municipalities. Except as otherwise provided, this Agreement is not intended to and shall not be construed to create upon any Person other than the Parties any rights or remedies hereunder.

Section 15.09. **Assignment**

Neither Party to this Agreement may assign any right or delegate any performance under this Agreement without the prior written consent of the other Party. A purported assignment or purported delegation without prior written consent is void.

Section 15.10. **Governing Law; Jurisdiction**

The laws of the Commonwealth of Pennsylvania (without giving effect to its conflicts of law principles) govern all matters arising and relating to this Agreement, including torts. The Parties irrevocably agree and consent to the jurisdiction of the United States District Court for the Western District of Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, for the adjudication of any matters arising under or in connection with this Agreement. Any action initiated in court shall be filed and litigated (including all discovery proceedings) exclusively in the United States District Court for the Western District of

Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, and each Party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action or proceeding. Service of process, summons, notice or other document by mail to such Party's address set forth in this Agreement shall be effective service of process for any suit, action or other proceeding brought in any such court. EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT OR THE OTHER TRANSACTION DOCUMENTS IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES AND, THEREFORE, EACH SUCH PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LEGAL ACTION ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY TO THIS AGREEMENT CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT SEEK TO ENFORCE THE FOREGOING WAIVER IN THE EVENT OF A LEGAL ACTION, (B) SUCH PARTY HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

Section 15.11. **Specific Performance**

Irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms of this Agreement. Either Party may seek specific performance of the terms of this Agreement, in addition to any other remedy to which they are entitled at law or in equity if the other Party has performed in accordance with the terms of this Agreement.

Section 15.12 **Counterparts; Facsimile Execution**

This Agreement may be executed in any number of counterparts which, taken together, is one and the same agreement. This Agreement becomes effective when it has been executed by each Party and delivered to both Parties. To evidence the fact that it has executed this Agreement, a Party may send a copy of its executed counterpart to the other Party by facsimile or email transmission. Such Party is deemed to have executed and delivered this Agreement on the date it sent such facsimile or email transmission. In such event, such Party shall promptly deliver to the other Party an original counterpart of this Agreement executed by such Party.

[THIS SPACE INTENTIONALLY LEFT BLANK;

SIGNATURES NEXT PAGE]

IN WITNESS WHEREOF, the Parties have executed, or caused to be executed by their duly authorized Representatives, this Agreement as of the Effective Date.

BUTLER AREA SEWER AUTHORITY

By: _____
Printed: _____
Its:

ATTEST:

By: _____
Name:
Its:

PENNSYLVANIA-AMERICAN WATER COMPANY

By: _____
Printed: F. Michael Doran
Its: President

ATTEST:

By: _____
Name: Andrew L. Swope
Its: VP, General Counsel and Secretary

IN WITNESS WHEREOF, the Parties have executed, or caused to be executed by their duly authorized Representatives, this Agreement as of the Effective Date.

BUTLER AREA SEWER AUTHORITY

By: _____
Printed: Duane E. McKee
Its: Executive Director

ATTEST:

By: _____
Name: Lance R. Calyert
Its: Secretary

PENNSYLVANIA-AMERICAN WATER COMPANY

By: _____
Printed: _____
Its: President

ATTEST:

By: _____
Name:
Its:

ASSET PURCHASE AGREEMENT

By and Between

Butler Area Sewer Authority

As Seller

and

Pennsylvania-American Water Company

As Buyer

SCHEDULES AND EXHIBITS

Capitalized terms used in the Schedules which are not otherwise defined herein shall have the respective meanings ascribed to such terms in the Agreement. The Schedules are to be read in their entirety. Nothing in the Schedules is intended to broaden the scope of any representation or warranty in the Agreement. The disclosure of any item, explanation, exception or qualification in any Schedule is disclosure of that item for all purposes for which disclosure is required under the Agreement when it is reasonably apparent from the context that such item, explanation, exception or qualification also relates to another Schedule irrespective of whether any cross reference is made or no Schedule is provided with respect to a representation. Other than as expressly set forth herein or when the Schedules reference agreements or other matters not documented in a separate writing, all descriptions of agreements, written materials or other matters appearing herein, are summary in nature and are qualified by reference to the complete documents, which have been supplied to the Buyer or its counsel.

Exhibit A

Outstanding Indebtedness

Debt	Outstanding Amount as of Year End 2021
$13,087,500 Loan with Pennvest (Butler City Act 537 Plan Improvements Project (Penvest Loan No. 77017)	$7,814,092
$9,995,000 Sewer Revenue Bonds, Series A of 2017	$8,325,000
$9,910,000 Sewer Revenue Bonds, Series of 2020	$9,745,000
$8,510,000 Sewer Revenue Bonds, Series A of 2020	$7,950,000
$8,315,000 Sewer Revenue Bonds, Series of 2021	$8,290,000

Exhibit B-1

Indemnity Escrow Agreement

ESCROW AGREEMENT

THIS INDEMNITY ESCROW AGREEMENT (the "Agreement") is entered into on _____ ___, 2022 by **Pennsylvania-American Water Company** ("Buyer"), the **Butler Area Sewer Authority** ("Seller") and **[_____]**, as escrow agent (the "Escrow Agent").

BACKGROUND:

Buyer and Seller have entered into a certain Asset Purchase Agreement dated _____, 2022 (the "Asset Purchase Agreement"). Upon Closing of the transaction contemplated by the Asset Purchase Agreement, Buyer is required to deposit the amount of $[9,200,000] of the Purchase Price into escrow (the "Indemnity Escrow Fund" hereinafter referred to as the "Escrow Fund") in order to secure Seller's obligations related to post-Closing obligations pursuant to Article VIII of the Asset Purchase Agreement. Buyer and Seller are entering into this Agreement to establish the terms of the funding, management and distribution of the Escrow Fund as required by the Asset Purchase Agreement. Pursuant to the Asset Purchase Agreement, after the Closing Date and notwithstanding any other provision of the Asset Purchase Agreement, the Escrow Fund is Buyer's sole recourse with respect to providing for Seller's post-Closing obligations pursuant to Article VIII of the Asset Purchase Agreement. This Agreement is referred to in the Asset Purchase Agreement as the "Indemnity Escrow Agreement."

Capitalized terms used in this Agreement but not defined herein have the meanings ascribed to them in the Asset Purchase Agreement.

NOW THEREFORE, in consideration of the premises and of the mutual covenants contained herein and in the Asset Purchase Agreement, the parties hereto agree as follows:

1. Acceptance by Escrow Agent. The Escrow Agent accepts the appointment as escrow agent pursuant to this Agreement and shall act on the terms and conditions set forth in this Agreement. Escrow Agent shall be paid from the Escrow Fund in accordance with the provisions of Exhibit I.

2. Investment of Escrow Fund. Upon receipt by the Escrow Agent of the Escrow Fund at Closing, the Escrow Agent shall, subject to the terms hereof, retain the Escrow Fund and is empowered and directed to invest the Escrow Fund in an interest-bearing account, as described more fully in Exhibit II. The Escrow Agent shall not be obligated to earn any particular yield or rate of return on the Escrow Fund. All interest and other earnings on the Escrow Funds shall be retained by the Escrow Agent until disbursed in accordance with the terms hereof. The Escrow Agent shall have no liability for any investment losses.

3. Rights and Responsibilities of Escrow Agent. The acceptance by the Escrow Agent of its duties hereunder is subject to the following terms and conditions, which shall govern and control with respect to the Escrow Agent's rights, duties, liabilities and immunities:

a. The Escrow Agent shall act hereunder as a depository only, and it shall not be responsible or liable in any manner whatsoever for the sufficiency, correctness, genuineness or validity of any document furnished to the Escrow Agent or any asset deposited with it.

b. The Escrow Agent shall have no duties except those specifically set forth in this Agreement.

c. The Escrow Agent shall have the right any time it deems appropriate to seek an adjudication in a court of competent jurisdiction as to the respective rights of the parties hereto and shall not be held liable by any party hereto for the delay or the consequences of any delay occasioned by such resort to court.

d. The Escrow Agent: (i) shall not be responsible for any of the agreements referred to or described herein, or for determining or compelling compliance therewith, and shall not otherwise be bound thereby; (ii) shall be obligated only for the performance of such duties as are expressly and specifically set forth in this Agreement on its part to be performed, each of which is ministerial (and shall not be construed to be fiduciary) in nature, and no implied duties or obligations of any kind shall be read into this Agreement against or on the part of the Escrow Agent; (iii) shall not be obligated to take any legal or other action hereunder which might in its judgment involve or cause it to incur any expense or liability unless it shall have been furnished with acceptable indemnification; (iv) may rely on and shall be protected in acting or refraining from acting upon any written notice, instruction (including, without limitation, wire transfer instructions, whether incorporated herein or provided in a separate written instruction), instrument, statement, certificate, request or other document furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper person, and shall have no responsibility or duty to make inquiry as to or to determine the genuineness, accuracy or validity thereof (or any signature appearing thereon), or of the authority of the person signing or presenting the same, and (v) may consult counsel satisfactory to it, including in-house counsel, and the opinion or advice of such counsel in any instance shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in accordance with the opinion or advice of such counsel. In the event of any conflict between the terms and provision of this Agreement, those of the Asset Purchase Agreement, any schedule or exhibit attached to the Agreement, or any other Agreement among the parties, the terms and conditions of this Agreement shall control.

e. The Escrow Agent shall not be liable to anyone for any action taken or omitted to be taken by it hereunder except in the case of the Escrow Agent's gross negligence or willful misconduct as determined by a court of competent jurisdiction as being the primary cause of any loss to either the Seller or Buyer. The Escrow Agent may execute any of its powers and perform any of its duties hereunder directly or through affiliates or agents. The Escrow Agent may consult with accountants and other skilled persons to be selected and retained by it. The Escrow Agent shall not be liable for any action taken, suffered or omitted to be taken by it in accordance with, or in reliance upon, the advice or opinion of any such accountants or other skilled persons. In the event that the Escrow Agent shall receive instructions, claims or demands from any party hereto which, in its opinion, conflict with any of the provisions of this Agreement, it shall be entitled to refrain from taking any action and its sole obligation shall be to keep safely all property held in escrow until it shall be given a direction in writing by the parties which eliminates such conflict or by a final and non-appealable court order. In no event shall the Escrow Agent be liable for indirect, punitive, special or consequential damage or loss (including but not limited to lost profits) whatsoever, even if the Escrow Agent has been informed of the likelihood of such loss or damage and regardless of the form of action.

f. The Escrow Agent is hereby authorized, in making or disposing of any investment permitted by this Agreement, to deal with itself (in its individual capacity) or with any one or more of its affiliates, whether it or such affiliate is acting as a subagent of the Escrow Agent or for any third person or dealing as principal for its own account.

g. Notwithstanding any term appearing in this Agreement to the contrary, in no instance shall the Escrow Agent be required or obligated to distribute any portion of the Escrow Fund (or take other action that may be called for hereunder to be taken by the Escrow Agent) sooner than two (2) business days after (i) it has received the applicable documents required under this Agreement in an acceptable form; or (ii) passage of the applicable time period (or both, as applicable under the terms of this Agreement), as the case may be.

h. Unless and except to the extent otherwise expressly set forth herein, all deposits and payments hereunder, or pursuant to the terms hereof shall be in U.S. dollars.

i. The Escrow Agent shall have the right at any time to resign for any reason and be discharged of its duties as Escrow Agent hereunder by giving written notice of its resignation to the parties hereto at least thirty (30) business days prior to the date specified for such resignation to take effect. All obligations of the Escrow Agent in this Agreement shall cease and terminate on the effective date of its resignation, provided that, prior to the effective date of resignation:

(i) if a successor escrow agent shall have been appointed and written notice thereof shall have been given to the resigning Escrow Agent by Buyer, Seller and the successor escrow agent, then the resigning Escrow Agent shall deliver the Escrow Fund to the successor escrow agent; or

(ii) if a successor escrow agent shall not have been appointed by Buyer and Seller, for any reason whatsoever, the resigning Escrow Agent shall deliver the Escrow Fund to a court of competent jurisdiction and give written notice of the same to the Buyer and Seller.

The resigning Escrow Agent shall be reimbursed from the Escrow Fund for any expenses incurred in connection with its resignation and transfer of the Escrow Fund pursuant to and in accordance with the provisions of this Section.

j. The Seller and Buyer each covenants and agrees, jointly and severally, to indemnify the Escrow Agent (and its directors, officers and employees) and hold it (and such directors, officers and employees) harmless from and against any loss, liability, damage, cost and expense of any nature (including, without limitation, the fees and expenses of outside counsel and experts and their staffs and all expense of document location, duplication and shipment) incurred by the Escrow Agent arising out of or in connection with this Agreement or with the administration of its duties hereunder, including, but not limited to, reasonable attorneys' fees and other costs and expenses of defending or preparing to defend against any claim of liability unless and except to the extent such loss, liability, damage, cost and expense shall be finally adjudicated by a court of competent jurisdiction to have been primarily caused by the Escrow Agent's gross negligence or willful misconduct. The foregoing indemnification and agreement to hold harmless shall survive the resignation of the Escrow Agent or the termination of this Agreement.

k. Each of the Seller and Buyer agrees, jointly and severally, (i) to assume any and all obligations imposed now or hereafter by any applicable tax law with respect to any payment or distribution of the Escrow Fund or performance of other activities under this Agreement, (ii) to instruct the Escrow Agent in writing with respect to the Escrow Agent's responsibility for withholding and other taxes, assessments or other governmental charges, and to instruct the Escrow Agent with respect to any certifications and governmental reporting that may be required under any laws or regulations that may be applicable in connection with its acting as Escrow Agent under this Agreement, and (iii) to indemnify and hold the Escrow Agent harmless from any liability or obligation on account of taxes, assessments, additions for late payment, interest, penalties, expenses and other governmental charges that may be assessed or asserted against the Escrow Agent in connection with, on account of or relating to the Escrow Fund, the management established hereby, any payment or distribution of or from the Escrow Fund pursuant to the terms hereof or other activities performed under the terms of this Agreement, including without limitation any liability for the withholding or deduction of (or the failure to withhold or deduct) the same, and any liability for failure to obtain proper certifications or to report properly to governmental authorities in connection with this Agreement, including costs and expenses (including reasonable attorneys' fees and expenses), interest and penalties. The foregoing indemnification and agreement to hold harmless shall survive the resignation of the Escrow Agent or the termination of this Agreement.

4. Statements. During the term of this Agreement, the Escrow Agent shall provide Seller and Buyer with monthly statements containing the beginning balance in the escrow account as well as all principal and income transactions for the statement period. The Escrow Agent shall be forever released and discharged from all liability with respect to the accuracy of such statements, except with respect to any such act or transaction as to which Seller or Buyer shall, within ninety (90) days after the furnishing of the statement, file written objections with the Escrow Agent.

5. Obligations of Seller Secured. Subject to Sections 7 through 9 below, the Escrow Agent shall retain the Escrow Fund for a period of one (1) year following Closing Date (the "Term") to fund Seller's responsibilities under Article VIII of the Asset Purchase Agreement.

6. Distribution Procedures. Except as specifically provided in this Agreement, no distribution from the Escrow Fund shall be made except as follows:

a. upon written notice executed jointly (or in counterparts) by Seller and Buyer (a "Joint Instruction"); or

b. as may be necessary to comply with any final and unappealable judgment, decree or order of a court of competent jurisdiction.

7. Final Distribution. Within ten (10) days following the earlier to occur of: (1) the Escrow Agent's receipt of written notice from one of the parties advising the Escrow Agent that the Term has expired; and (2) the parties' Joint Instruction to terminate the Escrow Fund because all of Seller's obligations under Article VIII of the Asset Purchase Agreement secured by this Agreement have been discharged, the Escrow Agent shall release the balance of the Escrow Fund to Seller or as the Seller may otherwise direct in writing.

8. Disbursement Instructions. In the event of any doubt or uncertainty by Escrow Agent as to the propriety of making periodic or final disbursements of the Escrow Fund, the Escrow Agent may retain the Escrow Fund, without penalty or liability, until the parties provide joint written instructions for the disbursement of the Escrow Fund or until a final adjudication is made as to its proper disposition. In this regard, Escrow Agent shall be entitled to rely absolutely on the advice of its counsel.

9. Tax Reporting. The Seller and Buyer hereby represent to the Escrow Agent that (a) there is no sale or transfer of a "United States Real Property Interest" as defined under Section 897(c) of the Internal Revenue Code, as the same may be amended from time to time (the "IRC") in the underlying transaction giving rise to this Agreement, and (b) such underlying transaction does not constitute an installment sale requiring tax reporting or withholding of imputed interest or original issue discount to the Internal Revenue Service ("IRS") or other taxing authority. The Seller and Buyer each agree that, for tax reporting purposes, all interest or other income earned from the investment of the Escrow Fund shall be reported by the Escrow Agent as allocated to the Seller, and reported, as and to the extent required by law, by the Escrow Agent to the IRS, or any other taxing authority on IRS Form 1099 or 1042S (or other appropriate form) as income earned from the Escrow Fund by the Seller whether or not said income has been distributed during such year.

10. Certification of Taxpayer Identification Number. Each of the Seller and Buyer agree to provide the Escrow Agent with a certified tax identification number by signing and returning a Form W-9 to the Escrow Agent upon the execution and delivery of this Agreement. Each of the Seller and Buyer understand that, in the event their tax identification numbers are not certified to the Escrow Agent, the IRC, may require withholding of a portion of any interest or other income earned on the investment of the Escrow Fund.

11. Amendment; Waiver. The parties may amend this Agreement only by the parties' written agreement that identifies itself as an amendment to this Agreement. Any waiver of, or consent to depart from, the requirements of any provision of this Agreement will be effective only if it is in writing and signed by the parties giving it, and only in the specific instance and for the specific purpose for which it has been given. No failure on the part of any party to exercise, and no delay in exercising, any right under this Agreement will operate as a waiver of such right. No single or partial exercise of any such right shall preclude any other or further exercise of such right or the exercise of any other right.

12. Discharge. The Escrow Agent may be discharged from its duties as Escrow Agent under this Agreement upon thirty (30) days written notice from Buyer and Seller jointly and upon payment of any and all fees and indemnity amounts due to Escrow Agent. In such event, the Escrow Agent shall be entitled to rely on instructions from Buyer and Seller jointly as to the disposition and delivery of the Escrow Fund.

13. Execution. This Agreement may be executed in any number of counterparts which, taken together, is one and the same agreement. This Agreement becomes effective when it has been executed by each party and delivered to all parties, provided, however, that this Agreement shall be effective as between Buyer and Seller when it has been executed by Buyer and Seller and delivered to each of Buyer and Seller. To evidence the fact that it has executed this Agreement, a party may send a copy of its executed counterpart to the other parties by facsimile transmission. Such party is deemed to have executed and delivered this Agreement on the date it sent such facsimile transmission. In such event, such party shall forthwith deliver to the other parties an original counterpart of this Agreement executed by such party.

14. Severability. If any term, provision, covenant or restriction contained in this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions contained in this Agreement shall remain in full force and effect and in no way be affected, impaired or invalidated.

15. Entire Agreement. This Agreement is the entire agreement among the parties pertaining to the subject matter hereof and supersedes all prior agreements, negotiations, discussions and understandings, written or oral, among the parties. There are no representations, warranties, conditions or other agreements, whether direct or collateral, or express or implied, that form part of or affect this Agreement, or that induced any party to enter into this Agreement or on which reliance is placed by any party, except as specifically set forth in this Agreement. The parties acknowledge and agree that (i) each has substantial business experience and is fully acquainted with the provisions of this Agreement, (ii) the provisions and language of this Agreement have been fully negotiated and (iii) no provision of this Agreement shall be construed in favor of any party or against any party by reason of such provision of this Agreement having been drafted on behalf of one party rather than the other parties.

16. Governing Law; Jurisdiction. The laws of the Commonwealth of Pennsylvania (without giving effect to its conflicts of law principles) govern all matters arising and relating to this Agreement, including torts. The parties irrevocably agree and consent to the jurisdiction of the United States District Court for the Western District of Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, for the adjudication of any matters arising under or in connection with this Agreement. Any action initiated in court shall be filed and litigated (including all discovery proceedings) exclusively in the United States District Court for the Western District of Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, and each party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action or proceeding. Service of process, summons, notice or other document by mail to such party's address set forth herein shall be effective service of process for any suit, action or other proceeding brought in any such court. EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT OR THE OTHER TRANSACTION DOCUMENTS IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES AND, THEREFORE, EACH SUCH PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LEGAL ACTION ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY TO THIS AGREEMENT CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT SEEK TO ENFORCE THE FOREGOING WAIVER IN THE EVENT OF A LEGAL ACTION, (B) SUCH PARTY HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

17. Parties in Interest; Third Party Beneficiaries. Except as hereinafter provided, this Agreement is not intended to and shall not be construed to create upon any Person other than the parties any rights or remedies hereunder.

18. Successors and Assigns. No party to this Agreement may assign any right or delegate any performance under this Agreement without the prior written consent of the other parties. A purported assignment or purported delegation without prior written consent is void.

19. Specific Performance. Irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms of this Agreement. Any party may seek specific performance of the terms of this Agreement, in addition to any other remedy to which they are entitled at law or in equity if such party has performed in accordance with the terms of this Agreement.

20. Headings. The headings in this Agreement are for convenience of reference only and shall neither be considered as part of this Agreement, nor limit or otherwise affect the meaning hereof.

21. Notices. All notices, requests, demands and other communications required or permitted under this Agreement shall be in writing and shall be deemed to have been duly given, made and received only when delivered (personally, by courier service such as Federal Express, or by other messenger) to the address set forth below:

in the case of the Seller:
Butler Area Sewer Authority
100 Litman Road
Butler, Pennsylvania 16001-3256
Attention: Executive Director

with a copy to:

Obermayer Rebmann Maxwell & Hippel LLP
Centre Square West
1500 Market Street
Suite 3400
Philadelphia, PA 19102-2101
Attention: Thomas Wyatt

in the case of the Buyer:
Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Mike Doran, President

with a copy to:
Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Andrew Swope, Managing General Counsel

Any party may alter the address to which communications or copies are to be sent by giving notice of such change of address in conformity with the provisions of this paragraph for the giving of notice.

Signature page follows.

IN WITNESS WHEREOF, the Parties have executed, or caused to be executed by their duly authorized Representatives, this Agreement as of the Effective Date.

BUTLER AREA SEWER AUTHORITY

By: _____
Printed: _____
Its:

ATTEST:

By: _____
Name:
Its:

PENNSYLVANIA-AMERICAN WATER COMPANY

By: _____
Printed: F. Michael Doran
Its: President

ATTEST:

By: _____
Name: Andrew L. Swope
Its: VP, General Counsel and Secretary

IN WITNESS WHEREOF, the Parties have executed, or caused to be executed by their duly authorized Representatives, this Agreement as of the Effective Date.

BUTLER AREA SEWER AUTHORITY

By: _____
Printed: Duane E. McKee
Its: Executive Director

ATTEST:

By: _____
Name: Lance R. Calyert
Its: Secretary

PENNSYLVANIA-AMERICAN WATER COMPANY

By: _____
Printed: _____
Its: President

ATTEST:

By: _____
Name:
Its:

EXHIBIT I

Fee Schedule

EXHIBIT II

Terms of Escrow Account

The Escrow Fund shall be continuously invested in an interest-bearing account.

Exhibit B-2

Easement Escrow Agreement

EASEMENT ESCROW AGREEMENT

THIS ESCROW AGREEMENT (the "Agreement") is entered into on _____ ___, 2022 by **Pennsylvania-American Water Company** ("Buyer"), the **Butler Area Sewer Authority** ("Seller") and **[_____]**, as escrow agent (the "Escrow Agent").

BACKGROUND:

Buyer and Seller have entered into a certain Asset Purchase Agreement dated _____, 2022 (the "Asset Purchase Agreement"). Upon Closing of the transaction contemplated by the Asset Purchase Agreement, Buyer is required to deposit the amount of $[_____] of the Purchase Price into escrow (the "Easement Escrow Fund" hereinafter referred to as the "Escrow Fund") in order to secure Seller's obligations related to all Missing Easements that have not been obtained as of Closing pursuant to Section 6.05(d) of the Asset Purchase Agreement. Buyer and Seller are entering into this Agreement to establish the terms of the funding, management and distribution of the Easement Escrow Fund as required by the Asset Purchase Agreement. This Agreement is referred to in the Asset Purchase Agreement as the "Easement Escrow Agreement."

Capitalized terms used in this Agreement but not defined herein have the meanings ascribed to them in the Asset Purchase Agreement.

NOW THEREFORE, in consideration of the premises and of the mutual covenants contained herein and in the Asset Purchase Agreement, the parties hereto agree as follows:

1. Acceptance by Escrow Agent. The Escrow Agent accepts the appointment as escrow agent pursuant to this Agreement and shall act on the terms and conditions set forth in this Agreement. Escrow Agent shall be paid from the Escrow Fund in accordance with the provisions of Exhibit I.

2. Investment of Escrow Fund. Upon receipt by the Escrow Agent of the Escrow Fund at Closing, the Escrow Agent shall, subject to the terms hereof, retain the Escrow Fund and is empowered and directed to invest the Escrow Fund in an interest-bearing account, as described more fully in Exhibit II. The Escrow Agent shall not be obligated to earn any particular yield or rate of return on the Escrow Fund. All interest and other earnings on the Escrow Funds shall be retained by the Escrow Agent until disbursed in accordance with the terms hereof. The Escrow Agent shall have no liability for any investment losses.

3. Rights and Responsibilities of Escrow Agent. The acceptance by the Escrow Agent of its duties hereunder is subject to the following terms and conditions, which shall govern and control with respect to the Escrow Agent's rights, duties, liabilities and immunities:

a. The Escrow Agent shall act hereunder as a depository only, and it shall not be responsible or liable in any manner whatsoever for the sufficiency, correctness, genuineness or validity of any document furnished to the Escrow Agent or any asset deposited with it.

b. The Escrow Agent shall have no duties except those specifically set forth in this Agreement.

c. The Escrow Agent shall have the right any time it deems appropriate to seek an adjudication in a court of competent jurisdiction as to the respective rights of the parties hereto and shall not be held liable by any party hereto for the delay or the consequences of any delay occasioned by such resort to court.

d. The Escrow Agent: (i) shall not be responsible for any of the agreements referred to or described herein, or for determining or compelling compliance therewith, and shall not otherwise be bound thereby; (ii) shall be obligated only for the performance of such duties as are expressly and specifically set forth in this Agreement on its part to be performed, each of which is ministerial (and shall not be construed to be fiduciary) in nature, and no implied duties or obligations of any kind shall be read into this Agreement against or on the part of the Escrow Agent; (iii) shall not be obligated to take any legal or other action hereunder which might in its judgment involve or cause it to incur any expense or liability unless it shall have been furnished with acceptable indemnification; (iv) may rely on and shall be protected in acting or refraining from acting upon any written notice, instruction (including, without limitation, wire transfer instructions, whether incorporated herein or provided in a separate written instruction), instrument, statement, certificate, request or other document furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper person, and shall have no responsibility or duty to make inquiry as to or to determine the genuineness, accuracy or validity thereof (or any signature appearing thereon), or of the authority of the person signing or presenting the same, and (v) may consult counsel satisfactory to it, including in-house counsel, and the opinion or advice of such counsel in any instance shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in accordance with the opinion or advice of such counsel. In the event of any conflict between the terms and provision of this Agreement, those of the Asset Purchase Agreement, any schedule or exhibit attached to the Agreement, or any other Agreement among the parties, the terms and conditions of this Agreement shall control.

e. The Escrow Agent shall not be liable to anyone for any action taken or omitted to be taken by it hereunder except in the case of the Escrow Agent's gross negligence or willful misconduct as determined by a court of competent jurisdiction as being the primary cause of any loss to either the Seller or Buyer. The Escrow Agent may execute any of its powers and perform any of its duties hereunder directly or through affiliates or agents. The Escrow Agent may consult with accountants and other skilled persons to be selected and retained by it. The Escrow Agent shall not be liable for any action taken, suffered or omitted to be taken by it in accordance with, or in reliance upon, the advice or opinion of any such accountants or other skilled persons. In the event that the Escrow Agent shall receive instructions, claims or demands from any party hereto which, in its opinion, conflict with any of the provisions of this Agreement, it shall be entitled to refrain from taking any action and its sole obligation shall be to keep safely all property held in escrow until it shall be given a direction in writing by the parties which eliminates such conflict or by a final and non-appealable court order. In no event shall the Escrow Agent be liable for indirect, punitive, special or consequential damage or loss (including but not limited to lost profits) whatsoever, even if the Escrow Agent has been informed of the likelihood of such loss or damage and regardless of the form of action.

f. The Escrow Agent is hereby authorized, in making or disposing of any investment permitted by this Agreement, to deal with itself (in its individual capacity) or with any one or more of its affiliates, whether it or such affiliate is acting as a subagent of the Escrow Agent or for any third person or dealing as principal for its own account.

g. Notwithstanding any term appearing in this Agreement to the contrary, in no instance shall the Escrow Agent be required or obligated to distribute any portion of the Escrow Fund (or take other action that may be called for hereunder to be taken by the Escrow Agent) sooner than two (2) business days after (i) it has received the applicable documents required under this Agreement in an acceptable form; or (ii) passage of the applicable time period (or both, as applicable under the terms of this Agreement), as the case may be.

h. Unless and except to the extent otherwise expressly set forth herein, all deposits and payments hereunder, or pursuant to the terms hereof shall be in U.S. dollars.

i. The Escrow Agent shall have the right at any time to resign for any reason and be discharged of its duties as Escrow Agent hereunder by giving written notice of its resignation to the parties hereto at least thirty (30) business days prior to the date specified for such resignation to take effect. All obligations of the Escrow Agent in this Agreement shall cease and terminate on the effective date of its resignation, provided that, prior to the effective date of resignation:

(i) if a successor escrow agent shall have been appointed and written notice thereof shall have been given to the resigning Escrow Agent by Buyer, Seller and the successor escrow agent, then the resigning Escrow Agent shall deliver the Escrow Fund to the successor escrow agent; or

(ii) if a successor escrow agent shall not have been appointed by Buyer and Seller, for any reason whatsoever, the resigning Escrow Agent shall deliver the Escrow Fund to a court of competent jurisdiction and give written notice of the same to the Buyer and Seller.

The resigning Escrow Agent shall be reimbursed from the Escrow Fund for any expenses incurred in connection with its resignation and transfer of the Escrow Fund pursuant to and in accordance with the provisions of this Section.

j. The Seller and Buyer each covenants and agrees, jointly and severally, to indemnify the Escrow Agent (and its directors, officers and employees) and hold it (and such directors, officers and employees) harmless from and against any loss, liability, damage, cost and expense of any nature (including, without limitation, the fees and expenses of outside counsel and experts and their staffs and all expense of document location, duplication and shipment) incurred by the Escrow Agent arising out of or in connection with this Agreement or with the administration of its duties hereunder, including, but not limited to, reasonable attorneys' fees and other costs and expenses of defending or preparing to defend against any claim of liability unless and except to the extent such loss, liability, damage, cost and expense shall be finally adjudicated by a court of competent jurisdiction to have been primarily caused by the Escrow Agent's gross negligence or willful misconduct. The foregoing indemnification and agreement to hold harmless shall survive the resignation of the Escrow Agent or the termination of this Agreement.

k. Each of the Seller and Buyer agrees, jointly and severally, (i) to assume any and all obligations imposed now or hereafter by any applicable tax law with respect to any payment or distribution of the Escrow Fund or performance of other activities under this Agreement, (ii) to instruct the Escrow Agent in writing with respect to the Escrow Agent's responsibility for withholding and other taxes, assessments or other governmental charges, and to instruct the Escrow Agent with respect to any certifications and governmental reporting that may be required under any laws or regulations that may be applicable in connection with its acting as Escrow Agent under this Agreement, and (iii) to indemnify and hold the Escrow Agent harmless from any liability or obligation on account of taxes, assessments, additions for late payment, interest, penalties, expenses and other governmental charges that may be assessed or asserted against the Escrow Agent in connection with, on account of or relating to the Escrow Fund, the management established hereby, any payment or distribution of or from the Escrow Fund pursuant to the terms hereof or other activities performed under the terms of this Agreement, including without limitation any liability for the withholding or deduction of (or the failure to withhold or deduct) the same, and any liability for failure to obtain proper certifications or to report properly to governmental authorities in connection with this Agreement, including costs and expenses (including reasonable attorneys' fees and expenses), interest and penalties. The foregoing indemnification and agreement to hold harmless shall survive the resignation of the Escrow Agent or the termination of this Agreement.

4. Statements. During the term of this Agreement, the Escrow Agent shall provide Seller and Buyer with monthly statements containing the beginning balance in the escrow account as well as all principal and income transactions for the statement period. The Escrow Agent shall be forever released and discharged from all liability with respect to the accuracy of such statements, except with respect to any such act or transaction as to which Seller or Buyer shall, within ninety (90) days after the furnishing of the statement, file written objections with the Escrow Agent.

5. Preparation of List of Missing Easements. At or before Closing, a written list containing all Missing Easements as of Closing, shall be appended to this Agreement as Schedule A.

6. Obligations of Seller Secured. Subject to Sections 7 through 9 below, the Escrow Agent shall retain the Escrow Fund for a period of three (3) years following Closing Date (the "Term") to fund Buyer's assumption of the responsibilities under Section 6.05(d) of the Asset Purchase Agreement.

7. Distribution Procedures. Except as specifically provided in this Agreement, no distribution from the Escrow Fund shall be made except as follows:

a. upon written notice executed jointly (or in counterparts) by Seller and Buyer (a "Joint Instruction"); or

b. as may be necessary to comply with any final and unappealable judgment, decree or order of a court of competent jurisdiction.

8. Periodic Distributions to Buyer. During the Term, Buyer and Seller shall, on a quarterly basis, issue a Joint Instruction to the Escrow Agent to make a distribution to Buyer for Buyer's unreimbursed Covered Expenses. For purposes of this Section 8, the following terms shall have the following meanings:

"***Conveyance Instrument***" means a written instrument signed by all parties required to effectuate its terms, in form and substance acceptable to Buyer in its reasonable discretion and in form acceptable for recording with the Butler County Recorder of Deeds, which memorializes Buyer's property interest required to maintain the Acquired Asset in the location in which it is situated.

"***Covered Expenses***" means any and all expenses paid or payable by Buyer to third-parties in securing a Conveyance Instrument, including, without limitation, consideration paid to any counterparty to such Conveyance Instrument to acquire the interest granted therein, payments to engineers, attorneys and other vendors reasonably required to secure such Conveyance Instrument, and all costs of litigation, condemnation and any fees related to the foregoing.

9. Final Distribution. Within ten (10) days following the earlier to occur of: (1) the Escrow Agent's receipt of written notice from one of the parties advising the Escrow Agent that the Term has expired; and (2) the parties' Joint Instruction to terminate the Escrow Fund because all of Seller's obligations under Section 6.05(d) of the Asset Purchase Agreement secured by this Agreement have been discharged, the Escrow Agent shall release the balance of the Escrow Fund to Seller or as the Seller may otherwise direct in writing.

10. Disbursement Instructions. In the event of any doubt or uncertainty by Escrow Agent as to the propriety of making periodic or final disbursements of the Escrow Fund, the Escrow Agent may retain the Escrow Fund, without penalty or liability, until the parties provide joint written instructions for the disbursement of the Escrow Fund or until a final adjudication is made as to its proper disposition. In this regard, Escrow Agent shall be entitled to rely absolutely on the advice of its counsel.

11. Tax Reporting. The Seller and Buyer hereby represent to the Escrow Agent that (a) there is no sale or transfer of a "United States Real Property Interest" as defined under Section 897(c) of the Internal Revenue Code, as the same may be amended from time to time (the "IRC") in the underlying transaction giving rise to this Agreement, and (b) such underlying transaction does not constitute an installment sale requiring tax reporting or withholding of imputed interest or original issue discount to the Internal Revenue Service ("IRS") or other taxing authority. The Seller and Buyer each agree that, for tax reporting purposes, all interest or other income earned from the investment of the Escrow Fund shall be reported by the Escrow Agent as allocated to the Seller, and reported, as and to the extent required by law, by the Escrow Agent to the IRS, or any other taxing authority on IRS Form 1099 or 1042S (or other appropriate form) as income earned from the Escrow Fund by the Seller whether or not said income has been distributed during such year.

12. Certification of Taxpayer Identification Number. Each of the Seller and Buyer agree to provide the Escrow Agent with a certified tax identification number by signing and returning a Form W-9 to the Escrow Agent upon the execution and delivery of this Agreement. Each of the Seller and Buyer understand that, in the event their tax identification numbers are not certified to the Escrow Agent, the IRC, may require withholding of a portion of any interest or other income earned on the investment of the Escrow Fund.

13. Amendment; Waiver. The parties may amend this Agreement only by the parties' written agreement that identifies itself as an amendment to this Agreement. Any waiver of, or consent to depart from, the requirements of any provision of this Agreement will be effective only if it is in writing and signed

by the parties giving it, and only in the specific instance and for the specific purpose for which it has been given. No failure on the part of any party to exercise, and no delay in exercising, any right under this Agreement will operate as a waiver of such right. No single or partial exercise of any such right shall preclude any other or further exercise of such right or the exercise of any other right.

14. Discharge. The Escrow Agent may be discharged from its duties as Escrow Agent under this Agreement upon thirty (30) days written notice from Buyer and Seller jointly and upon payment of any and all fees and indemnity amounts due to Escrow Agent. In such event, the Escrow Agent shall be entitled to rely on instructions from Buyer and Seller jointly as to the disposition and delivery of the Escrow Fund.

15. Execution. This Agreement may be executed in any number of counterparts which, taken together, is one and the same agreement. This Agreement becomes effective when it has been executed by each party and delivered to all parties, provided, however, that this Agreement shall be effective as between Buyer and Seller when it has been executed by Buyer and Seller and delivered to each of Buyer and Seller. To evidence the fact that it has executed this Agreement, a party may send a copy of its executed counterpart to the other parties by facsimile transmission. Such party is deemed to have executed and delivered this Agreement on the date it sent such facsimile transmission. In such event, such party shall forthwith deliver to the other parties an original counterpart of this Agreement executed by such party.

16. Severability. If any term, provision, covenant or restriction contained in this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions contained in this Agreement shall remain in full force and effect and in no way be affected, impaired or invalidated.

17. Entire Agreement. This Agreement is the entire agreement among the parties pertaining to the subject matter hereof and supersedes all prior agreements, negotiations, discussions and understandings, written or oral, among the parties. There are no representations, warranties, conditions or other agreements, whether direct or collateral, or express or implied, that form part of or affect this Agreement, or that induced any party to enter into this Agreement or on which reliance is placed by any party, except as specifically set forth in this Agreement. The parties acknowledge and agree that (i) each has substantial business experience and is fully acquainted with the provisions of this Agreement, (ii) the provisions and language of this Agreement have been fully negotiated and (iii) no provision of this Agreement shall be construed in favor of any party or against any party by reason of such provision of this Agreement having been drafted on behalf of one party rather than the other parties.

18. Governing Law; Jurisdiction. The laws of the Commonwealth of Pennsylvania (without giving effect to its conflicts of law principles) govern all matters arising and relating to this Agreement, including torts. The parties irrevocably agree and consent to the jurisdiction of the United States District Court for the Western District of Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, for the adjudication of any matters arising under or in connection with this Agreement. Any action initiated in court shall be filed and litigated (including all discovery proceedings) exclusively in the United States District Court for the Western District of Pennsylvania and the Court of Common Pleas of Butler County, Pennsylvania, and each party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action or proceeding. Service of process, summons, notice or other document by mail to such party's address set forth herein shall be effective service of process for any suit, action or other proceeding brought in any such court. EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT OR THE OTHER

TRANSACTION DOCUMENTS IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES AND, THEREFORE, EACH SUCH PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LEGAL ACTION ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY TO THIS AGREEMENT CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT SEEK TO ENFORCE THE FOREGOING WAIVER IN THE EVENT OF A LEGAL ACTION, (B) SUCH PARTY HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

19. Parties in Interest; Third Party Beneficiaries. Except as hereinafter provided, this Agreement is not intended to and shall not be construed to create upon any Person other than the parties any rights or remedies hereunder.

20. Successors and Assigns. No party to this Agreement may assign any right or delegate any performance under this Agreement without the prior written consent of the other parties. A purported assignment or purported delegation without prior written consent is void.

21. Specific Performance. Irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms of this Agreement. Any party may seek specific performance of the terms of this Agreement, in addition to any other remedy to which they are entitled at law or in equity if such party has performed in accordance with the terms of this Agreement.

22. Headings. The headings in this Agreement are for convenience of reference only and shall neither be considered as part of this Agreement, nor limit or otherwise affect the meaning hereof.

23. Notices. All notices, requests, demands and other communications required or permitted under this Agreement shall be in writing and shall be deemed to have been duly given, made and received only when delivered (personally, by courier service such as Federal Express, or by other messenger) to the address set forth below:

in the case of the Seller:
Butler Area Sewer Authority
100 Litman Road
Butler, Pennsylvania 16001-3256
Attention: Executive Director

with a copy to:

Obermayer Rebmann Maxwell & Hippel LLP
Centre Square West
1500 Market Street
Suite 3400
Philadelphia, PA 19102-2101
Attention: Thomas Wyatt

in the case of the Buyer:
Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Mike Doran, President

with a copy to:
Pennsylvania American Water
852 Wesley Drive
Mechanicsburg, PA 17055
ADDRESS
Attention: Andrew Swope, Managing General Counsel

Any party may alter the address to which communications or copies are to be sent by giving notice of such change of address in conformity with the provisions of this paragraph for the giving of notice.

Signature page follows.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the date first above written.

BUTLER AREA SEWER AUTHORITY

By: _____

Printed: _____
Its:

ATTEST:

By: _____
Name:
Its:

PENNSYLVANIA-AMERICAN WATER COMPANY

By: _____

Printed: _____
Its: President

ATTEST:

By: _____
Name:
Its:

ESCROW AGENT:

[_____]

By: _____

Printed: _____

Title: _____

SCHEDULE A*

I. Missing Easements

*to be populated on or before Closing as Buyer proceeds through title review / abstracting process.

EXHIBIT I

Fee Schedule

EXHIBIT II

Terms of Escrow Account

The Escrow Fund shall be continuously invested in an interest-bearing account.

Exhibit C

Letter of Credit

IRREVOCABLE TRANSFERABLE STANDBY LETTER OF CREDIT

BENEFICIARY:	Butler Area Sewer Authority 100 Litman Road Butler, Pennsylvania 16001-3256 Attention: Executive Director
APPLICANT:	Pennsylvania-American Water Company 852 Wesley Drive Mechanicsburg, PA 17055 ADDRESS Attention: Mike Doran, President
OUR REFERENCE:	_____
AMOUNT:	USD 3,000,000.00
ISSUE DATE:	_____
EXPIRY DATE:	_____
EXPIRY PLACE:	OUR COUNTERS

Dear Beneficiary:

At the request of and for the account of Pennsylvania-American Water Company, a Pennsylvania corporation (the "Applicant"), we hereby establish in your favor, the Butler Area Sewer Authority, a municipal authority organized under the Pennsylvania Municipality Authorities Act ("Beneficiary"), as Seller pursuant to that certain Asset Purchase Agreement, dated as of [_____], 2022 (as amended, restated, amended and restated, or otherwise modified, supplemented or replaced, the "Asset Purchase Agreement"), by and among the Applicant, as buyer and Beneficiary, as seller, our Irrevocable Transferable Standby Letter of Credit (this "Letter of Credit") whereby, subject to the terms and conditions contained herein, you are hereby irrevocably authorized to draw by your draft or drafts at sight, the amount of Three Million and /00 Dollars ($3,000,000.00) (the "Stated Amount").

This Letter of Credit shall be effective immediately and shall expire on the Expiration Date (as hereinafter defined). Partial drawings on this Letter of Credit are not permitted.

You may draw upon this Letter of Credit at any time on or prior to the Expiration Date by presenting (a) a sight draft in the form of Exhibit A hereto (the "Sight Draft"), appropriately completed and executed by your authorized officer and (b) a certificate in the form of Exhibit B hereto (each a "Certificate"), appropriately completed and executed by your authorized officer.

Presentation of any Sight Draft and Certificate shall be made at our office located at: 500 FIRST AVENUE, 2ND FLOOR, PITTSBURGH, PA 15219, ATTN: INTERNATIONAL TRADE SERVICES STANDBY L/C DEPT (whether, by overnight courier or fax, delivered to _____ or such other

number as we may advise in writing). Presentation by fax of the Sight Draft and Certificate will constitute the operative drawing documentation for presentation without the necessity of subsequent delivery of original documentation. We hereby agree with you that any Sight Draft and Certificate drawn under and in compliance with the terms and conditions of this Letter of Credit shall be duly honored by us upon delivery, if presented on or before our close of business on the Expiration Date at our office specified above.

Provided that a compliant drawing is presented by 12:00 p.m., Eastern Standard time, on any Business Day, payment shall be made to you of the amount specified in the applicable Sight Draft, not to exceed the Stated Amount, in immediately available funds, not later than 1:00 p.m., Eastern Standard time, on the Business Day. A compliant drawing presented after 12:00 p.m., Eastern Standard time on any Business Day, will be paid on the third following Business Day.

As used herein, "Business Day" shall mean any day other than a Saturday, Sunday or day on which banking institutions are authorized or required by law to be closed in the Commonwealth of Pennsylvania.

The term of this Letter of Credit shall be for one (1) year and shall be automatically renewed at the end of the initial year and each renewal year for an additional year.

Only you as Seller under the Asset Purchase Agreement may draw upon this Letter of Credit. Upon the earliest of (i) the honoring by us of a drawing in the Stated Amount, (ii) our receipt of this outstanding Letter of Credit and all amendments hereto, and a written certificate signed by your authorized officer, in the form of Exhibit C hereto (Early Cancellation Authority) appropriately completed stating that this Letter of Credit is no longer required by you and may be cancelled prior to Expiration Date, or (iii) the Expiration Date, this Letter of Credit shall automatically terminate and be delivered to us together with all amendments hereto by the Beneficiary for cancellation. It is further understood that this Letter of Credit will terminate on such Expiration Date regardless whether we receive it or not for cancellation.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any document, instrument or agreement referred to herein and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement, except as stated herein in the next paragraph.

This Letter of Credit is issued subject to the Uniform Customs and Practice for Documentary Credits, 2007 Revision, International Chamber of Commerce Publication No. 600 (the "**UCP**") except to the extent the terms and conditions hereof are inconsistent with the provisions of the UCP, in which case the terms and conditions of this Letter of Credit shall govern. To the extent not inconsistent with the UCP, this Letter of Credit shall be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania excluding any choice of law provisions or conflict of law principles which would require reference to the laws of any other jurisdiction. In the event of a conflict between the UCP and the laws of the Commonwealth of Pennsylvania, the UCP shall prevail.

Very truly yours,

PNC Bank, National Association

By: _____
Name: _____
Title: _____

Exhibit A
to Letter of Credit
No. [__]

SIGHT DRAFT

[Date]

PNC Bank, National Association
500 First Avenue, 2nd Floor,
Pittsburgh, PA 15219
ATTN: International Trade Services Standby L/C Dept
Facsimile: _____

Re: Irrevocable Transferable Standby Letter of Credit No. [_____]

At Sight

Pay to [insert Beneficiary name], as Seller, in immediately available funds Three Million Dollars ($3,000,000), pursuant to Irrevocable Transferable Standby Letter of Credit No. _____.

Beneficiary: Butler Area Sewer Authority

By: _____
Name: _____
Title: _____

Please wire draw proceeds per the following instructions:

TO:

ABA or ROUTING #:
ATTN:

REFERENCE:
CREDIT ACCOUNT:

_____
_____
_____

_____
_____
_____

Exhibit B
to Letter of Credit
No. [__]

CERTIFICATE

[Date]

PNC Bank, National Association
500 First Avenue, 2nd Floor,
Pittsburgh, PA 15219
ATTN: International Trade Services Standby L/C Dept
Facsimile: _____

Re: Irrevocable Transferable Standby Letter of Credit No. [___]

Ladies/Gentlemen:

This certificate (this "Certificate") is presented in accordance with the terms and conditions of your Irrevocable Transferable Standby Letter of Credit No. [_____] held by us (the "Letter of Credit"). Capitalized terms not defined herein shall have the same meaning as in the Letter of Credit.

We hereby certify that:

1. In connection with the Asset Purchase Agreement, dated as of [____], 2022 (as amended, amended and restated, modified or supplemented from time to time, the "Asset Purchase Agreement"), by and among Pennsylvania-American Water Company, a Pennsylvania corporation ("Applicant" or "Buyer") and Butler Area Sewer Authority, as seller (the "Beneficiary"), the Beneficiary is making a demand for payment under the Letter of Credit in the sum of US$3,000,000, which amount, together with all previous drawings honored pursuant to the Letter of Credit, does not exceed the current Stated Amount of the Letter of Credit; and

2. Buyer has failed to file an application with the PUC seeking approval of the underlying transaction pursuant to Section 7.06 of the Asset Purchase Agreement within six (6) months of completion of both appraisals by the Utility Valuation Experts, and Seller has exercised its right, in its sole discretion, to terminate the Asset Purchase Agreement, and draw upon the Letter of Credit, pursuant to the terms thereof.

The amount demanded hereby is pursuant to the terms of the Asset Purchase Agreement.

This Certificate has been executed and delivered by a duly authorized officer of the undersigned on the date first above written.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

Beneficiary: Butler Area Sewer Authority

By: _____
Name: _____
Title: _____

Execution Page to the Certificate to the Sight Draft pursuant to Letter of credit No. _____

Exhibit C
to Letter of Credit
No. [__]

EARLY CANCELLATION AUTHORITY

[Date]

PNC Bank, National Association
500 First Avenue, 2nd Floor,
Pittsburgh, PA 15219
ATTN: International Trade Services Standby L/C Dept
Facsimile: _____

Ladies/Gentlemen:

This certificate is presented in accordance with your Irrevocable Transferable Standby Letter of Credit No. [__] held by us (the "Letter of Credit").

The undersigned, as beneficiary under the Letter of Credit, hereby confirms that the Letter of Credit is no longer required by us and may be cancelled. The original Letter of Credit and all amendments thereto, accompany this certificate.

This certificate has been executed and delivered by a duly authorized officer of the undersigned on the date first above written.

Beneficiary: Butler Area Sewer Authority

By: _____
Name: _____
Title: _____

Exhibit D

Offer Letter Language

If during the tenure of your employment with _____ (the "Company"), the Company requires you to permanently perform your job at a location in excess of 30 miles from the location of your current job, you will have the option of continuing employment or terminating employment for good reason. If your employment terminates for good reason, the Company shall, within 14 days following termination of employment, provide you the following: (1) a lump sum, payment equal to 1.5 times your annual pay; and, (2) continued medical and dental coverage under COBRA, at the Company's expense, for a period of up to 12 months or, except that such COBRA obligation will end if you obtain similar of better coverage through other employment.

For purposes of this Offer Letter only, the term "permanently" shall mean, a duration of more than 10 working days in a rolling 12-month time period.

The termination payments described herein shall be conditioned upon your execution and delivery to the Company of a general release of liability for the Company covering all claims except those that cannot be waived under applicable Laws.

Exhibit E-1

General Release Over 40

SEPARATION AGREEMENT AND GENERAL RELEASE

This Separation Agreement and General Release ("Agreement") dated DATE is between Pennsylvania-American Water Company ("American Water" or the "Company") and EMPLOYEE NAME (the "Employee").

WHEREAS, American Water will terminate Employee's employment on DATE ("Separation Date");

WHEREAS, Employee and American Water have agreed to resolve all claims and potential claims which have been, or could have been, brought by Employee against American Water arising out of Employee's employment with American Water to date;

WHEREAS, Employee and American Water desire to document the terms of their agreement, with the parties agreeing that neither party admits wrongdoing, fault, or liability whatsoever, and that nothing herein shall be construed or interpreted as an admission of any wrongdoing, fault or liability of either party; and

NOW THEREFORE, in consideration of the mutual promises and releases contained herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

1. **Termination of Employment.** Regardless of whether Employee signs this Agreement, American Water will pay Employee, at Employee's current base salary, through and including the Separation Date. American Water also will continue to cover Employee under American Water's group health insurance plan through DATE and will pay Employee for any unused accrued vacation days through the Separation Date at Employee's base salary rate.

2. **Separation Benefits.** [AS SET FORTH IN APA].

3. **Conditions of Receipt and Timing**. Employee shall not be entitled to receive the Separation Benefits until (i) Employee signs this Agreement, (ii) the seven (7)-day Revocation Period referenced in Section 9(h) below expires without Employee having exercised Employee's right of revocation, and (iii) all Company property has been returned in accordance with Section 5(d) below. Provided that this Agreement is signed, and is not revoked, the Separation Payment will be made to Employee within sixty (60) days of the Separation Date. If a payment that is conditioned on signing this Agreement could be paid in more than one taxable year, the payment will be made in the later taxable year.

4. **No Reemployment** Employee agrees not to seek or apply for, and hereby renounces and forever waives, any and all reinstatement, new employment, or any contractual relationship, whether temporary or permanent, part-time or full time, in any capacity whatsoever, with American Water or any of its owners, members, parents, divisions, subsidiaries, affiliates or owners. Employee agrees that he shall not be hired by American Water or any of its owners, members, parents, divisions, subsidiaries, affiliates or owners, and if he is hired, he may be terminated immediately based on this Agreement without recourse.

5. **Confidentiality; Non-Disclosure; Return of Property, Disparaging Statements, References and Unemployment Compensation.**

a. Confidentiality. Employee understands and agrees that the terms and contents of this Agreement shall remain confidential by Employee or Employee's agents and representatives and shall not be disclosed, with the exception of: (1) members of Employee's immediate family, Employee's attorneys, accountants, tax or financial advisors, each of who shall be informed of this confidentiality obligation and shall agree to be bound by its terms; (2) to the Internal Revenue Service or state or local taxing authority; (3) as is expressly required or protected by law; (4) American Water press release or filing with the Securities and Exchange Commission; or any disclosures made by the Employee to pursuant to the whistleblower provisions in the Exchange Act (15 U.S.C. § 78u-6) and the Sarbanes Oxley Act of 2002 (18 U.S.C. § 1514A); (5) in any action to challenge or enforce the terms of this Agreement, provided that such disclosure by an appropriate confidentiality order to the maximum extent permitted by applicable authority. Nothing contained in this Agreement shall preclude the Employee from initiating and/or cooperating fully with any governmental investigation.

b. Non-Disclosure of Confidential Information and Intellectual Property.

Employee acknowledges that the Confidentiality Policy and Agreement, executed on [INSERT DATE], and the Intellectual Property Agreement, executed on [INSERT DATE], are incorporated by reference into this Agreement and that their terms and conditions remain in full force and effect.

c. Notice of Immunity for Confidential Disclosure of a Trade Secret to an Attorney, the Government or in a Court Filing. Federal law provides certain protections to individuals who disclose a trade secret to their attorney, a court, or a government official in certain, confidential circumstances. Specifically, federal law provides that an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret under either of the following conditions:

- Where the disclosure is made (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or

- Where the disclosure is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. 18 U.S.C. § 1833(b)(1).

Federal law also provides that an individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order. 18 U.S.C. § 1833(b)(2).

d. Return of Property. Employee shall immediately return to American Water (and shall not retain any copies of) any and all property of the Company in Employee's possession, including (without limitation) all papers, documents, business plans, project pipeline

information, correspondence, office pass, keys, telephones, blackberry or other personal devices, credit cards, electronic or digitally stored information, and computer equipment.

e. Disparaging Statements. Employee agrees not to make written (to include online or other written statements) or oral statements about American Water or Releasees (as defined in Section 6(a) below) that are negative or disparaging. Nothing in this Agreement shall preclude Employee from communicating or testifying truthfully (i) to the extent required or protected by law, (ii) to any federal, state, or local governmental agency, (iii) in response to a subpoena to testify issued by a court of competent jurisdiction, or (iv) in any action to challenge or enforce the terms of this Agreement. Employee understands that this is a material provision of this Agreement.

f. Unemployment Compensation. American Water agrees not to oppose Employee's application for unemployment compensation benefits, if any. American Water shall, however, respond as necessary to any inquiries from any governmental agencies with respect to Employee's unemployment compensation claim.

g. References. Employee agrees that all requests for references from prospective employers will be directed solely to the attention of HRBP NAME, POSITION, COMPANY NAME, ADDRESS, CITY, STATE AND ZIP, PHONE, EMAIL ADDRESS. Upon any request for a reference, HRBP NAME will solely confirm Employee's dates of employment with American Water, positions Employee held with American Water, and Employee's last salary earned with American Water.

h. Taxes. As required by law, the Company will issue the appropriate IRS Form(s) at the appropriate time. Any payments provided for herein shall be reduced by any amounts required to be withheld by the Company from time to time under applicable federal, state or local income or employment tax laws or similar statutes or other provisions of law then in effect. Employee agrees that (i) Employee shall be solely responsible for all taxes, including, but not limited to, income and excise taxes, imposed on Employee in respect of amounts paid to Employee by the Company under this Agreement; (ii) Employee shall not seek reimbursement from the Company for such taxes; and (iii) Employee agrees to and does hereby indemnify and hold the Company harmless against any and all tax liability, interest, and/or penalties.

6. **General Release of Legal Claims.**

a. Employee, on behalf of Employee, and Employee's heirs, executors, administrators, and/or assigns, does hereby releases and forever discharges American Water, together with its parents, subsidiaries, affiliates, predecessors, and successor corporations and business entities, past, present and future, and its and their agents, directors, officers, partners, employees, shareholders, insurers and reinsurers, and employee benefit plans (and the trustees, administrators, fiduciaries, insurers, and reinsurers of such plans) past, present and future, and their heirs, executors, administrators, predecessors, successors, and assigns (collectively, the "Releasees"), of and from any and all legally waivable claims, causes of actions, suits, lawsuits, debts, and demands whatsoever in law or in equity, known or unknown, suspected or unsuspected, which Employee ever had, now has or which Employee's executors administrators, or assigns hereafter may have from the beginning of time to the date Employee executes this Agreement, and including, without limitation, any claims arising from or relating to Employee's employment relationship with American Water, and the termination of such relationship, including, without limitation, any claims

arising under Title VII of the Civil Rights Act of 1964 ("Title VII"), the Americans with Disabilities Act ("ADA"), the Employee Retirement Income Security Act ("ERISA"), the Family and Medical Leave Act ("FMLA"), the Age Discrimination in Employment Act of 1967 ("ADEA"), the Older Workers Benefit Protection Act ("OWBPA"), the Pennsylvania Human Relations Act, the Pennsylvania Equal Pay Law, the Pennsylvania Whistleblower Law, the Pennsylvania Breastfeeding Rights law, the Pennsylvania Smoking in the Workplace law, the Pennsylvania Constitution, the common law of the Commonwealth of Pennsylvania, and any and all other federal, state, or local constitutional, statutory, regulatory, or common law causes of action now or hereafter recognized, and any claims for attorneys' fees and costs. Nothing in this Agreement shall waive rights or claims that arise after the date that Employee executes this Agreement.

b. Notwithstanding the broad scope of Section 6(a), this Agreement is not intended to bar any claims that, as a matter of applicable law, whether by statute or otherwise, cannot be waived, such as claims for workers' compensation benefits, unemployment insurance benefits, and any claims that arise after the date that the Employee executes this Agreement. Nothing in this Agreement is intended to interfere with, prevent or prohibit Employee from filing a claim with a federal, state or local government agency that is responsible for enforcing a law on behalf of the government, such as the Equal Employment Opportunity Commission ("EEOC") (including a challenge to the validity of this Agreement), Department of Labor ("DOL"), Securities and Exchange Commission ("SEC") or National Labor Relations Board ("NLRB"). Nor should anything in this Agreement be read to deter or prevent Employee from cooperating with or providing information to such a governmental agency during the course of its investigation or during litigation. However, Employee understands and agrees that, that except for claims brought pursuant to the SEC's Whistleblower Program (15 U.S.C. § 78u-6 and 18 U.S.C. § 1514A), Employee may not recover any monetary benefit or individualized relief as a result of any such claim brought on Employee's behalf.

7. **Cooperation.** Employee agrees that Employee shall cooperate with the Company in the defense of any claim currently pending or hereinafter pursued against the Company without the payment of any additional compensation other than as set forth in this Agreement. Upon receipt of appropriate supporting documentation, American Water shall reimburse Employee for all of Employee's approved and reasonable costs and expenses incurred in connection with such cooperation. In the case of legal proceedings involving American Water, to the extent permissible by law, Employee will notify, in writing, the individual then holding the office of General Counsel, American Water Works Service Company, Inc., 1 Water Street, Camden, NJ 08102-1658, of any subpoena or other similar notice to give testimony or provide documentation within two (2) business days of receipt of the same and prior to providing any response thereto. Nothing in this Agreement shall preclude Employee from participating in and fully cooperating with any governmental investigation.

8. **Business Expenses and Compensation.** Employee acknowledges and agrees that (i) should Employee execute this Agreement, the amounts set forth in Sections 1 and 2 are in complete satisfaction of any and all compensation and benefits due to Employee from the Company, and that no further severance, separation, compensation, benefits or other amounts are owed or will be paid to Employee by the Company, (ii) Employee has been reimbursed by American Water for all business expenses incurred in conjunction with the performance of Employee's employment and that no other reimbursements are owed to Employee, and (iii) Employee has not suffered any on-the-job injury for which Employee has not already filed a claim.

9. **Acknowledgements**. Employee hereby certifies and acknowledges that:

a. Employee has read the terms of this Agreement and that Employee understands its terms and effects, including the fact that Employee has agreed to **REMISE, RELEASE, AND FOREVER DISCHARGE** Releasees from all claims set forth in Section 6(a);

b. Employee is receiving consideration which is in addition to anything of value to which Employee otherwise would have been entitled had Employee not executed this Agreement;

c. Employee enters into this Agreement knowingly and voluntarily without any coercion on the part of any person or entity;

d. Employee was given adequate time to consider all implications and to freely and fully consult with and seek the advice of whomever Employee deemed appropriate;

e. Employee was advised in writing, by way of this Agreement, to consult an attorney before signing this Agreement;

f. Employee has been given twenty-one (21) calendar days within which to consider this Agreement before signing it ("Consideration Period") and, in the event that Employee signs this Agreement and returns it back to the Company in accordance with the Notice provision below during this Consideration Period, said signing constitutes a knowing and voluntary waiver of this Consideration Period. Employee further understands and agrees that any changes to this Agreement, whether material or immaterial, do not restart the Consideration Period;

g. Employee shall have the right to revoke this Agreement within seven (7) calendar days after signing it (the "Revocation Period"). If the seventh day is a weekend or national holiday, Employee has until the next business day to revoke. If Employee elects to revoke this Agreement, Employee shall notify HRBP NAME, TITLE, ADDRESS, ZIP, EMAIL in writing of Employee's revocation. Unless revoked within this period, this Agreement will become irrevocable on the eighth day after it is signed; and

h. Employee does not waive rights or claims that may arise after the date this Agreement is executed.

10. **General Terms.**

a. Notices. All notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed to have been given when delivered personally to the recipient, two (2) business days after the date when sent to the recipient by reputable express courier service (charges prepaid) or four (4) business days after the date when mailed to the recipient by certified or registered mail, return receipt requested and postage prepaid. Such notices, demands and other communications shall be sent to Employee and to the Company at the addresses set forth below:

If to Employee:

EMPLOYEE NAME
ADDRESS

CITY, STATE ZIP

If to Company:

NAME OF CONTACT
COMPANY
ADDRESS
CITY, STATE ZIP

or to such other address or to the attention of such other person as the recipient party has specified by prior written notice to the sending party.

b. Entire Agreement. This Agreement constitutes and contains the entire agreement and understanding concerning Employee's employment and termination thereof, and the other subject matters addressed herein between the parties, and supersedes and replaces all prior negotiations and all prior agreements proposed or otherwise, whether written or oral, concerning the subject matter hereof.

c. Modification. This Agreement can be modified only by a writing signed by both Employee and a duly authorized agent of the Company.

d. Assignment. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective heirs, executors, administrators, legal representatives, successors and assigns of the Company and Employee.

e. Interpretation of Agreement. If any provision of this Agreement or application thereof to anyone under any circumstances is adjudicated to be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect any other provision or application of this Agreement which can be given effect without the invalid or unenforceable provision or application and shall not invalidate or render unenforceable such provision or application in any other jurisdiction.

f. Choice of Law and Forum. This Agreement shall be governed by the substantive law of the state of Pennsylvania without regard to its conflict of law rules. The Company and Employee consent to the exclusive jurisdiction of the courts of Pennsylvania to adjudicate any and all disputes arising between them and hereby waive any and all objections based on alleged lack of personal jurisdiction.

The Company and Employee have carefully read and understand all of the provisions of this Agreement. They enter into this Agreement freely, knowingly, and voluntarily. In entering into this Agreement, neither the Company nor Employee is relying upon any representations or promises not expressly set forth in this Agreement. Intending to be legally bound to this Agreement, the Company's representative and Employee sign their names below.

_____	_____
NAME OF AUTHORIZED PARTY	EMPLOYEE NAME
TITLE	
COMPANY	
Dated: _____, 2022	Dated: _____, 2022

Exhibit E-2

General Release Under 40

SEPARATION AGREEMENT AND GENERAL RELEASE

This Separation Agreement and General Release ("Agreement") dated DATE is between Pennsylvania-American Water Company ("American Water" or the "Company") and EMPLOYEE NAME (the "Employee").

WHEREAS, American Water will terminate Employee's employment on DATE ("Separation Date");

WHEREAS, Employee and American Water have agreed to resolve all claims and potential claims which have been, or could have been, brought by Employee against American Water arising out of Employee's employment with American Water to date;

WHEREAS, Employee and American Water desire to document the terms of their agreement, with the parties agreeing that neither party admits wrongdoing, fault, or liability whatsoever, and that nothing herein shall be construed or interpreted as an admission of any wrongdoing, fault or liability of either party; and

NOW THEREFORE, in consideration of the mutual promises and releases contained herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

1. **Termination of Employment.** Regardless of whether Employee signs this Agreement, American Water will pay Employee, at Employee's current base salary, through and including the Separation Date. American Water also will continue to cover Employee under American Water's group health insurance plan through DATE and will pay Employee for any unused accrued vacation days through the Separation Date at Employee's base salary rate.

2. **Separation Benefits.** [AS SET FORTH IN APA].

3. **Conditions of Receipt and Timing**. Employee shall not be entitled to receive the Separation Benefits until (i) Employee signs this Agreement and (ii) all Company property has been returned in accordance with Section 5(d) below. The Separation Payment will be made the Employee within sixty (60) days of the Separation Date. If a payment that is conditioned on signing this Agreement could be paid in more than one taxable year, the payment will be made in the later taxable year.

4. **No Reemployment** Employee agrees not to seek or apply for, and hereby renounces and forever waives, any and all reinstatement, new employment, or any contractual relationship, whether temporary or permanent, part-time or full time, in any capacity whatsoever, with American Water or any of its owners, members, parents, divisions, subsidiaries, affiliates or owners. Employee agrees that he shall not be hired by American Water or any of its owners, members, parents, divisions, subsidiaries, affiliates or owners, and if he is hired, he may be terminated immediately based on this Agreement without recourse.

5. **Confidentiality; Non-Disclosure; Return of Property, Disparaging Statements, References and Unemployment Compensation.**

a. Confidentiality. Employee understands and agrees that the terms and contents of this Agreement shall remain confidential by Employee or Employee's agents and representatives and shall not be disclosed, with the exception of: (1) members of Employee's immediate family, Employee's attorneys, accountants, tax or financial advisors, each of who shall be informed of this confidentiality obligation and shall agree to be bound by its terms; (2) to the Internal Revenue Service or state or local taxing authority; (3) as is expressly required or protected by law; (4) American Water press release or filing with the Securities and Exchange Commission; or any disclosures made by the Executive to pursuant to the whistleblower provisions in the Exchange Act (15 U.S.C. § 78u-6) and the Sarbanes Oxley Act of 2002 (18 U.S.C. § 1514A); (5) in any action to challenge or enforce the terms of this Agreement, provided that such disclosure by an appropriate confidentiality order to the maximum extent permitted by applicable authority. Nothing contained in this Agreement shall preclude the Employee from initiating and/or cooperating fully with any governmental investigation.

b. Non-Disclosure of Confidential Information and Intellectual Property.

Employee acknowledges that the Confidentiality Policy and Agreement, executed on [INSERT DATE], and the Intellectual Property Agreement, executed on [INSERT DATE], are incorporated by reference into this Agreement and that their terms and conditions remain in full force and effect.

c. Notice of Immunity for Confidential Disclosure of a Trade Secret to an Attorney, the Government or in a Court Filing. Federal law provides certain protections to individuals who disclose a trade secret to their attorney, a court, or a government official in certain, confidential circumstances. Specifically, federal law provides that an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret under either of the following conditions:

- Where the disclosure is made (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or

- Where the disclosure is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. See 18 U.S.C. § 1833(b)(1).

Federal law also provides that an individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order. See 18 U.S.C. § 1833(b)(2).

c. Return of Property. Employee shall immediately return to American Water (and shall not retain any copies of) any and all property of the Company in Employee's possession, including (without limitation) all papers, documents, business plans, project pipeline

information, correspondence, office pass, keys, telephones, blackberry or other personal devices, credit cards, electronic or digitally stored information, and computer equipment.

d. Disparaging Statements. Employee agrees not to make written (to include online or other written statements) or oral statements about American Water or Releasees (as defined in Section 6(a) below) that are negative or disparaging. Nothing in this Agreement shall preclude Employee from communicating or testifying truthfully (i) to the extent required or protected by law, (ii) to any federal, state, or local governmental agency, (iii) in response to a subpoena to testify issued by a court of competent jurisdiction, or (iv) in any action to challenge or enforce the terms of this Agreement. Employee understands that this is a material provision of this Agreement.

e. Unemployment Compensation. American Water agrees not to oppose the Employee's application for unemployment compensation benefits, if any. American Water shall, however, respond as necessary to any inquiries from any governmental agencies with respect to the Employee's unemployment compensation claim.

f. References. Employee agrees that all requests for references from prospective employers will be directed solely to the attention of HRBP NAME, POSITION, COMPANY NAME, ADDRESS, CITY, STATE AND ZIP, PHONE, EMAIL ADDRESS. Upon any request for a reference, HRBP NAME will solely confirm the Employee's dates of employment with American Water, positions the Employee held with American Water, and Employee's last salary earned with American Water.

g. Taxes. As required by law, the Company will issue the appropriate IRS Form(s) at the appropriate time. Any payments provided for herein shall be reduced by any amounts required to be withheld by the Company from time to time under applicable federal, state or local income or employment tax laws or similar statutes or other provisions of law then in effect. Employee agrees that (i) Employee shall be solely responsible for all taxes, including, but not limited to, income and excise taxes, imposed on Employee in respect of amounts paid to the Employee by the Company under this Agreement; (ii) Employee shall not seek reimbursement from the Company for such taxes; and (iii) Employee agrees to and does hereby indemnify and hold the Company harmless against any and all tax liability, interest, and/or penalties.

6. **General Release of Legal Claims.**

a. Employee, on behalf of Employee, and Employee's heirs, executors, administrators, and/or assigns, does hereby releases and forever discharges American Water, together with its parents, subsidiaries, affiliates, predecessors, and successor corporations and business entities, past, present and future, and its and their agents, directors, officers, partners, employees, shareholders, insurers and reinsurers, and employee benefit plans (and the trustees, administrators, fiduciaries, insurers, and reinsurers of such plans) past, present and future, and their heirs, executors, administrators, predecessors, successors, and assigns (collectively, the "Releasees"), of and from any and all legally waivable claims, causes of actions, suits, lawsuits, debts, and demands whatsoever in law or in equity, known or unknown, suspected or unsuspected, which Employee ever had, now has or which Employee's executors administrators, or assigns hereafter may have from the beginning of time to the date Employee executes this Agreement, and including, without limitation, any claims arising from or relating to Employee's employment relationship with American Water, and the termination of such relationship, including, without limitation, any claims

arising under Title VII of the Civil Rights Act of 1964 ("Title VII"), the Americans with Disabilities Act ("ADA"), the Employee Retirement Income Security Act ("ERISA"), the Family and Medical Leave Act ("FMLA"), the Pennsylvania Human Relations Act, the Pennsylvania Equal Pay Law, the Pennsylvania Whistleblower Law, the Pennsylvania Breastfeeding Rights law, the Pennsylvania Smoking in the Workplace law, the Pennsylvania Constitution, the common law of the Commonwealth of Pennsylvania, and any and all other federal, state, or local constitutional, statutory, regulatory, or common law causes of action now or hereafter recognized, and any claims for attorneys' fees and costs. Nothing in this Agreement shall waive rights or claims that arise after the date that Employee executes this Agreement.

b. Notwithstanding the broad scope of Section 6(a), this Agreement is not intended to bar any claims that, as a matter of applicable law, whether by statute or otherwise, cannot be waived, such as claims for workers' compensation benefits, unemployment insurance benefits, and any claims that arise after the date that the Employee executes this Agreement. Nothing in this Agreement is intended to interfere with, prevent or prohibit Employee from filing a claim with a federal, state or local government agency that is responsible for enforcing a law on behalf of the government, such as the Equal Employment Opportunity Commission ("EEOC") (including a challenge to the validity of this Agreement), Department of Labor ("DOL"), Securities and Exchange Commission ("SEC") or National Labor Relations Board ("NLRB"). Nor should anything in this Agreement be read to deter or prevent Employee from cooperating with or providing information to such a governmental agency during the course of its investigation or during litigation. However, Executive understands and agrees that, that except for claims brought pursuant to the SEC's Whistleblower Program (15 U.S.C. § 78u-6 and 18 U.S.C. § 1514A), Executive may not recover any monetary benefit or individualized relief as a result of any such claim brought on Executive's behalf.

7. **Cooperation.** Employee agrees that Employee shall cooperate with the Company in the defense of any claim currently pending or hereinafter pursued against the Company without the payment of any additional compensation other than as set forth in this Agreement. Upon receipt of appropriate supporting documentation, American Water shall reimburse Employee for all of Employee's approved and reasonable costs and expenses incurred in connection with such cooperation. In the case of legal proceedings involving American Water, to the extent permissible by law, Employee will notify, in writing, the individual then holding the office of General Counsel, American Water Works Service Company, Inc., 1 Water Street, Camden, NJ 08102-1658, of any subpoena or other similar notice to give testimony or provide documentation within two (2) business days of receipt of the same and prior to providing any response thereto. Nothing in this Agreement shall preclude the Employee from participating in and fully cooperating with any governmental investigation.

8. **Business Expenses and Compensation.** Employee acknowledges and agrees that (i) should the Employee execute this Agreement, the amounts set forth in Sections 1 and 2 are in complete satisfaction of any and all compensation and benefits due to Employee from the Company, and that no further severance, separation, compensation, benefits or other amounts are owed or will be paid to Employee by the Company, (ii) Employee has been reimbursed by American Water for all business expenses incurred in conjunction with the performance of Employee's employment and that no other reimbursements are owed to Employee, and (iii) Employee has not suffered any on-the-job injury for which the Employee has not already filed a claim.

9. **Acknowledgements**. Employee hereby certifies and acknowledges that:

i. Employee has read the terms of this Agreement and that Employee understands its terms and effects, including the fact that Employee has agreed to **REMISE, RELEASE, AND FOREVER DISCHARGE** Releasees from all claims set forth in Section 6(a);

j. Employee is receiving consideration which is in addition to anything of value to which Employee otherwise would have been entitled had Employee not executed this Agreement;

k. Employee enters into this Agreement knowingly and voluntarily without any coercion on the part of any person or entity;

l. Employee has been given fourteen (14) calendar days within which to consider this Agreement before signing it and this 14-day period was adequate time to consider all implications and to freely and fully consult with and seek the advice of whomever the Employee deemed appropriate;

m. Employee was advised in writing, by way of this Agreement, to consult an attorney before signing this Agreement;

n. Employee understands that Employee may not execute this Agreement prior to the Separation Date; and

o. Employee does not waive rights or claims that may arise after the date this Agreement is executed.

10. **General Terms.**

a. Notices. All notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed to have been given when delivered personally to the recipient, two (2) business days after the date when sent to the recipient by reputable express courier service (charges prepaid) or four (4) business days after the date when mailed to the recipient by certified or registered mail, return receipt requested and postage prepaid. Such notices, demands and other communications shall be sent to the Employee and to the Company at the addresses set forth below:

If to Employee:

EMPLOYEE NAME
ADDRESS
CITY, STATE ZIP

If to Company:

NAME OF CONTACT
COMPANY
ADDRESS
CITY, STATE ZIP

or to such other address or to the attention of such other person as the recipient party has specified by prior written notice to the sending party.

b. Entire Agreement. This Agreement constitutes and contains the entire agreement and understanding concerning Employee's employment and termination thereof, and the other subject matters addressed herein between the parties, and supersedes and replaces all prior negotiations and all prior agreements proposed or otherwise, whether written or oral, concerning the subject matter hereof.

c. Modification. This Agreement can be modified only by a writing signed by both the Employee and a duly authorized agent of the Company.

d. Assignment. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective heirs, executors, administrators, legal representatives, successors and assigns of the Company and Employee.

e. Interpretation of Agreement. If any provision of this Agreement or application thereof to anyone under any circumstances is adjudicated to be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect any other provision or application of this Agreement which can be given effect without the invalid or unenforceable provision or application and shall not invalidate or render unenforceable such provision or application in any other jurisdiction.

f. Choice of Law and Forum. This Agreement shall be governed by the substantive law of the state of Pennsylvania without regard to its conflict of law rules. The Company and Employee consent to the exclusive jurisdiction of the courts of Pennsylvania to adjudicate any and all disputes arising between them and hereby waive any and all objections based on alleged lack of personal jurisdiction.

The Company and Employee have carefully read and understand all of the provisions of this Agreement. They enter into this Agreement freely, knowingly, and voluntarily. In entering into this Agreement, neither the Company nor Employee is relying upon any representations or promises not expressly set forth in this Agreement. Intending to be legally bound to this Agreement, the Company's representative and Employee sign their names below.

_____	_____
NAME OF AUTHORIZED PARTY	EMPLOYEE NAME
TITLE	
COMPANY	
Dated: _____, 2022	Dated: _____, 2022

Exhibit F

Memorandum of Understanding

This Memorandum of Understanding (the "MOU") is entered into on this ___ day of _____ 202___ between Butler Area Sewer Authority (the "Authority"), and The American Federation of State, County and Municipal Employees – AFL-CIO Butler Area Sewer Authority Employees, District Council 84 (the "Union") (collectively the Parties"). It shall be effective on the date the MOU is signed and dated by the Parties.

WHEREAS, the Authority and the Union are parties to a collective bargaining agreement that is effective January 1, 2020 through December 31, 2023 ("CBA"); and

WHEREAS, the Authority and the Union agree that employees represented by the Union should not be forced to permanently work farther than 30 miles away from the location of their current job; and

WHEREAS, the Parties, with the intent to be legally bound, agree to the following:

AGREEMENT

1. No employee represented by the Union shall be forced to permanently work from a location that is more than 30 miles away from the location of their current job, except by mutual agreement of the Parties.

2. For the purposes of this MOU only, the term "permanently" shall mean, a duration of more than 10 working days in a rolling 12-month time period.

3. This MOU and the CBA sets forth the entire agreement between the Parties, and supersedes any and all prior agreements, discussions, understandings, promises and expectations between the Parties concerning the above-referenced matters.

BUTLER AREA SEWER AUTHORITY

By: _____
Dated: _____

THE AMERICAN FEDERATION OF STATE, COUNTY AND MUNICIPAL EMPLOYEES – AFL-CIO BUTLER AREA SEWER AUTHORITY EMPLOYEES, DISTRICT COUNCIL 84
By: _____
Dated: _____

Exhibit G

Bill of Sale

THIS BILL OF SALE is made as of this __ day of _____, 202__, by and between Butler Area Sewer Authority (the "Seller") and [_____] (the "Buyer").

B A C K G R O U N D:

A. Seller and Buyer entered into that certain Asset Purchase Agreement dated _____, 2022 (the "Agreement"), pursuant to which Seller has agreed, among other things, to sell, transfer, convey, assign and deliver to Buyer and Buyer has agreed to purchase from Seller the Acquired Assets, including, without limitation, all of its personal property and fixed assets including equipment, machinery, vehicles, and auxiliary equipment as more thoroughly described on Exhibit "A" attached hereto and incorporated herein by reference ("Personal Property").

B. Seller desires hereunder to transfer and assign to Buyer the Personal Property pursuant to the Agreement and Buyer desires to accept the sale, transfer, conveyance, assignment and delivery thereof.

C. All capitalized terms not defined herein shall have the meaning ascribed to such term in the Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained in the Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

1. Transfer and Assignment. Seller hereby sells, transfers, assigns, delivers and conveys to Buyer, its successors and assigns, all of Seller's right, title and interest in, to and under the Personal Property.

2. Acceptance of Transfer and Assignment. Buyer hereby accepts the transfer, conveyance, assignment and delivery of the Personal Property.

3. Absolute Transfer. It is the intention of Seller to transfer absolute title of the Personal Property to Buyer.

4. Counterparts. This Bill of Sale may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which shall together constitute one and the same instrument. This Bill of Sale shall be binding when one or more counterparts hereof, individually or taken together, shall bear the signatures of all of the parties reflected on this Bill of Sale as the signatories.

5. Governing Law. This Bill of Sale shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania without giving effect to the conflicts of laws principles thereof.

6. Binding Effect. This Bill of Sale shall be binding upon and inure to the benefit of Seller and Buyer and their respective successors and assigns.

[Remainder of Page Intentionally Blank; Signature Page Immediately Follows]

IN WITNESS WHEREOF, the undersigned have caused this Bill of Sale to be duly executed on the day and year first above written.

SELLER:

BUTLER AREA SEWER AUTHORITY

By: _____

Name: _____
Title: _____

BUYER:

[_____]

By: _____

Name: _____
Title: _____

EXHIBIT A

Personal Property

Exhibit H

Assignment and Assumption Agreement

ASSIGNMENT AND ASSUMPTION AGREEMENT

THIS ASSIGNMENT AND ASSUMPTION AGREEMENT (this "Assignment") is entered into effective as of this __ day of _____, 202__, by and between Butler Area Sewer Authority (the "Assignor") and [_____] (the "Assignee").

A. Assignor, as seller, and Assignee, as purchaser, are parties to that certain Asset Purchase Agreement dated _____, 2022 (the "Purchase Agreement"), pursuant to which Assignor has agreed, among other things, to sell, transfer, convey, assign and deliver to Assignee and Assignee has agreed to purchase from Assignor the Acquired Assets.

B. The Purchase Agreement contemplates that at Closing, Assignor will assign to Assignee and Assignee will accept and assume, all of Assignor's right, title and interest in and to any and all Assigned Contracts and Authorizations and Permits (the "Assigned Business Deliverables") necessary for the operation of the Acquired Assets.

C. Unless herein otherwise defined, all terms defined in the Purchase Agreement shall have the meanings ascribed to them in the Purchase Agreement when used in this Assignment.

NOW, THEREFORE, in consideration of mutual promises contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows:

1. Assignment of Assigned Business Deliverables. To the extent assignable, Assignor hereby assigns, transfers, sets over, conveys and delivers to Assignee, and Assignee hereby accepts, all of Assignor's right, title and interest in and to all Assigned Business Deliverables, together with all rights and privileges of any nature thereunder accruing to Assignor on or after the date hereof.

2. Indemnification by Assignor. Assignor hereby agrees to indemnify, defend and hold harmless Assignee and the Buyer Indemnified Persons from and against any and all claims for Losses in accordance with Section 8.02 of the Purchase Agreement.

3. Indemnification by Assignee. Assignee hereby agrees to indemnify, defend and hold harmless Assignor and the Seller Indemnified Persons from and against any and all claims for Losses in accordance with Section 8.03 of the Purchase Agreement.

4. Counterparts. This Assignment may be executed in any number of identical counterparts, each of which may be executed by any one or more of the parties hereto, all of which shall together constitute one and the same instrument, and shall be binding and effective when each party hereto has executed and delivered to the other party at least one counterpart. Counterparts delivered via email (.pdf) or facsimile shall be deemed to be originals for all purposes.

5. Successors and Assigns. The terms and provisions of this Assignment shall be binding upon and inure to the benefit of the respective parties hereto, and their respective successors and assigns.

6. Governing Law. This Assignment shall be governed by, and construed and enforced in accordance with, the laws of the Commonwealth of Pennsylvania (without giving effect to Pennsylvania's principles of conflicts of law) and the applicable laws of the United States of America.

7. Further Assurances. Assignor acknowledges and agrees that it shall use commercially reasonable efforts to assist Assignee with notice to the other contract parties under the Assigned Contracts with respect to the execution and effect of this Assignment. Without limiting the foregoing, Assignor acknowledges and agrees that it shall use commercially reasonable efforts as requested to by Assignee to effectuate the assignment of any additional contracts, permits, authorizations, licenses and warranties not covered hereunder.

8. Absolute Assignment. It is the intention of Seller to transfer absolute title of the Assigned Business Deliverables to Buyer, its successors and assigns, free of any redemption by Seller or its successors and assigns.

[**REMAINDER OF PAGE INTENTIONALLY BLANK;**
SIGNATURE PAGE IMMEDIATELY FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have caused this Assignment to be duly executed as of the day and year first written above.

ASSIGNOR:

BUTLER AREA SEWER AUTHORITY

By: _____

Name: _____
Title: _____

ASSIGNEE:

[_____]

By: _____

Name: _____
Title: _____

Exhibit I

Joinder Agreement

ASSET PURCHASE AGREEMENT

JOINDER AGREEMENT

Reference is hereby made to the Asset Purchase Agreement (the "Agreement") by and between The Butler Area Sewer Authority, as seller (the "Seller") and [_____], as buyer (the "Buyer") dated _____, 2022, as amended from time to time. Pursuant to and in accordance with the Agreement, the undersigned hereby acknowledge that they have received and reviewed a complete copy of the Agreement and agree that upon execution of this Joinder Agreement, such Creating Municipalities shall be bound by, and subject to, the covenants, terms and conditions Sections 7.06, 7.11, 9.02, 9.05 and 15.08 of the Agreement as though an original party thereto, as well as those rights and benefits enumerated in such sections of the Agreement.

Capitalized terms used herein without definition shall have the meanings ascribed thereto in the Agreement.

[**REMAINDER OF PAGE INTENTIONALLY BLANK;**
SIGNATURE PAGE IMMEDIATELY FOLLOWS]

IN WITNESS WHEREOF, the undersigned has executed this Joinder Agreement as of the ____ day of _____, 2022.

CITY OF BUTLER

By: _____
Name:
Title:

TOWNSHIP OF BUTLER

By: _____
Name:
Title:

Acknowledged and accepted:

SELLER:
BUTLER AREA SEWER AUTHORITY

By: _____
Name:
Title:

BUYER:
[_____]

By: _____
Name:
Title:

Schedule 2.02(g)

Excluded Assets

1. Original MUNIS accounting software – if desired, a copy of the original MUNIS database can be made under an account to which Buyer can separately subscribe
2. Up to three computers
3. Printronix printer
4. HP printer
5. All original tax filings & records including Form W-2s and 1099s as well as any documents required to support those filings such as form W-9s
6. All payroll files, electronic and paper, for the most recent year
7. Retiree files and related OPEB reports and records
8. Medical records
9. All bank and trust statements
10. Original bond issue and Pennvest closing documents
11. Minutes of the Seller and permanent records including the annual audits, annual engineering reports, and insurance contracts

Schedule 4.05

Consents and Approvals

1. Pennsylvania Public Utility Commission ("PaPUC") Approval of Transaction
2. DEP Approval of Permit Transfers
3. DEP Act 537 Plan Special Study Approval
4. Consents to assign certain Assigned Contracts

Schedule 4.06

Undisclosed Liabilities

None.

Schedule 4.07

Absence of Certain Changes or Events

None.

Schedule 4.08

Unpaid Taxes and Tax Claims

None.

Schedule 4.09

Real Property and Easements; Liens

Real Property: Main Plant and Satellite Facilities

1. Monroe Street PS and EQ PS: 151 South Monroe Street, Butler, PA 16001 (Parcel ID No. 561-25-54B-0000)
2. Zeigler Avenue PS: 468 Zeigler Avenue, Butler, PA 16001 (Parcel ID No. 561-63-6A-0000)
3. Center Avenue PS: 120 Center Avenue, Butler, PA 16001 (Parcel ID No. 561-5-144B-0000)
4. Diamond Street PS: 535 West Diamond Street, Butler, PA 16001 (appears to be in the Diamond Street right of way between Parcel ID No. 563-26-90A and 563-26-8XB)
5. Negley Avenue PS: 521 Negley Avenue, Butler, PA 16001 (Parcel ID No. 563-6-240B-0000)
6. Monroe Street EQ Facility: 331 and 335 East Cunningham Street, Butler, PA 16001 (Parcel ID No. 562-25-58A-0000 and 562-25-38C-0000)
7. Central Storage EQ Facility: 519 Negley Avenue, Butler, PA 16001 (Parcel ID No. 563-6-240B-0000)
8. Ball Park EQ PS: 127.5 Pillow Street, Butler, PA 16001 (Parcel ID No. 563-26-91A-0000)
9. Connoquenessing EQ PS: 130 Etna Street, Butler, PA 16001 (Parcel ID No. 563-3-1-0000)
10. WWTP (Laboratory): 100 Litman Road, Butler, PA 16001 (Parcel ID No. 051-37-7-0000)
11. Greenwood Drive PS: 200 Greenwood Drive, Butler, PA 16001 (Parcel ID No. 056-1-5E-0000)
12. Benbrook Road PS: 524 South Benbrook Road, Butler, PA 16001 (Parcel ID No. 056-9-11C-0000)
13. Bryson Road PS: 106 Bryson Road, Butler, PA 16001 (Parcel ID No. 056-9-11D-0000)
14. Rocklick Creek PS: 433 Saw Mill Run Road, Butler, PA 16001 (Parcel ID No. 054-34-2A-0000)
15. Deshon Area PS, EQ PS and EQ Facility: 120 Saw Mill Run Road, Butler, PA 16001 (Parcel ID No. 054-35-X-0000)
16. Township Line PS: 106 Township Line Road, Butler, PA 16002 (Parcel ID No. 051-61-12A-0000)
17. Garden Grove PS: 119 Garden Grove Drive, Butler, PA 16002 (Parcel ID No. 051-61-D20A-0000)
18. Sugarcreek PS: 199 Dutchtown Road, Butler, PA 16002 (Parcel ID No. 051-62-5AA1-0000)
19. Pullman Center PS: 1A Armco Drive, Butler, PA 16001 (Parcel ID unknown) (located in a right of way off of Standard Avenue in the Pullman Center Business Park Subdivision No. 2)
20. September Drive PS: 139A September Drive, Butler, PA 16002 (located in the September Drive right of way in front of Parcel ID No. 051-55-A8)
21. Foxcroft Drive PS: 104A Foxcroft Drive, Butler, PA 16001 (located in an easement between Parcel ID No. 051-047-A30 and 051-47-A31 on Foxcroft Drive)
22. The Links PS: 112A Aubrey Drive, Butler, PA 16001 (located in the Aubrey Drive right of way in front of Parcel ID No. 056-4-2A)
23. Karns Crossing PS: 154 Bonnie Drive, Butler, PA 16001 (Parcel ID No. 053-24-D1B-0000)
24. Northvue PS: 101 Puff Lane, Butler, PA 16001 (Parcel ID No. 060-S16-DB-0000)
25. Fisher Heights PS: 2019 William Flynn Highway, Butler, PA 16001 (Parcel ID No. 060-3F41-41H-0000)
26. Brewster Road PS: 306 East Brewster Road, Butler, PA 16001 (Parcel ID No. 060-2F104-4C-0000)
27. Brewster Booster PS: 171 East Brewster Road, Butler, PA 16001 (Parcel ID No. 060-2F104-8HA-0000)
28. Cupps Road PS: 151 Cupps Road, Renfrew, PA 16053 (Parcel ID No. 120-3F47-13A-0000)

Additional Owned Real Property

1. 125 Pittsburgh Road (Parcel ID Nos. 051-37-7B-0000 and 051-37-7-0000)

2. 119 Pittsburgh Road (Parcel ID No. 051-37-12A-0000)
3. 121 Pittsburgh Road (Parcel ID No. 051-37-12C-0000)
4. 105 Morton Avenue (Parcel ID No. 0561-3-67-0000)
5. 122 Center Avenue (Parcel ID No. 562-5-147-0000)

Easements and Rights of Way: see spreadsheet titled "Property Records"

Schedule 4.10

Equipment and Machinery; Associated Liens

All of the equipment, machinery and office devices as shown on the 2022 Butler Area Sewer Authority 2022 Insurable Values Report located at the following sites:

- Wastewater Treatment Plant, 100 Litman Road:
  - Administrative Office Building (BLDG, P020)
  - Solids Disposal Building (BLDG, PS60)
  - Maintenance Building (BLDG, PM10)
  - Trickling Filter #1 (BLDG, PT61)
  - Tickling Filter #2 (BLDG, PT62)
  - Trickling Filter Collection Box A (BLDG, PT66)
  - Trickling Filter Collection Box B (BLDG, PT67)
  - Trickling Filter Collection Box C (BLDG, PT68)
  - Trickling Filter Distribution Box (BLDG, PT69)
  - Sludge Thickener Building (BLDG, PS50)
  - Aeration Tanks (BLDG, PA21)
  - Blower Building (BLDG, PB20)
  - Secondary Sedimentation Tanks (BLDG, PS21)
  - Pump Station (BLDG, PP80)
  - Primary Sedimentation Tank #1 (BLDG, PP61)
  - Primary Sedimentation Tank #2 (BLDG, PP63)
  - Lab Building (BLDG, PL20)
  - Garage (BLDG, PL10)
  - Grit Building (BLDG, PG60)
  - Meter Pit (BLDG, PP71)
  - Reactor Clarifier (BLDG, PR11)
  - Chemical Building (BLDG, PC40)
  - Carbon Dioxide Tank (BLDG, PC20)
  - Influent Monitoring Chamber (BLDG, P150)
  - Carbon Dioxide Tank Pad (BLDG, PC21)
  - Effluent Bypass Chamber (BLDG, PE20)
  - Old Pump House (BLDG, PP72)
  - Chlorine Contact Tank (BLDG, PC60)
  - Plant Outfall Chamber (BLDG, PE22)
  - Bypass Flow Monitoring Chamber (BLDG, PI11)
  - Junction Box (BLDG, P110)
  - Collection Chamber (BLDG, PE21)
  - Manhole #8 (BLDG, PP70)
  - Employee Locker Room Building (BLDG, PE40)
  - Throughout (BLDG, PT20)
  - PITO (BLDG, PP40)
  - Sewer Maintenance Building (BLDG, PS40)
  - Screening Building (BLDG, PS41)
  - Curling/Storage Building (BLDG, PS42)
- 524 South Benbrook Road:
  - Benbrook Pump Station (BLDG, SB10)
  - PITO (BLDG, SB11)
- 171 East Brewster Road:

  - Brewster Road Booster Pump Station (BLDG, SB40)
  - PITO (BLDG, SB42)
- 306 East Brewster Road:
  - Brewster Road Pump Station (BLDG, SB30)
  - PITO (BLDG, SB31)
- 106 Bryson Road:
  - Bryson Road Pump Station (BLDG, SB70)
  - PITO (BLDG, SB71)
- 120 Center Avenue:
  - Center Avenue Pump Station (BLDG, SC20)
- 151 Cupps Road:
  - Cupps Road Pump Station (BLDG, SC80)
  - PITO (BLDG, SC81)
- 120 Saw Mill Run Road:
  - Deshon Pump Station (BLDG, SD20)
  - Deshon Pump Station Screening Building/Pump Well (BLDG, ED70)
  - Deshon Pump Station Generator Building/Pump Control (BLDG, ED50)
  - Deshon Pump Station Overflow Chamber (BLDG, ED60)
  - Deshon Pump Station Washdown Booster P/S (BLDG, ED40)
  - Deshon Pump Station Equalization Tank #1 (BLDG, ED22)
  - Deshon Pump Station Equalization Tank #2 (BLDG, ED21)
  - Deshon Pump Station Water Meter Vault (BLDG, ED30)
  - Deshon Pump Station PITO (BLDG, ED31)
- 535 West Diamond Street:
  - Diamond Street Pump Station (BLDG, SD40)
- 2019 William Flynn Highway:
  - Fisher Heights Pump Station (BLDG, SF30)
  - PITO (BLDG, SF31)
- 104A Foxcroft Drive:
  - Foxcroft Drive Pump Station (BLDG, SF60)
- 119 Garden Grove Drive:
  - Garden Grove Pump Station (BLDG, SG10)
- 200 Greenwood Drive:
  - Greenwood Drive Pump Station (BLDG, SG70)
  - PITO (BLDG, SG71)
- 154 Bonnie Drive:
  - Karns Crossing Pump Station (BLDG SK10)
  - PITO (BLDG, SK13)
- 112A Aubrey Drive:
  - The Links Pump Station (BLDG, ST20)
- 151 South Monroe Street:
  - Monroe Street Pump Station (BLDG, SM50)
  - Monroe Street EQ Pump Station Pump Well (BLDG, EM60)
  - PITO (BLDG, EM70)
- 521 Negley Avenue:
  - Negley Avenue Pump Station (BLDG, SN20)
- 101 Puff Lane:
  - Northvue Pump Station (BLDG, SN50)
  - PITO (BLDG, SN52)
- 433 Saw Mill Run Road:

  - Rock Lick Creek Pump Station (BLDG, SR50)
  - PITO (BLDG, SR52)
- 331 East Cunningham Street:
  - Monroe EQ Facility Washdown Booster P/S (BLDG, EM30)
  - Monroe EQ Facility Equalization Tank #1 (BLDG, EM21)
  - Monroe EQ Facility Equalization Tank #2 (BLDG, EM22)
  - Monroe EQ Facility Water Meter Pit (BLDG, EM31)
  - Monroe EQ Facility PITO (BLDG, EM40)
- 106 Township Line Road:
  - Township Line Pump Station (BLDG, ST60)
  - PITO (BLDG, ST62)
- 139A September Drive:
  - September Drive Pump Station (BLDG, SS20)
- 199 Dutchtown Road:
  - Sugarcreek Pump Station (BLDG, SS80)
  - PITO (BLDG, SS82)
- Ziegler Avenue:
  - Ziegler Avenue Pump Station (BLDG, SZ20)
- 1A Armco Drive:
  - Pullman Center Pump Station (BLDG, SP70)
  - PITO (BLDG, SP72)
- 130 Etna Street:
  - Connoquenessing EQ Pump Station Generator Building/Pump Control (BLDG, EC70)
  - Connoquenessing EQ Pump Station Screening Building/Pump Station (BLDG, EC81)
  - Connoquenessing EQ Pump Station Diversion Chamber (BLDG, EC80)
  - Connoquenessing EQ Pump Station Valve Vault (BLDG, EC60)
  - PITO (BLDG, EC82)
- 127.5 Pillow Street:
  - Ball Park EQ Pump Station Generator Building/Pump Control (BLDG, EB10)
  - Ball Park EQ Pump Station Screening Building/Pump Well (BLDG, EB30)
  - Ball Park Pump Station Diversion Chamber (BLDG, EB20)
  - Ball Park Pump Station Overflow Manhole (BLDG, EB21)
  - Ball Park Pump Station PITO (BLDG, EB40)
- 519 Negley Avenue:
  - Central EQ Facility Washdown Booster P/S (BLDG, EC40)
  - Central EQ Facility Water Meter Vault (BLDG, EC41)
  - Central EQ Facility Equalization Tank #1 (BLDG, EC31)
  - Central EQ Facility Equalization Tank #2 (BLDG, EC32)
  - Central EQ Facility Equalization Tank #3 (BLDG, EC33)
  - Central EQ Facility PITO (BLDG, EC20)

B.A.S.A. VEHICLE NUMBER	YEAR	DESCRIPTION	VIN NUMBER NUMBER (VIN NO.)	PLATE NO. LICENSE	GVWR (Pounds)	CURRENT MILEAGE	ORIGINAL COST (Dollars)	GAS/DIESEL MOTOR	YEARS OLD 2022	INSERVICE DATE
LIGHT TRUCKS (≤10,000 lbs GVWR)										
33	2009	Ford F350 Super Duty 4x4 Pickup Truck (Maint #2)	1FTSF315X9EB25462	MG-9668E	10,000	26,811	$21,780	Gas	13	7/8/2009
38	2011	Ford E350 Econoline Sewer TV Van	1FTSS3ES9BDA42208	MG-7365F	9,500	9,728	$126,274	Gas	11	3/9/2011
39	2011	Ford Ranger Super Cab 4x4 Pickup Truck	1FTLR4FE1BPA51062	MG-5335E	5,150	66,644	$20,187	Gas	11	10/18/2011
40	2012	Ford E350 Econoline SD Cargo Van (Dye Test 2)	1FTSE3EL4CDA53375	MG-1778G	9,500	66,086	$22,780	Gas	10	2/21/2012
41	2012	Ford F350 Service Body Truck (Pump Stations)	1FD7X3F60CEB84379	MG-4173G	9,800	88,684	$36,808	Gas	10	7/3/2012
42	2012	Ford F250 Super Duty 4x4 Ext. Cab Pickup Truck	1FT7X2B65CEA86260	MG-5710G	10,000	66,076	$28,476	Gas	10	10/1/2012
43	2014	Ford 250 Locating Truck	1FTBF2B61EEB59575	MG-4324H	10,000	83,855	$25,851	Gas	8	5/3/2014
44	2017	Ford Explorer (Engineering)	1FM5K8D82HGB29225	MG-0098K	>10,000	21,854	$31,358	Gas	5	2/15/2017
45	2018	Ford 350 Sewer Maint. (Brian)	1FD8X3B69JEB92780	MG-0207L	11,500	30,054	$43,015	Gas	4	7/10/2018
46	2019	Ford Transit Van (Dye Test 1)	1FDBW9CM9KKB56700	MG-7459L	10,000	7,952	$35,000	Gas	3	8/27/2019
47	2020	Ford Super Duty	1FT7W2B68LED96177	MG-4733M	>10,000	745	$33,881	Gas	2	10/12/2021
48	2022	Ford Super Duty, F-350	IFT8X3B6XNEC26669	PA-ZSX-8700	>10,000	58	$39,905	Gas	0	9/14/2021
50	2022	Ford Transit (realty van)	1FDBW9CG5NKA60819	2TL7992		6	$40,376	Gas	0	8/26/2022
MEDIUM TRUCKS (10,001 TO 26,000 lbs GVWR)										
34	2011	International 4400 Aluminum Body Dump Truck	1HTMKAAL4BH384074	MG-7020F	25,999	11,778	$90,500	Diesel	11	4/1/2011
35	2011	Ford F450 4x2 Aluminum Body Dump Truck	1FDTF4GY6BEB20806	MG-4179F	16,000	48,713	$42,753	Gas	11	12/22/2010
36	2011	Ford F550 Service Body Truck (Maintenance)	1FDUF5HY9BEA65499	MG-2959F	18,000	24,112	$75,578	Gas	11	10/5/2010
HEAVY TRUCKS (>26,001 lbs GVWR)										
19	1997	Ford Louisville LT8501 Vactor Truck	1FDZW86E7VVA32683	71260-MG	58,000	34,242	$183,665	Diesel	25	4/7/1997
49	2021	Western Star 4700SF Vactor Truck	5KKHAVDV4NPNF0166	MG-147ON	66,000		$476,106	Diesel	1	12/21/2021
LICENSED OVER-THE-ROAD CONTRACTOR EQUIPMENT										
----	2000	John Deere Model 310SE Backhoe	T0310SE890959	87537-MG	17,800	2,239	$70,959		22	
TRAILERS								Diesel		
----	2001	Viking Dye Testing Trailer	1V91S1521Y1038034	97523-MG	7,500	----	$9,100	----	21	
----	2001	Forest River Enclosed TV Trailer	4X4TSE4131N020796	95996-MG	2,990	----	$2,297	----	21	
----	2011	Viking Fender Model Tag Equipment Trailer	1V91S1622B1038758	MG-2241L	14,000	----	$6,290	----	11	7/20/2011
OFF ROAD EQUIPMENT										
----	1993	John Deere Front Loader 624D	DW624ED535040	----	----	9,444	$79,275	Diesel	29	
----	2012	John Deere Skid Steer Loader 426D	1T0326DJTCG2294727	----	----	1,099	$37,726	Diesel	10	
----	2011	Kubota Compact Excavator	JKUK1213H01H72959	----	----	422	$49,302	Diesel	11	7/11/2011
----	2012	John Deere Gator Utility Vehicle	1M0825GECEM099659	----	----	5,955	$20,060	Gas	10	11/1/2014
----	2015	Godwin pump on trailer	15629941810000000	----	----	315	$56,800	Diesel	7	2016
----	2018	Toyota Forklift Model 8FGU25	Serial 91098	----	9,060	12.8	$31,137	Propane	4	

BUTLER AREA SEWER AUTHORITY

LIST OF INSURED CONTRACTORS' EQUIPMENT (As of August 17, 2022)

BASA NUMBER	MODEL YEAR OR YEAR PURCHASED	DESCRIPTION	EQUIPMENT IDENTIFICATION NUMBER (SERIAL NO.)	COST NEW (Dollars)
4	1992	John Deere Model 624D Front-Loader	DW624ED535040	$79,275
7	1992	PowerBoss Model SW9XV Sweeper	7805065	$27,892
9	2011	Kubota KX121R3TA Compact Excavator	JKUK 1213H01H72959	$49,302
10	2012	John Deere Model 326D Skid Steer Loader	1T0326DJTCG229427	$37,726
11	2014	John Deere Model XUV 825i Gator ATV	1M0825GECEM088659	$25,114
12	2015	Godwin Dri-Prime NC150 6" Pump/Trailer	15629948-1	$56,800
13	2018	Toyota Model 8FGU25 lift truck (fork lift)	Serial 91098	$31,137
			TOTAL	**$307,246**

Schedule 4.11(a)

Seller's Plans and Seller's Benefit Obligations

1. Long Term Disability SPD (Equitable)
2. Life/Accidental Death and Dismemberment SPD (Equitable)
3. 2022 Healthcare/Prescription Drug Benefit Grid (Highmark or UPMC, Municipal Benefit Services)
4. 2022 Dental Benefit Grid (United Concordia, Municipal Benefit Services)
5. 2022 Vision Benefit Grid (Vision Benefits of America, Municipal Benefit Services)
6. Section 125 Cafeteria Plan (Davevic Benefit Consultants):
    a. Pre-Tax Healthcare Premium Deferrals
    b. Employee Funded Pre-Tax Flexible Spending Accounts
    c. Employee Funded Pre-Tax Dependent Care
    d. Employee Funded Pre/Post Tax Aflac, as applicable
7. Retiree Healthcare Post-Employment Benefits (Mockenhaupt Benefits Group Actuarial Valuation)
8. Defined Contribution Pension Plans:
    a. 401(a) Alerus Plan - Mandatory Employer (7.5%) & Employee (5.0%) Contributions
    b. 457(b) Alerus – Voluntary Employee Only Contributions
    c. 457(b) ICMA-RC – Voluntary Employee Only Contributions

Schedule 4.11(b)

Multiemployer Plans

None.

Schedule 4.11(c)

Terminated or Retired Employee Benefits

Below is a summary of the post-retirement benefits offered by Seller:

- Eligibility: If hired prior to August 1, 2010, Normal Retirement is age 65, but those participants who retire after December 31, 2000 are eligible for the post-employment benefits other than pensions (OPEB) after attaining age 62. If hired on or after August 1, 2010, no post-employment benefits are payable.
- Covered Persons: Employee, spouse and eligible dependents
- Benefits: For those eligible employees retiring between ages 62 and 64, the Authority pays up to 97% of the cost of the Authority's active employee group rate at the time of his or her retirement for medical and prescription drug coverage until Medicare eligibility (a period not to exceed 36 months from the retiree's date of retirement). No dental or vision benefits are provided. Upon Medicare eligibility at age 65, the retiree must convert to a Medicare Advantage Plan. The Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained.
    - For those employees retiring at age 65, the Authority pays the full cost of the designated retiree's Medicare Advantage premium, provided that Medicare eligibility is sustained.
    - For spouses and eligible dependent(s) who are under age 65, the Authority pays up to 97% of the cost of the Authority's active employee group rate at the time of his or her retirement for medical and prescription drug coverage for a maximum period of 36 months from the date of retirement or until the retiree reaches Medicare eligibility, whichever occurs first. If the retiree becomes Medicare eligible prior to the expiration of the maximum 36-month period, the Authority will pay the cost of the spouse's COBRA premium but only until the earlier of the expiration of the 36-month period or the spouse reaching Medicare eligibility.
    - Upon the spouse reaching Medicare eligibility (whether immediately if already at or past Medicare eligibility at the date of retirement, during the first 36 months following retirement, or after the 36 months of coverage if the Authority's plan lapses), the Authority will pay the full cost of the spouse's Medicare Advantage premium, provided that Medicare eligibility is sustained. All Authority-paid benefits to the spouse cease upon the death of the retiring employee. All Authority-paid benefits to dependents cease upon the earlier of the expiration of 36 months following the retiree's retirement date, the spouse's eligibility for Medicare or the retiree's death.
- Retiree Contributions: The Authority pays costs up to 97% of the the Authority's active employee group rate as of the date of retirement towards the retiree rate for a maximum period of 36 months as described above. The retiree must reimburse the Authority for the difference between the retiree and active plan premiums, if any, and any premium increases after retirement.
- Medical Plans Available:
    - Pre-age 65 coverage for eligible retirees: PPO $500/$1000 Deductible Plan, Drug Option 1 administered by Municipal Benefits Services.
    - Post-age 65 coverage: For participants retired before December 31, 2000 Highmark Plan N Medicare Supplement (medical) and Part D (prescription). For participants retired after December 31, 2000 Highmark Security Blue HMO-POS Deluxe Medicare Advantage Plan

Schedule 4.11(e)

Severance and Other Obligations

None.

Schedule 4.12(a)

Exceptions to Personnel Payments

None.

Schedule 4.13

Noncompliance with Environmental Requirements

Chapter 94 Corrective Action Plan dated March 11, 2019

Wet Violation: The Authority's sewage treatment plant failed the annual whole effluent toxicity (WET) test in the fourth quarter of 2018, and the second and fourth quarter of 2019.

Fecal Violations: The Authority filed Non-Compliance Reports with the Pennsylvania Department of Environmental Protection on the following dates:

- May 10, 2021
- June 11, 2021
- July 18, 2021
- August 31, 2021
- February 28, 2022

Ammonia Nitrogen: The Authority filed a Non-Compliance Report with the Pennsylvania Department of Environmental Protection on May 19, 2021

Asbestos: The Authority had a Limited Asbestos Inspection of the Wastewater Treatment Plant completed by The Kelvington Group, Inc. which did identify the presence of asbestos-containing material at or above regulated levels, as summarized in the Limited Asbestos Survey Report dated April 15, 2011. The recommendations of this report were followed. Most recently, the piping under the lab building that was previously abated recently experienced some flaking of the pipe coating. This area was repaired in June 2021. The tile in the lab building remains.

SSO's from 2017 to the present are listed below:

Date	Location	Location Description	Volume Discharged
5/7/2022	Metered Overflow	Deshon Pump Station Equalization Tanks Wet Well	107608
4/25/2022	524 S Benbrook Road	Benbrook Pump Station Force Main	Unknown
3/18/2022	MH 8079	126 Greenhill Dr.	Unknown
2/25/2022	MH 1002	Whitestown Rd. & Hansen Ave.	Unknown
2/25/2022	MH 3659	Cupps Pump Station	Unknown
2/25/2022	Metered Overflow	Brewster Pump Station	34409
2/25/2022	Metered Overflow	Greenwood Pump Station	20807
2/18/2022	Overflow	Monroe Pump Station Equalization Tanks	1041000
2/17/2022	MH 3523	Rocklick Pump Station	821760
2/17/2022	MH 0165	Garden Grove Pump Station	46800
2/17/2022	Metered Overflow	Fisher Heights Pump Station	46,678

2/17/2022	Metered Oveflow	Brewster Pump Station		51667
1/27/2022	MH 3659	Cupps Pump Station		39900
8/25/2021	Metered Overflow	Greenwood Pump Station		6,870
8/25/2021	Metered Overflow	Brewster Pump Station		9,740
8/25/2021	MH 1002	Whitestown Road & Hansen Ave.	Unknown	
8/25/2021	MH 0501	685 Glenwood Way	Unknown	
8/17/2021	389 Sawmill Run Road	Rocklick Pump Station Force Main	Unknown	
8/17/2021	MH 3523	Rocklick Pump Station		2,733
7/17/2021	Metered Overflow	Greenwood Pump Station		52,430
7/7/2021	MH P106	Greater Butler Mart	Unknown	
6/17/2021	210 South Monroe Street	Monroe Pump Station Force Main	Unknown	
6/9/2021	Metered Overflow	Greenwood Pump Station		4,550
5/9/2021	Metered Overflow	Greenwood Pump Station		22470
4/15/2021	MH 8061	Butler Memorial Park	Unknown	
3/26/2021	425 Sawmill Road	Rocklick Pump Station Force Main	Unknown	
3/26/2021	MH 3523	Rocklick Pump Station	Unknown	
3/24/2021	MH 5971	Ritts Park	Unknown	
3/1/2021	Metered Overflow	Greenwood Pump Station		24,320
1/1/2021	Metered Overflow	Greenwood Pump Station		6,980
12/24/2020	Metered Overflow	Brewster Pump Station		4,060
12/24/2020	Metered Overflow	Greenwood Pump Station		7,200
9/7/2020	Metered Overflow	Brewster Pump Station		14,430
6/27/2020	Metered Overflow	Greenwood Pump Station		8,920
4/22/2020	AK Steel	Deshon Pump Station Force Main	Unknown	
3/28/2020	MH 0165	Garden Grove Pump Station	Unknown	
3/20/2020	Metered Overflow	Greenwood Pump Station		97,388
3/20/2020	Metered Overflow	Brewster Pump Station		261,469
3/20/2020	MH 3523	Rocklick Pump Station	Unknown	

1/25/2020	Metered Overflow	Greenwood Pump Station		5,073
10/31/2019	Metered Overflow	Brewster Pump Station		14,610
10/31/2019	Metered Overflow	Greenwood Pump Station		210
10/25/2019	364 Old Plank Road	Township Line Pump Station	Unknown	
7/6/2019	Metered Overflow	Greenwood Pump Station		6916
6/18/2019	Metered Overflow	Brewster Pump Station		2,567
6/18/2019	Metered Overflow	Brewster Pump Station		19,813
6/18/2019	MH 7501	Brewster Pump Station	Unknown	
6/18/2019	MH 7501	Brewster Pump Station	Unknown	
6/18/2019	Metered Overflow	Greenwood Pump Station		316
6/18/2019	MH 4659	Benbrook Pump Station	Unknown	
6/18/2019	MH 4360	Bryson Pump Station	Unknown	
6/18/2019	Metered Overflow	Fisher Heights Pump Station		92,700
6/18/2019	Metered Overflow	Monroe Pump Station Equalization Tanks		9,679
6/2/2019	Metered Overflow	Brewster Pump Station		95,000
6/2/2019	Metered Overflow	Fisher Heights Pump Station		4,220
5/30/2019	MH 7501	Brewster Pump Station	Unknown	
5/30/2019	MH 7709	Brewster Booster Pump Station	Unknown	
5/30/2019	Metered Overflow	Fisher Heights Pump Station		23,000
5/28/2019	Metered Overflow	Deshon Pump station		92,000
5/28/2019	Metered Overflow	Greenwood Pump Station		54,940
5/28/2019	MH 7709	Brewster Pump Station	Unknown	
5/28/2019	MH 1198	Whitestown Road & Hansen Ave.	Unknown	
5/4/2019	MH 4659	Benbrook Pump Station		12,000
1/24/2019	MH 7526	Fisher Heights Pump Station	Unknown	
1/24/2019	MH 4360	Bryson Pump Station	Unknown	
1/24/2019	MH 4628	Bryson Pump Station	Unknown	
1/24/2019	MH 4627	Bryson Pump Station	Unknown	
1/24/2019	MH 4415	Bryson Pump Station	Unknown	
1/7/2019	MH 4823	800 McKinley Ave.	Unknown	
12/21/2018	MH 7709	Brewster Booster Pump Station	Unknown	

12/21/2018	MH 4360	Bryson Road Pump Station	Unknown	
11/17/2018	MH 3523	Rocklick Pump Station		15,500
11/17/2018	MH 3523	Rocklick Pump Station		112,000
11/16/2018	MH 7501	Brewster Pump Station	Unknown	
11/16/2018	MH 7709	Brewster Booster Pump Station	Unknown	
11/16/2018	MH 3523	Rocklick Pump Station		36,000
11/16/2018	MH 3523	Rocklick Pump Station		91,300
9/17/2018	MH 4360	Bryson Pump Station	Unknown	
9/11/2018	Metered Overflow	Monroe Pump Station Equalization Tank		3,945,000
9/10/2018	Metered Overflow	Central Storage Tank Overflow		3,487,000
9/10/2018	MH 1198	Whitestown Rd. & Hansen Ave.	Unknown	
9/10/2018	MH 5654	Monroe St. & Cunningham St.	Unknown	
9/9/2018	MH 7501	Brewster Pump Station	Unknown	
9/9/2018	MH 7701	Brewster Pump Station	Unknown	
9/9/2018	MH 7709	Brewster Booster Pump Station	Unknown	
9/9/2018	MH 7526	Fisher Heights Pump Station	Unknown	
9/9/2018	MH 4775	Greenwood Pump Station	Unknown	
9/9/2018	MH 7701	Benbrook Pump Station	Unknown	
9/9/2018	MH 4360	Bryson Pump Station	Unknown	
9/9/2018	MH 3523	RockLick Pump Station	Unknown	
9/9/2018	Wet Well	Township Pump Station	Unknown	
9/9/2018	MH 5689	Pillow St. & Fifth St.	Unknown	
9/9/2018	MH 1198	Whitestown Rd. & Hansen Ave.	Unknown	
5/24/2018	Between MH 1034 and 1033	Fairground Hill Road	Unknown	
4/4/2018	MH 7709	Brewster Booster Pump Station	Unknown	
4/3/2018	MH 7709	Brewster Booster Pump Station	Unknown	
3/1/2018	MH 7709	Brewster Booster Pump Station	Unknown	
3/1/2018	MH 4360	Bryson Pump Station	Unknown	
2/26/2018	MH 7526	Fisher Heights Pump Station	Unknown	
2/25/2018	MH 7709	Brewster Pump Station	Unknown	
2/25/2018	MH 4360	Bryson Pump Station	Unknown	
2/22/2018	Metered Overflow	Deshon Pump Station		8,366,400
2/20/2018	MH 4659	Benbrook Pump Station		6,000
2/19/2018	Metered Overflow	Central Storage Pump Station Equalization Tanks		1,394,900
2/19/2018	Metered Overflow	Deshon Pump Station Equalization Tank		623,800
2/19/2018	Metered Overflow	Deshon Pump Station Equalization Tank		990,700

2/19/2018	MH 7709	Brewster Booster Pump Station	Unknown	
2/19/2018	MH 4360	Bryson Pump Station	Unknown	
2/16/2018	Metered Overflow	Central Storage Pump Station Equalization Tanks		1,390,000
2/16/2018	Metered Overflow	Monroe Diversion Pump Station		3,642,900
2/16/2018	MH 7709	Brewster Booster Pump Station	Unknown	
2/15/2018	MH 7526	Fisher Heights Pump Station	Unknown	
2/15/2018	MH 4775	Greenwood Pump Station	Unknown	
2/15/2018	MH 4360	Bryson Pump Station	Unknown	
1/12/2018	Metered Overflow	Central Storage Pump Station Equalization Tanks		10,300,000
1/12/2018	Metered Overflow	Monroe Pump Station Equalization Tanks		3,229,000
1/12/2018	MH 7709	Brewster Booster Pump Station	Unknown	
1/12/2018	MH 4360	Bryson Pump Station	Unknown	
1/12/2018	MH 7526	Fisher Heights Pump Station	Unknown	
1/12/2018	MH 3523	Rocklick Pump Station	Unknown	
1/10/2018	Metered Overflow	Deshon Pump Station Equalization Tank		327,000
11/6/2017	331 Negley Avenue	Connoquenessing Pump Station Force Main	Unknown	
11/6/2017	Wet Well	Township Line Pump Station	Unknown	
11/5/2017	MH 4775	Greenwood Pump Station	Unknown	
11/5/2017	MH 3523	Rocklick Pump Station	Unknown	
7/5/2017	MH 5689 +	Pillow St. & 5th St.	Unknown	
7/5/2017	Metered Overflow	Deshon Pump Station Equalization Tank Wet Well		24,100
3/8/2017	MH 7709	Brewster Pump Station	Unknown	
1/12/2017	MH 7526	Fisher Heights Pump Station	Unknown	
1/12/2017	MH 3523	Rocklick Pump Station	Unknown	

Schedule 4.14

Authorizations and Permits

1. NPDES Permit No. PA0026697 authorizing discharge from the Butler Area STP, located in Butler Township to Connoquenessing Creek (Outfall 001) and Butcher Run (Outfalls 005, 011-014 & 018)
2. WQM Permits[1]:

Compiled on 08/31/2022 *This list most likely includes numbers for permits that have been cancelled or replaced.

BASA WQM Permit numbers	BASA WQM Permit numbers	BASA WQM Permit numbers	BASA WQM Permit numbers	BASA WQM Permit numbers	BASA WQM Permit numbers	BASA WQM Permit numbers
175	4158	1070204	1089403	363S4	5658S	WQG028325
547	4161	1071404	3000241	364S023	6527S	
1112	4365	1072401	3000580	364S024	6560S	
1173	4987	1072404	3001759	364S23	8430S	
1865	6297	1072410	3001765	364S24	8640S	
2354	6387	1072416	3001958	364S35	8655S	
2498	6475	1073411	3002020	364S37	8708S	
2654	7429	1074404	3002052	365S002	8756S	
3165	9480	1075403	3002115	365S021	8786S	
3366	108413	1075407	3002146	365S21	9151S	
3444	1001414	1078406	3002336	365S39	9167-S	
3569	1003417	1079406	3002543	366S021	9199-S	
3593	1007401	1079415	3002840	366S2	9418-S	
3596	1009404	1080405	3002848	367S002	9450-S	
3633	1011403	1080407	3002983	367S011	9565-S	
3676	1013404	1080411	3003059	367S024	9671-S	
3868	1068402	1080413	3003213	368S007	9814-S	
3983	1069407	1086402	3007463	368S025	9817-S	
4085	1069411	1088407	363S004	4401S	A-5635	

[1] Seller has requested a copy of all WQM permits from DEP. This list will be updated as such information is obtained.

Schedule 4.15

Contracts/Assigned Contracts

Parties	Date	Agreement	Scope
City of Butler Township of Butler Township of Center Township of Summit Borough of East Butler Deshon Area Sanitary Disposal and Sewer Authority East Butler Borough Sewer Authority Meridian Water and Sewer Authority Municipal Water and Sewer Authority of Center Township Butler Area Sewer Authority	February 20, 1974	Water Pollution Control Agreement for Central Butler County	Agreement by the Authority to maintain and operate a sewage collection and disposal system for all other parties to this Agreement.
Township of Connoquenessing Butler Area Sewer Authority	April 3, 1995	Connoquenessing Township Service Agreement	Construction of sewer lines in Connoquenessing Township along Cupps Road, which BASA agreed to accept flows from such area, and maintain and service such area
Township of Connoquenessing Butler Area Sewer Authority	December 14, 2005	Connoquenessing Township Service Agreement	Construction of sewer lines in Connoquenessing Township in the Winterwood Drive Service Area. BASA agreed to accept into its sewer system only domestic sanitary sewage flows from the pressure sewer system
Township of Oakland Butler Area Sewer Authority	March 7, 1994	Oakland Township Service Agreement	Construction of sewer lines in Oakland Township along Route 38, which BASA agreed to accept flows from such area, and maintain and service such area
Butler Township United States of America	February 3, 1958	Agreement	The government conveyed certain real property to the Township, including a sewage disposal plant located at the Veterans Administration Hospital Reservation, Butler, PA. So long as the VA Hospital original main campus is

			operated by the government, Butler, upon acquisition of title, will keep available and furnish to, the United States Veterans Administration, or its successor in function, without expense to the government, sewage disposal service
United States of America – VA Medical Center Butler Area Sewer Authority	March 2, 2004	Memorandum of Understanding	Confirming that service will be provided to the VA without expense to the hospital and facilities operated by the department. With respect to space leased or conveyed to entities not owned or operated by the United States Government, the Department has agreed that such space will be subject to payment of usage fees and surcharges to the Authority and will be subject to any and all applicable EPA, DEP and Authority rules and regulations related to sewage
Eric J. Nagy and Michele L. Nagy Butler Area Sewer Authority	April 8, 2022	License Agreement: 153 Autumn Drive, Butler Township	Permits property owners to construct lumber deck over a recorded sanitary sewer right-of-way
Michelle McGrath Allegent Community Federal Credit Union Butler Area Sewer Authority	September 8, 2015	License Agreement: 214 Willow Run Road, Center Township	Permits property owner to continue to locate a detached pole building over a recorded sanitary sewer right-of-way
Mark A. Keene and Kelly L. Keene GMAC Mortgage Corporation Butler Area Sewer Authority	April 13, 2000	License Agreement: 255 North Duffy Road, Butler Township	Permits property owner to continue to locate a detached pole building over a recorded sanitary sewer right-of-way
Joshua Paul Macko and Jodi Marie Macko ARMCO Credit Union Butler Area Sewer Authority	July 23, 2008	License Agreement: 316 Westbook Drive, Butler Township	Permits property owners to continue to locate deck over a recorded sanitary sewer right-of-way
Jason A. Zihmer and Rindi K. Zihmer Mortgage Electronic Registration System, as	April 26, 2018	License Agreement: Lot 107 in the Sugarcreek Development Butler Township	Permits property owners to construct a concrete structure and an additional

nominee for Lender Paramount Equity Mortgage, LLC Butler Area Sewer Authority			structure over a recorded sanitary sewer right-of-way
Thomas A. Hall and Kristine D. Hall Butler Area Sewer Authority	March 8, 2021	License Agreement: Lot 108 in the Sugarcreek Development Butler Township	Permits property owners to construct a porch over a recorded sanitary sewer right-of-way
Thomas Construction, Inc. Butler Area Sewer Authority	September 14, 2021	Temporary License Agreement: Tax Parcel 563-6-240B-0000	Permits temporary access, occupation and storage of equipment during the duration of the construction contract

Grinder Pump Maintenance Agreements

Below is a list of grinder pumps that the Authority owns and maintains. A quarterly assessment of $49.00 is charged to customers on the sewer utility bill cards for maintenance of grinder pumps owned and maintained by the Authority.

While the Authority records all grinder pump agreements, the Authority has not taken maintenance responsibility for grinder pumps since September 2005 pursuant to Resolution 09-06-2005.

Number	Parties	Date	Address	Account Number	Pump
1	St. Fidelis Parish Butler Area Sewer Authority	November 13, 2001	125 Buttercup Road Butler Township	MA000142	Zoeller
2	Milroy and Marjorie L. Waggett Butler Area Sewer Authority	July 8, 1997	323 Pleasant View Avenue Butler City	BC004485	Myers
3	Grecco Gas and Welding Supplies, Inc. Butler Area Sewer Authority	April 10, 2021	201 Kittanning Street Butler City	BC006088	Zoeller
4	Brian K. Ellenberger, Raelene S. Ellenberger Butler Area Sewer Authority	February 13, 2001	556 S. Benbrook Road Butler/Summit	BS001241	Zoeller
5	Richard A. Ritenour, Robb E. Ritenour Butler Area Sewer Authority	July 14, 2004	100 Laurel Oak Lane Butler/Summit	BS001255	Zoeller
6	Joseph R. Stein, Lisa G. Stein Butler Area Sewer Authority	March 11, 2003	186 Saxonburg Road Butler/Summit	BS001267	Myers
7	Thomas L. Fisher, Karen D. Fisher Butler Area Sewer Authority	June 14, 2005	115 ½ Bradmoor Lane Butler Township	BS001297	Myers
8	Janice Phillips Larrik Butler Area Sewer Authority	February 1, 2005	331 Belmont Road Butler Township	BT007064	E-One
9	Robert Ballew Butler Area Sewer Authority	August 9, 2005	411 Penn Avenue Lyndora	BT007984	Zoeller
10	Integra Development Company, LLC Butler Area Sewer Authority	October 14, 1997	1124 N. Main Street Butler Township	BT017340	Myers
11	Jerome P. Oliver, Sr., June E. Oliver Butler Area Sewer Authority	September 9, 2003	1768 #2N Main Street Center Township	CT001225	Zoeller
12	No agreement – customer name: Regis G. Green		1723 N. Main Street Center Township	CT001705	Myers
13	Evelyn J. McIntosh Butler Area Sewer Authority	May 10, 2005	444 Holyoke Road Center Township	CT001976	Zoeller
14	L. Wolf Company, Inc. Butler Area Sewer Authority	March 12, 2002	458 Holyoke Road Center Township	CT001847	Zoeller
15	Bercury Homes, Ltd. Butler Area Sewer Authority	August 12, 2003	107 Elise Drive Center Township	CT001910	Myers
16	Matthew Stutz Butler Area Sewer Authority	August 6, 1998	218 Broadway Street East Butler	EB000484	Myers

17	Ronald S. Niggel, Joanne N. Niggel Butler Area Sewer Authority	November 11, 1997	422 Evans City Road Meridian	MA001322	Myers
18	Melvin S. Maxwell III, Barbara M. Maxwell Butler Area Sewer Authority	June 15, 1999	112 Arbutus Lane Meridian	MA001358	Zoeller
19	Nathaniel O. Rekich, Amanda L. Rekich Butler Area Sewer Authority	January 13, 2004	278 Saw Mill Run Road Meridian	MA001482	Myers
20	Douglas W. Harmon, Cynthia A. Harmon Butler Area Sewer Authority	April 13, 2004	4155 Miller Street Meridian	MA001500	E-One
21	Cindy and James Smith Butler Area Sewer Authority	February 7, 2022	105 Afton Drive Meridian	MA005378	New Construction
22	No agreement – customer name: Kenneth P. Defurio		110 Afton Drive Meridian	MA001544	Zoeller
23	White Thorn Development Company Butler Area Sewer Authority	March 15, 2004	108 Afton Drive Meridian	MA001505	Zoeller
24	White Thorn Development Company Butler Area Sewer Authority	March 15, 2004	111 Afton Drive Meridian	MA001502	Zoeller
25	No agreement – customer name: Richard Kennedy		168 Ambler Drive Meridian	MH000049	Myers
26	No agreement – customer name: Jennifer Cantella		170 Ambler Drive Meridian	MH000050	Myers
27	No agreement – customer name: Robert Cordray		172 Ambler Drive Meridian	MH000051	Myers
28	Alan and Katheryn L. Ruffel Butler Area Sewer Authority	October 14, 1997	210 Oliver Drive Oak Hills	OH012685	Myers
29 30 31 32 33	Southgate Ltd. Butler Area Sewer Authority	October 4, 1994	200 October Drive 202 October Drive 203 October Drive 204 October Drive 205 October Drive Oak Hills	OH012691 OH012692 OH012704 OH012693 OH012703	Myers Zoeller Myers Myers Myers
34	No agreement – customer name: Ron Rawlings		206 October Drive Oak Hills	OH012694	Myers
35	No agreement – customer name: Alfred A. Camus, III		207 October Drive Oak Hills	OH012702	Myers
36	No agreement – customer name: John M. Aubrey, Jr.		208 October Drive Oak Hills	OH012695	E-One
37	No agreement – customer name: Blair J. Laska		209 October Drive Oak Hills	OH012701	Myers
38	No agreement – customer name: Hershel R. Rice, III		210 October Drive Oak Hills	OH012696	Zoeller
39	No agreement – customer name: Edward Wise		211 October Drive Oak Hills	OH012700	Myers
40	No agreement – customer name: Alfons R. Semmler		212 October Drive Oak Hills	OH012697	E-One

41	No agreement – customer name: Robert H. Blotzer		213 October Drive Oak Hills	OH012699	Myers
42	No agreement – customer name: Agnieszka Krawczuk		215 October Drive Oak Hills	OH012698	Myers

Private Lateral Sewer Agreements

Number	Parties	Agreement	Date	Address
	Patricia A. Green, as Trustee (Owner) of the Patricia A. Green Revocable Trust Agreement dated November 11, 1997	Maintenance/Ownership Covenants Agreement	June 6, 2006	129 Mercer Street 131 Mercer Street 133 Mercer Street 135 Mercer Street
	George B. Hindman, R. Larry Hindman and Dennis R. Hindman Butler Area Sewer Authority	Agreement for Private Sewer Lines	June 15, 1990	647 Evans City Road
	George B. and Carol H. Hindman Butler Area Sewer Authority	Amended Agreement for Private Sewer Line	August 14, 2014	653 Evans City Road
	Edward H. Fincher, Patricia M. Fincher Butler Area Sewer Authority The Board of Supervisors of Connonquenessing Township	Agreement	December 1, 1983	Quite Brook Plan Recorded in Butler County Rack File 80, page 28
	Swamikkan A. Nallathambi and Helga H. Nallathambi Penn Township Sanitary Sewer System Authority Board of Supervisors of Penn Township Butler Area Sewer Authority Butler Township Area Water and Sewer Authority	Agreement	November 12, 1978	19.78 acres in Penn Township Instrument Number 197812190000020

Third Party Agreements

Parties	Date	Agreement	Scope
Cintas Corporation Butler Area Sewer Authority	Undated	Cintas Standard Rental Services Agreement – Uniforms	Uniform rental service agreement
Browning-Ferris Industries of Ohio, Inc. d/b/a Republic Services of Youngstown Butler Area Sewer Authority	July 14, 2020	Sewage Sludge Hauling and Landfill Disposal Services – Contract No. 2020-04	For sewage sludge hauling and landfill disposal services
DEP Technologies, Inc. Butler Area Sewer Authority	February 1, 2021	2021-2022 DEP Technologies IT Support Contract	Contract for IT support services based on number of service hours
Republic Services, Inc. Butler Area Sewer Authority	July 24, 2014	Republic Services – Special Waste Service Agreement	Transportation of wastewater treatment sludge
CWM Environmental, Inc. Butler Area Sewer Authority	February 14, 2022	CWM – DMR Agreement	Discharge monitoring report testing
CWM Environmental, Inc. Butler Area Sewer Authority	November 17, 2021	CWM – Regular NPDES Analytical Agreement	Annual NPDES monitoring
Graymont (PA) Inc. Butler Area Sewer Authority	July 13, 2021	Chemical Lime Contract	Furnishing bulk pebble/granular quicklime to the Butler Area Sewer Authority wastewater treatment plant.
Stanley Convergent Security Solutions, Inc. Butler Area Sewer Authority	March 23, 2018 August 1, 2019 September 29, 2019	Contracts with Stanley Security for Main Building, Sewer Crew, Main Office	Installation, maintenance, monitoring and repair of security systems.
AK Steel Butler Works Butler Area Sewer Authority	April 23, 2018	MOU Regarding Billing Terms and Certain Other Matters	Provides the basis of billing for the PAWC water meters located on AK Steel Butler Works premises located at the primary Butler Works facility and Plant 2 (PAWC Premises No. 9240145137 – Roll Grinding, 2 Bantam Avenue)
AK Steel Butler Works Butler Area Sewer Authority	November 30, 2020	Amendment to MOU Regarding Billing Terms and Certain Other Conditions	Amends the MOU to account for the sale of Plant 2 to a third party and update the BASA contract parties
Pennsylvania American Water Company	March 18, 2021	Recorded Shut-off Agreement with PAWC	Summarizes the duties, obligations and payment structure should BASA

Butler Area Sewer Authority			direct PAWC to shut-off the supply of water from its system to any premises in which the charges for sewer, sewage or sewage treatment service supplied by BASA are unpaid and the claim or lien for such service has been assigned to BASA.
City of Butler Butler County Community College Butler Area Sewer Authority	July 9, 2012	Agreement for Shared Use of Shooting Range	Agreement summarizes the terms and conditions under which the college can use land owned by BASA as a range for gun training. The land consists of 6.623 acres, defined in the indenture between the City and BASA made on December 20, 1988, found in volume 1440, pages 139-140 in the Butler County property deed records.
Pennsylvania Department of Human Services Butler Area Sewer Authority	2021	Low-Income Water Assistance Program (LIHWAPVendor Agreement	Establishes the terms and conditions under which assistance payments are made, on behalf eligible individuals to suppliers of wastewater
Armstrong Utilities, Inc. Butler Area Sewer Authority	March 1, 2022	Commercial Services Agreement – Zoom	Agreement to provide Zoom to all pump station locations.
Snyder Brothers Inc. Butler Area Sewer Authority	March 12, 2018	Purchase Order for Natural Gas	Purchase order for natural gas for the 151 S. Monroe Street, 100 Litman Rd Sewer Plant and 100 Litman Road Sewer Crew Garage locations
WGL Energy Services, Inc. Butler Area Sewer Authority	January 8, 2020	Purchase and Sale Base Agreement for Green-E Climate certified Carbon Offsets, Electric Power Supply Service and Green-E Energy Certified Renewable Energy Credits	Agreement to purchase natural gas, carbon offsets, electric power supply service and renewable energy credits
Penn Central Company Butler Area Sewer Authority	May 19, 1969	License to Individuals or Corporations for Electric Transmission Lines or Pipe Lines Across the Right-of-Way, Tracks and Property of the Railroad Company	Grants BASA the right to construct, maintain pipelines at the Railroad's Pittsburgh Division – Butler Branch, Mile Post 20.

Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	November 25, 2009	License for Underground Pipelines, Cables and Conduits	Grants BASA permission to construct and maintain an 18” sanitary force main in a 30” steel casing and a 24” gravity sanitary sewer in a 36” steel casing across, along and underneath property of the Railroad at Mile Post 33.3 in Butler, PA.
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	November 25, 2009	License for Underground Pipelines, Cables and Conduits	Grants BASA permission to construct and maintain an 30” sanitary force main across, along and underneath property of the Railroad at Mile Post 32.8 in Butler, PA.
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	June 9, 1969	Agreement	Grants BASA the right to construct and maintain a 24” sanitary sewer and 4 manholes in Butler City and Butler Township.
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	June 14, 1963	Agreement	Grants BASA the right to alter and extend its sewers across the tracks of the Railroad and tracks of Pullman-Standard in Butler Township
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	May 12, 1967	Agreement	Grants BASA the right to construct and maintain a 24” sanitary sewer and 4 manholes in Butler Township.
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	August 1, 1963	Agreement	Grants BASA the right to construct and maintain a 12” force main sanitary sewer in Butler City
Bessemer and Lake Erie Railroad Company Butler Area Sewer Authority	April 1, 1963	Agreement	Grants BASA the right to construct and maintain a 36” sanitary sewer pipe in Butler City

Development Agreements

The Seller currently has three (3) active developments: Autumn Woods Phase I, Highfield Trails, and Forest Oaks. The Seller also has the following performance bonds:

1. Bronder Technical Services – Sludge Thickener Project - $43,920.00. (Almost complete and transitioning to Maintenance bond – 2-year warranty)
2. Ray Showman Jr. Excavating – Sludge Thickener Project - $364,713.07 (Almost complete and transitioning to Maintenance bond – 2 years warranty)
3. Utility Contacting Inc. - Rock Lick Pump Station Improvements Contract 2021-03 - $252,800.00 (Just starting this project)
4. Republic Services of Youngstown – Sewage Sludge Hauling and Landfill Services - $300,000.00

Parties	Date	Agreement	Scope
AFE & Allman Land Development Group, LLC Butler Area Sewer Authority	April 28, 2022	Agreement	Development agreement for Phase I – Highfield Trails 100 Residential Development
Villas at Forest Oaks LP Butler Area Sewer Authority	June 22, 2021	Agreement	Development agreement for The Villas at Forest Oaks
Bronder Technical Services, Inc. Butler Area Sewer Authority	April 13, 2021	Contract No. 2020-06 Sludge Thickener Upgrade Electrical Construction	For the Sludge Thickener Upgrade Project – Electrical Construction in Butler Township
Duffy Highlands, LP Butler Area Sewer Authority Dollar Bank, Federal Savings Bank	June 13, 2018	Set-Aside Agreement	Development of the Duffy Highlands, Phase I project
Winmer Properties LP Butler Area Sewer Authority Dollar Bank, Federal Savings Bank	August 17, 2021	Set-Aside Agreement	Development of the Autumn Woods Residential Development
Ray Showman Jr. Excavating, Inc. Butler Area Sewer Authority	April 13, 2021	Sludge Thickener Upgrade Project Contract No. 2020-02 – General Construction	For the Sludge Thickener Upgrade Project – General Construction in Butler Township
Browning-Ferris Industries of Ohio, Inc. d/b/a Republic Services of Youngstown Butler Area Sewer Authority	July 14, 2020	Sewage Sludge Hauling and Landfill Disposal Services – Contract No. 2020-04	For sewage sludge hauling and landfill disposal services

Dutchtown Road Surcharge Area

In 2011 the Seller constructed a sewer line to service an area with failing septic systems. The nine (9) affected customers were provided with three (3) options to pay for the sewer tap, inspection and construction costs. The below chart reflects what option the customer chose and if the surcharge is still active, and the rate[2]. As of September 30, 2022, three (3) customers have paid off the surcharge, and six (6) customers still paying the surcharge, as noted below.

	Account	Address	Service	Service Description	Serv Seq	Status	Service Type	Start Date	Stop Date	Type	Bill Cycle
1	OH012742	185 DUTCHTOWN RD	207-2	DUTCHTOWN RD-2	A	1 ACTIVE	FLAT CHARGE	01/01/2011	12/31/9999	R	1
2	OH012745	192 DUTCHTOWN RD	207-2	DUTCHTOWN RD-2	A	1 ACTIVE	FLAT CHARGE	01/01/2011	12/31/9999	R	1
3	OH012746	203 DUTCHTOWN RD	207-2	DUTCHTOWN RD-2	A	1 ACTIVE	FLAT CHARGE	04/01/2012	12/31/9999	R	1
4	OH012747	205 DUTCHTOWN RD	207-2	DUTCHTOWN RD-2	I	1 INACTIVE	FLAT CHARGE	04/01/2012	12/31/9999	R	1
5	OH012743	186 DUTCHTOWN RD	207.3	DUTCHTOWN RD-3	A	1 ACTIVE	FLAT CHARGE	01/01/2011	12/31/9999	R	1
6	OH012744	188 DUTCHTOWN RD	207.3	DUTCHTOWN RD-3	A	1 ACTIVE	FLAT CHARGE	01/01/2011	12/31/9999	R	1
7	OH012749	160 TOWNSHIP LINE RD	207.3	DUTCHTOWN RD-3	A	1 ACTIVE	FLAT CHARGE	01/01/2011	12/31/9999	R	1
8	OH012740	180 DUTCHTOWN RD	207.3	DUTCHTOWN RD-3	A	1 INACTIVE	FLAT CHARGE	01/01/2011	07/30/2020	R	1
9	OH012748	150 HAMPTON CT	207.3	DUTCHTOWN RD-3	A	1 INACTIVE	FLAT CHARGE	01/01/2011	06/18/2021	R	1

[2] These rates do not reflect July 2022 increase.

Schedule 4.16(c)

Litigation Involving Seller

1. **Barbara Ferrer, Administratix of the estate of Edgar Ferrer, deceased, and Barbara Ferrer, in her own right v. A.O. Smith Corporation, et al., filed in the Court of Common Pleas of Allegheny County, Pennsylvania, Civil Division – Asbestos (G.D. 22-003808):** The complaint was filed April 7, 2022 naming the Authority and 230 other parties as defendants. The deceased was diagnosed with lung cancer in July 2021 and died January 2022. Throughout his lifetime he worked as a welder and millwright at various places, including the Butler Sewage Plant, and during his time as a welder and millwright he was allegedly exposed to asbestos The case is in discovery, with interrogatories being served on the Authority June 6, 2022.

Schedule 4.17(a)

Title to Acquired Assets

The Seller notes the following exceptions to title: (i) missing easements; and (ii) exceptions identified on any title commitment obtained by the Buyer.

Schedule 4.17(b)

Sufficiency

The Seller does not represent or warrant sufficiency with respect to: (i) missing easements; and (ii) exceptions identified on any title commitment obtained by the Buyer.

Schedule 4.21

Free Service; Prepayments

Prepayments:

- Required escrows for the Seller's Realty Transfer I&I Inspection Program. These escrows are managed by a holding company, and released to the customer after the work is inspected and approved by the Seller. A list of escrows as of September 1, 2022 is below:

ACCOUNT NUMER	PARCEL	PROPERTY ADDRESS	ESCROW HOLDER	AMOUNT	LAST STATUS CHANGE	PROPERTY OWNER	MAILING ADDRESS
BT007106	052-37-A454 11/33	202 BESSEMER AVE	BASA	$950	3/23/2006	FREY, CHERYL K	116 BESSEMER AVE
BC002627	561-3-20 5/3	100 -104 MACKEY AVE	DMKCG	$2,000	6/11/2007	COGLEY, JAMES A	P O BOX 694
OH012720	051-62-5A105 10/45	110 SUGAR CREEK DR	FEDERATED MORTGAGE	$500	8/21/2009	SHENEFIEL, STEPHEN D	110 SUGAR CREEK DR
BC000074	565-10-125 5/10	228 AMY AVE	DMKCG	$500	7/3/2013	PRIME PROPERTIES USA LLC	PO BOX 19292
BC003003	565-20-12 5/20	428 MERCER ST	RISHOR-SIMONE	$500	9/26/2013	GOULD, DAVID B	267 NEW CASTLE RD
BC004413	563-26-11 5/26	330 PILLOW ST	RISHOR-SIMONE	$85	10/17/2016	GEYER, CHARLES	107 HALLAND TERRACE
BC006117	562-7-20 5/7	125 S MAIN ST	BARRISTERS	$5,000	11/5/2016	BLC REALTY GROUP	200 S MAIN ST
BC002664	562-7-20 5/7	123 S MAIN ST	BARRISTERS		11/5/2016	BLC RLTY ENTERPRISES LLC	200 S MAIN ST
BC000651	562-43-145 5/43	535 -537 CARBON ST	BASA	$2,500	2/10/2021	ISB ENTER LLC	154 KITTANNING ST
BC000586	561-31-68 5/31	425 BROWN AVE	HERITAGE SECURITY	$5,000	9/25/2020	NOMADIC FLIPS LLC	1025 E 690 S
BC003269	561-3-69/1 5/3	109 MORTON AVE	KEYMAX	$5,000	3/24/2020	MS ASSET RECOVERY LLC	2425 RIVER RD, STE 300
BC002581	562-23-184 5/23	411 E LOCUST ST	DMKCG	$5,000	3/5/2021	PRENGAMAN, ANDREW L	1528 PERRY HWY
BC000506	565-10-61 5/10	305 BROAD ST	ATTORNEY MENCHYK	$5,000	6/14/2021	REDEVELOPMENT AUTHORITY	114 WOODY DR
BT007125	052-37-A371B 11/33	301 BESSEMER AVE	DMKCG	$5,000	12/11/2020	ALLMAN, STEPHEN, ET AL	122 SHANOR HTS
BC006130	561-5-141D	122 ETNA ST	ENTERPRISE BANK	$5,000	4/22/2022	BAKER, STEVEN	186 BRICKYARD RD
BC001971	561-3-87 5/3	207 FREEMONT AVE	NATIONSTAR MTG	$5,000	5/31/2022	7049 JEFI LLC	1582 ELM GROVE RD
SB008511	051-39-F1 12/16	114 ASPEN RD	DMKCG	$5,000	7/5/2022	CHIAPPINI, STELLA	114 ASPEN RD
CT001030	060-2F104-25A2 15/91	494 SUNSET DR	DMKCG	$5,100	5/27/2022	WOLF, MATTHEW D	233 SMITH RD
BC003987	561-1-105 5/1	217 E PATTERSON AVE	DMKCG	$5,000	6/23/2022	CONRAD RENTALS LLC	PO BOX 672
BC003988	561-1-105 5/1	217 -R E PATTERSON AVE	DMKCG		6/23/2022	CONRAD RENTALS LLC	PO BOX 672
BC002153	561-37-151 5/37	105 HEIM AVE	MONTGOMERY CRISSMAN	$5,200	7/25/2022	EQUITY TRUST CO	1337 KITTANNING PIKE
NW008917	056-20-E59 6/23	245 ACRE AVE	AVENUE TO CLOSE	$5,000	8/24/2022	PHILLIPS, MRS HELEN B	245 ACRE AVE
NW009285	056-3-A11	100 WESTWOOD MANOR	CFS SETTLEMENT	$5,000	5/13/2022	EAGAL, LLOYD S	232 S EBERHART RD

Free Service Arrangements:

Parties	Date	Agreement	Scope
Butler Township United States of America	February 3, 1958	Agreement	The government conveyed certain real property to the Township, including a sewage disposal plant located at the Veterans Administration Hospital Reservation, Butler, PA. So long as the VA Hospital original main campus is operated by the government, Butler, upon acquisition of title, will keep available and furnish to, the United States Veterans Administration, or its successor in function, without expense to the government, sewage disposal service
United States of America – VA Medical Center Butler Area Sewer Authority	March 2, 2004	Memorandum of Understanding	Confirming that service will be provided to the VA without expense to the hospital and facilities operated by the department. With respect to space leased

			or conveyed to entities not owned or operated by the United States Government, the Department has agreed that such space will be subject to payment of usage fees and surcharges to the Authority and will be subject to any and all applicable EPA, DEP and Authority rules and regulations related to sewage

Schedule 5.04

Consents and Approvals

1. Pennsylvania Public Utility Commission ("PaPUC") Approval of Transaction

2. DEP Approval of Permit Transfers

3. DEP Act 537 Plan Special Study Approval

Schedule 5.10

Litigation involving Buyer

None.

Schedule 6.05(d)

Missing Easements

To be completed by Buyer as set forth in Section 6.05(d).

Schedule 7.03(a)

Personnel Matters

Last Name	First Name	Middle Name	Job Class Code Desc	Location Code Desc
ARNOLD	CHRISTOPHER	D	OPERATOR II	PLANT
BRESNAHAN	MARILYN	M	CLERK II	OFFICE
BROWN	TRAVIS	T	OPERATOR III	SEWER MTNCE
CAMPBELL	SETH	M	SUPERINTENDENT	MANAGEMENT
COX	DALTON	J	OPERATOR II	PLANT
CROWE	TIMOTHY	T	OPERATOR III	REALTY
DEAL	DANIEL	P	OPERATOR II	REALTY
DIBIASE	RICHARD	A	SUPERINTENDENT	MANAGEMENT
DICKEY	BRIAN	S	OPERATOR III	SEWER MTNCE
DUNCAN	DAVID	A	OPERATOR II	SEWER MTNCE
FERDERBER	VIRGINIA	L	OFFICE SUPERVISOR	MANAGEMENT
FINK	ROBERT	V	INFORMATION TECHNOLOGY	MANAGEMENT
FRITZ	DEWAYNE	E	OPERATOR II	PLANT
GEIBEL	ADAM	C	PROJECT COORDINATOR	MANAGEMENT
KENYON	DENNIS	R	OPERATOR IV	PUMP STATIONS
KUDELKA	ROBERT	C	OPERATOR III	PLANT
LADERER	STEVEN	B	OPERATOR III	PLANT
LAVORINI	RONATA	L	FINANCE DIRECTOR	MANAGEMENT
MAGILL	PETER	I	OPERATOR III	REALTY
MCCALL	FRANK	J	OPERATOR II	PLANT
MCKEE	DUANE	E	EXECUTIVE DIRECTOR	MANAGEMENT
MCKINNEY	BEVERLY	J	CLERK II	OFFICE
MILLER	MASON	C	PRETREATMENT COORDINATOR	MANAGEMENT
OSWALD	EVAN	A	ENGINEERING ASSISTANT	MANAGEMENT
PITZER	SCOTT	R	OPERATOR II	SEWER MTNCE
RICE	RICKY	A	OPERATOR IV	PLANT
RODGERS	WILLIAM	P	OPERATOR IV	PLANT
RYAN	ERIC	J	OPERATOR III	PLANT
SLAGLE	WILLIAM	K	INSPECTION PROG SUPERVISOR	MANAGEMENT
SNYDER	DAVID	E	OPERATOR III	REALTY
SPOHN	MELINDA	A	ACCOUNTING CLERK	OFFICE
STEERE	DANIEL		OPERATOR IV	PUMP STATIONS
STITELER	MARK	A	OPERATOR III	SEWER MTNCE
VORMACK	ROBERT	J	OPERATOR II	PLANT
WILSON	JEFFREY	D	OPERATOR II	PLANT

Schedule 7.04(a)-1

Seller Effective Date Rates

BUTLER AREA SEWER AUTHORITY
NOTICE OF CHANGE IN RATES EFFECTIVE JULY 1, 2022

BILLING DISTRICT		ANNUAL BASE SEWER SERVICE RATE # ($/EDU)	ANNUAL AREA SEWER DEBT SURCHARGE RATE ($/EDU)	TOTAL PER YEAR ($/EDU)	TOTAL PER QUARTER ($/EDU)	TOTAL PER MONTH ($/EDU)
BUTLER CITY	BC	516.00		516.00	129.00	43.00
BUTLER/SUMMIT	BS	516.00		516.00	129.00	43.00
BUTLER TOWNSHIP	BT	516.00		516.00	129.00	43.00
CENTER/LAGOON	CL	516.00		516.00	129.00	43.00
CENTER TOWNSHIP	CT	516.00		516.00	129.00	43.00
DESHON AREA	DA	516.00		516.00	129.00	43.00
EAST BUTLER	EB	516.00		516.00	129.00	43.00
HULL PLAN	HP	516.00		516.00	129.00	43.00
MERIDIAN AREA	MA	516.00		516.00	129.00	43.00
MERIDIAN/HEATHER	MH	516.00		516.00	129.00	43.00
NORTHWEST AREA	NW	516.00		516.00	129.00	43.00
OAK HILLS AREA	OH	516.00		516.00	129.00	43.00
Dutchtown Opt 1		516.00		516.00	129.00	43.00
Dutchtown Opt 2		516.00	432.00 *	948.00	237.00	79.00
Dutchtown Opt 3		516.00	576.00 **	1,092.00	273.00	91.00
SOUTH BUTLER	SB	516.00		516.00	129.00	43.00

Base rate increased by $5.00 per month per EDU effective July 1, 2022 (last increase 1/1/2020).

* Surcharge effective January 1, 2011 (surcharge anticipated to be applied until December 31, 2035).

** Surcharge effective January 1, 2011 (surcharge anticipated to be applied until December 31, 2035).

For sewer services effective July 1, 2011, interest will be applied at 10% APR (5% APR on liens).

EDU = Equivalent Dwelling Unit (or Unit) average water usage of 4,000 gallons per month.

BASE SEWER SERVICE RATE FOR MULTI-FAMILY RESIDENTIAL UNITS:	TOTAL PER YEAR # ($/EDU)	TOTAL PER QUARTER # ($/EDU)	TOTAL PER MONTH # ($/EDU)
For the first 25 Units or any part thereof	516.00	129.00	43.00
For the next 25 Units or any part thereof	505.60	126.40	42.13
For the next 25 Units or any part thereof	495.20	123.80	41.27
For the next 25 Units or any part thereof	484.80	121.20	40.40
For the next 25 Units or any part thereof	474.40	118.60	39.53
For the next 25 Units or any part thereof	464.00	116.00	38.67
For all Units over 150 or any part thereof	453.60	113.40	37.80

Schedule 7.04(a)-2

Seller Closing Rates

BUTLER AREA SEWER AUTHORITY
NOTICE OF CHANGE OF RATES EFFECTIVE [CLOSING DATE]

BILLING DISTRICT		ANNUAL BASE SEWER SERVICE RATE # ($/EDU)	ANNUAL AREA SEWER DEBT SURCHARGE RATE ($/EDU)	TOTAL PER YEAR ($/EDU)	TOTAL PER QUARTER ($/EDU)	TOTAL PER MONTH ($/EDU)
BUTLER CITY	BC	546.00		546.00	136.50	45.50
BUTLER/SUMMIT	BS	546.00		546.00	136.50	45.50
BUTLER TOWNSHIP	BT	546.00		546.00	136.50	45.50
CENTER/LAGOON	CL	546.00		546.00	136.50	45.50
CENTER TOWNSHIP	CT	546.00		546.00	136.50	45.50
DESHON AREA	DA	546.00		546.00	136.50	45.50
EAST BUTLER	EB	546.00		546.00	136.50	45.50
HULL PLAN	HP	546.00		546.00	136.50	45.50
MERIDIAN AREA	MA	546.00		546.00	136.50	45.50
MERIDIAN/HEATHER	MH	546.00		546.00	136.50	45.50
NORTHWEST AREA	NW	546.00		546.00	136.50	45.50
OAK HILLS AREA	OH	546.00		546.00	136.50	45.50
Dutchtown Opt 1		546.00		546.00	136.50	45.50
Dutchtown Opt 2		546.00	432.00 *	978.00	244.50	81.50
Dutchtown Opt 3		546.00	576.00 **	1,122.00	280.50	93.50
SOUTH BUTLER	SB	546.00		546.00	136.50	45.50

Base rate increased by $2.50 per month per EDU effective on [the Closing Date] (last increase July 1, 2022)

* Surcharge effective January 1, 2011 (surchased anticipated to be applied until December 31, 2035)

** Surcharge effective January 1, 2011 (surchased anticipated to be applied until December 31, 2035)

For sewer services effective July 1, 2011, interest will be applied at 10% APR (5% APR on liens)

EDU = Equivalent Dwelling Unit (or Unit) average water usage of 4,000 gallons per month

BASE SEWER SERVICE RATE FOR MULTI-FAMILY RESIDENTIAL UNITS:	TOTAL PER YEAR ($/EDU)	TOTAL PER QUARTER ($/EDU)	TOTAL PER MONTH ($/EDU)
For the first 25 Units or any part thereof	546.00	136.50	45.50
For the next 25 Units or any part thereof	535.20	133.80	44.60
For the next 25 Units or any part thereof	524.40	131.10	43.70
For the next 25 Units or any part thereof	513.60	128.40	42.80
For the next 25 Units or any part thereof	502.80	125.70	41.90
For the next 25 Units or any part thereof	492.00	123.00	41.00
For all Units over 150 or any part thereof	481.20	120.30	40.10

Schedule 7.11

Capital Projects

Investment Project (IP) Budget Estimate

Project Name	2024	2025	2026	2027	2028
Collection System					
Arc Flash at Pumping Stations	$300,000	$0	$0	$0	$0
Safety Improvements at Pumping Stations	$250,000	$500,000	$0	$0	$0
Electrical, SCADA & Emergency Generator Improvements	$0	$0	$1,500,000	$1,500,000	$1,500,000
NASSCO CCTV Entire System	$0	$0	$1,500,000	$1,500,000	$0
NASSCO Manhole Inspection Entire System	$0	$0	$300,000	$250,000	$0
Systemwide I/I Study	$0	$0	$100,000	$250,000	$0
Rock Lick Pump Station Replacement	$0	$0	$150,000	$2,500,000	$1,000,000
FBB System Improvements	$4,500,000	$2,500,000	$0	$0	$0
GBB System Improvements	$2,000,000	$2,500,000	$2,500,000	$0	$0
September Dr. Pumping Station Improvements	$0	$0	$100,000	$750,000	$250,000
Major Pumping Station Improvements	$0	$0	$1,000,000	$2,000,000	$2,000,000
Treatment Plant					
Flood Study & Flood Hazard Reinforcement	$0	$0	$300,000	$1,500,000	$1,500,000
Arc Flash at Plant Facility	$50,000	$0	$0	$0	$0
Pipe Tunnel Improvements	$0	$0	$100,000	$250,000	$250,000
Primary tanks 3-4-5 Improvements	$100,000	$100,000	$100,000	$0	$0
Safety Improvements	$250,000	$400,000	$0	$0	$0
Electrical Improvements	$0	$0	$1,000,000	$1,000,000	$0
Effluent Flow Metering	$0	$0	$0	$0	$750,000
UV Disinfection	$0	$0	$250,000	$2,000,000	$5,000,000
Secondary Clarifier Improvements	$0	$0	$200,000	$1,000,000	$2,500,000
Trickling Filter Media Replacement	$0	$0	$100,000	$1,500,000	$500,000
Compressed Air System Replacement	$0	$0	$0	$0	$400,000
Site Security Improvement	$0	$50,000	$700,000	$0	$0
IP Total	**$7,450,000**	**$6,050,000**	**$9,900,000**	**$16,000,000**	**$15,650,000**
IP Grand Total					**$55,050,000**

Recurring Project (RP) Budget Estimate

Capital Improvement	DSIC	2024	2025	2026	2027	2028
Mains - New		$50,000	$100,000	$100,000	$100,000	$100,000
Mains - Replaced / Restored	YES	$350,000	$1,000,000	$3,000,000	$3,000,000	$3,000,000
Mains - Unscheduled	YES	$50,000	$100,000	$100,000	$100,000	$100,000
Mains - Relocated	YES	$50,000	$50,000	$50,000	$50,000	$50,000
Hydrants, Valves, and Manholes - New		$10,000	$100,000	$100,000	$100,000	$100,000
Hydrants, Valves, and Manholes - Replaced	YES	$20,000	$500,000	$500,000	$500,000	$500,000
Services and Laterals - New		$25,000	$25,000	$25,000	$25,000	$25,000
Services and Laterals - Replaced	YES	$50,000	$200,000	$200,000	$200,000	$200,000
ITS Equipment and Systems		$10,000	$50,000	$50,000	$50,000	$50,000
SCADA Equipment and Systems		$50,000	$50,000	$50,000	$50,000	$50,000
Security Equipment and Systems		$25,000	$100,000	$100,000	$100,000	$25,000
Offices and Operations Centers		$50,000	$150,000	$150,000	$200,000	$200,000
Vehicles		$50,000	$50,000	$150,000	$150,000	$150,000
Tools, Equipment, and Safety		$100,000	$100,000	$100,000	$100,000	$100,000
Process Plant Facilities and Equipment		$250,000	$750,000	$750,000	$750,000	$750,000
RP Total		**$1,140,000**	**$3,325,000**	**$5,425,000**	**$5,475,000**	**$5,400,000**
RP Grand Total						**$ 20,765,000**

Schedule 10.03

Cooperation

1. Photocopier
2. Server with all stored data
3. Accounts receivable records, including original lien documents
4. Vendor files & invoices for final audit
5. Any and all information required by DEP or to finalize and dissolve the Seller

DocuSign Envelope ID: 57AB6954-ED1F-4ED0-A541-5EAFE30A5C65

Agreement to Provide Valuation Consulting Services Between

WAD Consultants

And

Pennsylvania America Water Company
For the Appraisal of the

Butler Area Sewer Authority's
Sanitary Sewer System

DocuSign Envelope ID: 57AB6954-ED1F-4ED0-A541-5EAFE30A5C65

Agreement for Valuation Consulting Services

This Agreement for Valuation Consulting Services ("Agreement") is by and between Weinert Appraisal and Depreciation Services, LLC (WAD Consultants), a Wisconsin Limited Liability Company ("Supplier") and Pennsylvania-American Water Company, a Pennsylvania corporation ("PA-American") and is entered into as of November 17, 2022. This Agreement relates to a continuation of the services that were described and initially performed pursuant to the AUS Consultants Agreement dated May 10, 2021, that was terminated on July 28, 2022.

In consideration of the covenants hereinafter contained, and intending to be legally bound, the Parties hereto agree to as follows:

Section 1. Description of Services:
Supplier is being engaged to act as a Utility Valuation Expert, as such term is defined in Pennsylvania Act 12 of 2016, amending Chapter 13 of the Pennsylvania Public Utility Code and the First and Second Implementation Orders entered by the Public Utility Commission at Docket No. M-2016-2543193 (collectively, "Act 12"). Supplier is being engaged with respect to the proposed acquisition by PA-American of the sanitary sewer system assets currently owned by the Butler Area Sewer Authority. Upon the issuance of a notice to proceed by PA-American, Supplier shall prepare and produce the following appraisals and/or studies suitable for the Project, including if requested (collectively, the "Services"):

1. An Appraisal (Valuation study) consistent with the 2020-2021 Uniform Standards of Appraisal Practices (USPAP) as of the date requested by PA-American and consistent with the requirements of Act 12.
2. If applicable, provide expert witness testimony and documentation for the Valuation studies as required by Act 12.
3. If requested by PA-American, updates to the Valuation studies as of the date requested by PA-American.
4. Provide the documentation required by Act 12 with respect to the Services and the fees charged by Supplier pursuant to this Agreement.
5. If requested by PA-American, perform such other services as are consistent with Supplier's engagement as a Utility Valuation Expert.

Section 2. Duration:
Unless amended, the Project subject to this Agreement is anticipated to be approximately two years in duration and will be performed for the period beginning upon the issuance of a notice to proceed by PA-American and continuing through November 17, 2024. Supplier acknowledges and agrees that it shall not and shall have no obligation to provide the Services until such time as PA-American has issued a notice to proceed. To the extent Act 12 imposes any requirements with respect to the timing

Proprietary and Confidential
This Agreement and information contained therein is not for use or disclosure outside of PA-AMERICAN, its Affiliates, and third party representatives, and Supplier except under written agreement by the contracting parties or as may be required by applicable law or regulation.

for the completion of the Services, the commencement date for such Services shall not be deemed to be any earlier than the date PA-American issues the notice to proceed.

Section 3. Effective & Expiration Dates:
This Agreement shall be effective as of the date set forth in the first paragraph hereof ("Effective Date") and shall continue until the earlier to completion on the Project or November 17, 2024 ("Expiration Date") unless earlier terminated as set forth in this Agreement.

Section 4. Personnel to Perform the Services:
Jerome C. Weinert, Principal, shall be in charge of the Services on behalf of Supplier. Supplier shall call upon additional experienced professional staff as required. In the event that this Project or Agreement should not continue for any reason, or should PA-American replace the need for Supplier, PA-American shall give notice as soon as feasibly possible for Supplier to re-deploy their resources elsewhere without any penalty to PA-American.

Both parties recognize the importance of maintaining a continuity of Supplier's personnel on this Project. Supplier agrees that any of its employees, staff, professionals, experts, partners, and/or other personnel: (a) identified as the "Project Team" identified in Section 6 of this Agreement, and/or (b) assigned to this Project subsequent to the execution of this Agreement, shall continue to be staffed on this Project throughout the entire length of time Project Services are provided under this Agreement. Further, said personnel shall be used in the same capacities in which they are initially intended as of the execution date of this Agreement, or as of the date they are assigned to the Project subsequent to execution date of this Agreement, so long as they continue to be employed by Supplier, or so long as PA-American continues to desire their services.

Should Supplier terminate its relationship and/or employment with said personnel, or if said personnel terminates the relationship with Supplier and/or resigns from employment with Supplier, to the extent that Supplier, for any reason, enters into non-compete or similar agreement(s) and/or arrangement (s) with any of its employees, staff, professionals, experts, partners, and/or other personnel, Supplier agrees to immediately release said personnel from non-compete or similar agreement(s) and/or arrangement(s) with respect to being able to work for PA-American in any capacity PA-American sees fit.

Should any or all of Suppliers employees, staff, professionals, experts, partners, and/or other personnel staffed on this Project leave the employ of Supplier during the terms of this Agreement, Supplier agrees to immediately notify PA-American and suggest alternative personnel to be staffed on the Project. In no event shall any Supplier employee, staff, professional, expert, partner, and/or other personnel be assigned to this Project (whether identified in this Section 4, or identified elsewhere subsequent to the execution of this Agreement) without the express written permission and approval by PA-American. Further, PA-American reserves the right to terminate the Services of any of Supplier employee, staff, professional, expert, partner, and/or other personnel working on this Project at any time, and for any reason, without penalty.

Proprietary and Confidential
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Section 5. Location:
Supplier's office is located in Greendale, Wisconsin.

Section 6. Prices:
Supplier fees for the Services are as follows:

Appraisal Activity	Appraisal completion to a Section 1329 Compliant Appraisal	Expenses (not to exceed)	Total Appraisal
	Fees	Expense	
UVE Appraisal	$14,200	$3,200	$17,400
Pre-filed Direct testimony & DR responses related to the above described Valuation studies	$3,000	$100	$3,100

Valuation Activity performed by WAD Consultants staff following the filing of the PUC Application	Hourly Rates plus expenses
Jerome C. Weinert	$250
Elizabeth A. Weinert	150

Supplier recognizes that its fees for the Project are subject to disclosure pursuant to Act 12 and so that Pa-American can include such fees as part of the transaction and closing costs associated with the proposed acquisition of the Project. Supplier further recognizes that its fees shall not exceed five percent (5%) of the fair market value of the assets to be acquired as part of the Project unless such fees are approved by the Pennsylvania Public Utility Commission ("PUC"). Supplier agrees that its fees shall comply with the requirements of Act 12.

Section 7. Payment:
Payment all undisputed amounts shall be made within 60 days upon PA-American being invoiced each month for all work completed during the prior month, or partial payment upon being invoiced should this appraisal engagement be suspended.

All payment terms are Net 60.

Section 8. Non-Disclosure:

A. The Parties agree as follows:

1. In connection with the Project, PA-American may find it beneficial to disclose to Supplier certain confidential or proprietary information in written, oral or other tangible or intangible forms, which may include, but is not limited to, discoveries, ideas, concepts, know-how, techniques, designs, specifications, drawings, blueprints, tracings, diagrams, models,

samples, flow charts, data, computer programs, disks, diskettes, tapes, marketing plans, customer names and other technical, financial or business information (individually and collectively, "Information"). All Information which is disclosed by PA-American to Supplier, whether provided in tangible or intangible form, including, but not limited to, electronic mail or other electronic communications, shall be deemed to be confidential or proprietary. Further, if Information is provided orally, including Information conveyed to an answering machine, voice mail box or similar medium, it shall too be deemed to be confidential or proprietary.

2. Supplier shall:
    a. Hold such Information in confidence with the same degree of care with which Supplier protects its own confidential or proprietary Information, but no less than reasonably prudent care;
    b. Restrict disclosure of the Information solely to its employees, contractors and agents with a need to know such Information, advise those persons of their obligations hereunder with respect to such Information, and assure that such persons are bound by obligations of confidentiality no less stringent than those imposed in this Agreement;
    c. Use the Information only as needed for the purposes of the Project;
    d. Except for the purposes of the Project, not copy, distribute, or otherwise use such Information or knowingly allow anyone else to copy, distribute, or otherwise use such Information; any and all copies shall bear the same notices or legends, if any, as the originals; and,
    e. Upon request, promptly return to PA-American all Information that is in tangible form; as to Information that was disclosed or is stored in intangible form, including, but not limited to electronic mail or other electronic communications, upon request by the PA-American, Supplier shall certify in writing within five (5) business days to PA-American that all such Information has been destroyed or, if the Information was recorded on an erasable storage medium, that Supplier has used reasonable efforts to erase all such Intangible Information.
3. Except for customer Information, Supplier shall have no obligation to preserve the confidential or proprietary nature of any Information which:
    a. Was already known to the Supplier free of any obligation to keep it confidential at the time of its disclosure by PA-American as evidenced by Supplier's written records prepared prior to such disclosure; or
    b. is or becomes publicly known through no wrongful act of Supplier; or
    c. is rightfully received from a third person having no direct or indirect secrecy or confidentiality obligation to PA-American with respect to such Information; or
    d. is independently developed by an employee, contractor or agent of Supplier or a third party not associated with the Project and who did not have any direct or indirect access to the Information, as evidenced by the Supplier's written records; or

Proprietary and Confidential
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e. is approved for release by written authorization by PA-American; or,

f. it is required to disclose pursuant to a written request or demand of a duly empowered government agency or a court of competent jurisdiction, provided due notice and an adequate opportunity to intervene is given to PA-American, unless such notice is prohibited by such written request or demand, in which case, the Supplier shall disclose only such Information as is required and shall use reasonable efforts to obtain confidential treatment for any Information that is so disclosed.

4. Any Information relating to the Project that is disclosed by PA-American to Supplier shall remain confidential for five (5) years from the date of termination of the Agreement. Notwithstanding anything to the contrary herein, Customer Information shall remain confidential indefinitely and shall never be disclosed or used without the prior written approval of an authorized representative of PA-American. "Customer Information" includes, but is not limited to, customer name, address, phone number, information concerning a customer's calling patterns, unlisted customer numbers, any other information associated with a customer or with persons in the household of a customer, and any information available to PA-American and/or its suppliers by virtue of PA-American's relationship with its customers as a provider of telecommunications, Internet, information or other services, including, but not limited to, the quantity, technical configuration, location, type, destination, amount of use of telecommunications or other services subscribed to, and information contained on the telephone bills of PA-American's customers pertaining to telephone exchange service, telephone toll service or other services received by a customer of PA-American.

5. Any disclosed Information by PA-American shall be deemed the property of PA-American, who shall retain exclusively rights to such Information. Nothing contained in this Agreement shall be construed as granting or conferring any patent, copyright, trademark or other proprietary rights by license or otherwise in any such Information to Supplier, except for the right to use such Information in accordance with this Agreement.

6. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, PA-AMERICAN MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY NATURE WHATSOEVER WITH RESPECT TO ANY INFORMATION FURNISHED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES AGAINST INFRINGEMENT.

7. In the event Supplier discloses, disseminates, or releases any confidential or proprietary Information received from PA-American, except as expressly permitted herein, such disclosure, dissemination, or release shall be deemed a material breach of this Agreement. In the event of such breach, PA-American may demand prompt return of all confidential and proprietary Information previously provided to Supplier and terminate this Agreement. The provisions of this Section are in addition to any other legal rights or remedies PA-American may have in law or in equity.

8. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, irrespective of its choice of law principles. Both Parties

agree to comply with all laws, including, but not limited to, laws and regulations regarding the export of information outside the United States. Supplier shall not knowingly transmit, directly or indirectly, in whole or in part, any Information of PA-American or export, directly or indirectly, any product or Information in contravention of the laws of the United States or the laws of any other country governing the aforesaid activities. Supplier shall not transfer any Information received hereunder or any product made using such Information to any country prohibited from receiving such data or product by the U.S. Department of Commerce Export Administration Regulations without first obtaining a valid export license. In the event Supplier violates the foregoing, Supplier shall defend, indemnify, and hold harmless PA-American from and against any claim, loss, liability, expense or damage including fines or legal fees, incurred PA-American with respect to the export or re-export activities contrary to the foregoing. Notwithstanding any other provision of this Agreement, this Section shall survive any termination or expiration of this Agreement.

Section 9. Ownership of Paid-For Development, Use and Reservation of Rights:

PA-American shall be the exclusive owner of all right, title, and interest in and to all Paid-For Development (defined below), including, without limitation, all Intellectual Property Rights therein and thereto. Supplier shall assign or have assigned to PA-American and hereby assigns to PA-American all Intellectual Property Rights in and to the Paid-For Development. "Paid-For Development" shall mean any and all Items to the extent produced or developed by or on behalf of Supplier or its employees, agents, or direct or indirect contractors or suppliers (and whether completed or in-progress), or forming part of any deliverable, pursuant to this Agreement (including, without limitation under any statement of work, exhibit, order or other document under, subordinate to, or referencing this Agreement or the Project) (collectively "Agreements") for the development of which PA-American has been charged monies in one or more of the Agreements ("Development Fees"). Paid-For Development shall always exclude all Excluded Materials, but shall include (without limitation) any modifications, alterations or updates of any Excluded Materials ("Enhancements") that otherwise fall within the definition of Paid-For Development ("Paid-For Enhancements"). PA-American's ownership of Paid-For Enhancements shall be subject to Supplier's underlying rights and ownership in Supplier's Excluded Materials.

"Items" shall mean any or all inventions, discoveries, ideas, (whether patentable or not), and all works and materials, including but not limited to products, devices, computer programs, source codes, designs, files, specifications, texts, drawings, processes, data or other information or documentation in preliminary or final form, and all Intellectual Property rights in or to any of the foregoing.

"**Excluded Materials"** shall mean: i) Supplier's Pre-Existing Materials; ii) Supplier's Independently Developed Materials; and iii) Supplier's Mere Reconfigurations.

"Supplier's Pre-Existing Materials" shall mean those Items owned by Supplier to the extent and in the form that they both existed prior to the date Supplier began any work under this Agreement and were created without any use of any PA-American Items. Supplier's Pre-Existing Materials shall not, however, include Paid-For Enhancements thereto.

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This Agreement and information contained therein is not for use or disclosure outside of PA-AMERICAN, its Affiliates, and third party representatives, and Supplier except under written agreement by the contracting parties or as may be required by applicable law or regulation.

"Supplier's Independently Developed Materials" shall mean those Items that have been developed by Supplier, or on Supplier's behalf, both i) without use of any PA-American Items; and ii) independently of any work performed under any Agreements.

"Supplier's Mere Reconfigurations" means those specific reconfigurations of Supplier's pre-existing software performed by Supplier, or on Supplier's behalf, but only to the extent that such reconfiguration is an alteration to such software which is strictly required to permit Supplier's software to function on PA-American's network or service platform. In no event shall Supplier's Mere Reconfigurations include enhancements, modifications, or updates that are not contained in Supplier's Pre-Existing Materials and that add any features, functionality, or capabilities.

"Intellectual Property Rights" means all patents (including all reissues, divisions, continuations, and extensions thereof) and patent applications, trade names, trademarks, service marks, logos, trade dress, copyrights, trade secrets, mask works, rights in technology, know-how, rights in content (including but not limited to performance and synchronization rights), or other intellectual property rights, protected under the laws of any governmental authority having jurisdiction.

Section 10. Right to Terminate:

PA-American has the right to terminate this Agreement, in its entirety or any portion thereof, at any time without penalty. Should PA-American terminate this Agreement at any time, Supplier shall be entitled to keep and collect all fees billed to PA-American prior to the termination date which are not the subject of a dispute between the parties. Further, Supplier shall be entitled to charge, and PA-American agrees to pay for all properly performed Services as of the termination date in accordance with the rates set forth in Section 6 or, in the case of a fixed fee, a prorata share of the monthly billing during the month in which the Agreement was terminated. Said prorata share shall be calculated by dividing the total number of days worked by Supplier during the month in which the Agreement is terminated, by the total number of calendar days in the month in which the Agreement was terminated.

Section 11. Mutual Limitation of Liability:

Appraiser and Client agree that the following mutual limitation of liability is agreed to in consideration of the fees to be charged and the nature of Appraiser's services under this Agreement. Except as set forth below, Appraiser and Client agree that to the fullest extent permitted by applicable law, each party's and its Personnel's maximum aggregate and joint liability to the other party for claims and causes of action relating to this Agreement shall be limited to the higher of [$50,000] or the total fees and costs charged by Appraiser for the services provided pursuant to this Agreement. Except as set forth below, this limitation of liability extends to all types of claims or causes of action, whether in breach of contract or tort, including without limitation claims/causes of action for negligence, professional negligence or negligent misrepresentation on the part of either party or its Personnel, but excluding claims/causes of action for grossly negligent conduct, intentionally fraudulent conduct, criminal conduct, intentionally caused injury or claims for

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indemnification. The Personnel of each party are intended third-party beneficiaries of this limitation of liability. "Personnel," as used in this paragraph, means the respective party's staff, employees, members, partners and shareholders, acting within the scope of their employment. Appraiser and Client agree that they each have been free to negotiate different terms than stated above or contract with other parties.

Section 12. Invoices/Billing Information:

The Supplier agrees to submit invoices in paper and or electronic form with appropriate references to the PA-American Point of Contact identified in Section 13.

Section 13. Project Manager/Point of Contact/Legal Counsel:

The project manager and/or point of contact of Supplier shall be:

Jerome C. Weinert, Principal
WAD Consultants
5880 Fenton Court
Greendale, Wisconsin 53129
E-Mail: weinertj@auswest.net
414-698-8371 (office)

The point of contact for PA-American shall be:

Scott D. Fogelsanger, Senior Business - Development Manager
Pennsylvania-American Water Company
852 Wesley Drive,
Mechanicsburg, PA 17055
717-550-1509 (office)
717-875-2282 (cell)
Email: Scott.Fogelsanger@amwater.com

The Legal Counsel contact for PA-American shall be:

Andrew L. Swope, Vice President, General Counsel
Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055
717-550-1560 (office)
717-574-2691 (cell)
Email: Andrew.Swope@amwater.com

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Section 14. **Signatures:**

WAD Consultants (Supplier)

DocuSigned by:
Jerome Weinert
52D9D4D673CB44B...

Jerome C. Weinert
November 17, 2022

11/19/2022

Pennsylvania American Water Company

DocuSigned by:
Bernard Grundusky
30414BB93144451...

Bernard J. Grundusky
November 17, 2022

11/20/2022

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Subject: Contract 45850 'SA-WAD-PAWC BASA Engagement Letter' requires your action
Source Envelope:
Document Pages: 10
Signatures: 2
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Envelope Originator:
Anthony LeGore
1 Water St
Camden, NJ 08102
Anthony.LeGore@amwater.com
IP Address: 54.236.3.35

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Jerome Weinert weinertj@AUSWest.net Principal and Director Security Level: Email, Account Authentication (None)	DocuSigned by: Jerome Weinert 52D9D4D673CB44B...	Sent: 11/18/2022 3:02:23 PM Viewed: 11/19/2022 11:38:34 AM Signed: 11/19/2022 11:38:54 AM
	Signature Adoption: Pre-selected Style Using IP Address: 174.192.70.140 Signed using mobile	
Electronic Record and Signature Disclosure: Accepted: 5/31/2022 5:11:01 PM ID: 9e79ad26-6e7c-417a-aa54-26e3b84c4cad		
Bernard Grundusky bernie.grundusky@amwater.com Senor Director - Business Development Security Level: Email, Account Authentication (None)	DocuSigned by: Bernard Grundusky 30414BB93144451...	Sent: 11/19/2022 11:38:55 AM Viewed: 11/20/2022 11:02:27 AM Signed: 11/20/2022 11:02:46 AM
	Signature Adoption: Pre-selected Style Using IP Address: 161.69.125.64	
Electronic Record and Signature Disclosure: Accepted: 11/20/2022 11:02:27 AM ID: 2467b9e0-9705-483b-9ba5-5d3217768687		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Scott Fogelsanger scott.fogelsanger@amwater.com Senior Manager - Business Development Security Level: Email, Account Authentication (None)	COPIED	Sent: 11/20/2022 11:02:48 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	11/18/2022 3:02:23 PM
Certified Delivered	Security Checked	11/20/2022 11:02:27 AM
Signing Complete	Security Checked	11/20/2022 11:02:46 AM
Completed	Security Checked	11/20/2022 11:02:48 AM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

From time to time, American Water Works Service Company, Inc. (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

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If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

Consequences of changing your mind

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

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Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

How to contact American Water Works Service Company, Inc.:

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:
To contact us by email send messages to: bogdan.muresan@amwater.com

To advise American Water Works Service Company, Inc. of your new email address

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at bogdan.muresan@amwater.com and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

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To request paper copies from American Water Works Service Company, Inc.

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to bogdan.muresan@amwater.com and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

To withdraw your consent with American Water Works Service Company, Inc.

To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

i. decline to sign a document from within your signing session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;

ii. send us an email to bogdan.muresan@amwater.com and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

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- Until or unless you notify American Water Works Service Company, Inc. as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by American Water Works Service Company, Inc. during the course of your relationship with American Water Works Service Company, Inc..