



LEHIGH COUNTY AUTHORITY
ALLENTOWN, PA

DRAFT 5-YEAR CAPITAL PLAN

ALLENTOWN DIVISION

2023-2027

APRIL 2022

**LEHIGH COUNTY AUTHORITY
5-YEAR CAPITAL PLAN
2023-2027**

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2023-2027 Capital Plan

Glossary of Acronyms & Terms

The following is a listing of acronyms and terms used in the Capital Plan Summary and Project Detail Sheets.

LCA Water and/or Wastewater Divisions/Systems

LCA Water and/or Wastewater Divisions/Systems			
		Water	Wastewater
AD	Allentown Division	X	X
AWD	Arcadia West Division	X	X
BHD	Beverly Hills Division	X	
CLD	Central Lehigh Division	X	
CFD	Clear View Farms Division	X	
ECD	Emmaus Consecutive Division	X	
HHD	Heidelberg Heights Division	X	X
LLRI-1	Little Lehigh Relief Interceptor, Phase 1		X
LLRI-2	Little Lehigh Relief Interceptor, Phase 2		X
LTD	Lynn Township Division		X
MCD	Mill Creek Division	X	
MND	Madison Park Division	X	
NWD	North Whitehall Division	X	
PLD	Pine Lakes Division	X	
SSD	Sands Spring Division		X
UMD	Upper Milford Division	X	X
UMCD	Upper Central Milford Division (Buss Acres)	X	
WLI	Western Lehigh Interceptor		X
WTD	Washington Township Division	X	X
WWD	Wynnewood Division		X

Project Type

Project Type	Description
AO	Prior Administrative Order/Current Regional Flow Management Strategy
UW	Uncompleted Work ⁽¹⁾
S-7-MCI	Schedule-7 (<i>Lease Required</i>) Major Capital Improvement ⁽²⁾
LCA-MCI	LCA Developed Major Capital Improvement ⁽²⁾
COL	Change of Law ⁽³⁾
Regular	A project that does not fit in any of the aforementioned special categories

(1) *Uncompleted Work: City Projects that were supposed to be complete by the time of settlement. The City and LCA have reached an agreement for LCA to execute them.*

(2) *Major Capital Improvement: In accordance with the Lease, all Major Capital Improvements must be approved by the City.*

(3) *Change of Law: In accordance with the Change of Law Memorandum of Understanding*

(4) *Prior EPA Administrative Order was lifted and projects currently being implemented under DEP Regional Flow Management Strategy*

Project Funding

Project Funding	Description
<i>LCA</i>	Funded by LCA
<i>100% Reimb</i>	All costs are 100% reimbursable by fees charged
<i>Fees & LCA</i>	Costs partly recovered through fees charged and partly funded by LCA
<i>Allentown</i>	Funded by the City of Allentown
<i>CCRC</i>	Capital Cost Recovery Charge ⁽¹⁾ ; Applies only to City approved MCI
<i>AO/CCRC TBD</i>	Funding to be determined in consultation with The City of Allentown

(1) Capital Cost Recovery Charge: An on-going user fee that is above the rate caps set forth in the Lease to allow the recovery of the cost of an MCI. Rate payers are charged based upon usage.

Project Category

Projects have been categorized to identify the primary and secondary reasons for the need. In some cases there is no secondary reason that would be applicable.

Project Category	Description
<i>Regulatory</i>	Required to meet Regulatory requirements
<i>New Cust</i>	New Customers
<i>CA/OS</i>	Concession Lease/Operating Standards
<i>Master Plan</i>	Master Plan
<i>AM - Low</i>	Asset Management - Low Risk
<i>AM - Med</i>	Asset Management - Medium Risk
<i>AM - High</i>	Asset Management - High Risk
<i>AM - Varies</i>	Asset Management - Varies ⁽¹⁾
<i>Efficiency</i>	Efficiency
<i>Sys Imp</i>	System Improvement
<i>Rev Opt</i>	Revenue Opportunity
<i>Planning</i>	Planning
<i>N/A</i>	Not Applicable

(1) Applies to Asset Management Projects, where there are multiple standalone sub-projects of varied levels of "risk".

Approval Stage

Approval Stage	Description
<i>A</i>	Annual Project, no approvals required
<i>S</i>	Study/Planning Phase
<i>D</i>	Design Phase
<i>C</i>	Construction/Implementation Phase
<i>E</i>	Entire Project
<i>V</i>	Various Phases
<i>P</i>	Pending Board approval

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
CAPITAL PLAN
2023–2027**

SUMMARY

The Allentown Division Capital Plan (Plan) is a five-year plan that covers the years 2023 through 2027. The Plan includes water and wastewater projects to assure facility / infrastructure reliability and to comply with the Lease required projects. It also includes projects and studies deemed necessary by LCA, where the latter will identify and evaluate upgrades and improvements that will be incorporated in future Capital Plans. The Lease requires that LCA submit a 5-year Capital Plan to the City for review and approval.

The projects identified in the Plan fall into two primary categories, those funded by LCA and those funded by the City, with the latter further categorized as Regional Flow Management Strategy (RFMS) projects and Uncompleted Work (UW).

Regional Flow Management Strategy (RFMS) Projects: This includes projects necessary to bring the City’s wastewater system into compliance with the DEP-mandated Regional Flow Management Strategy (RFMS), which replaces the US Environmental Protection Agency (USEPA) Administrative Order to eliminate Sanitary Sewer Overflows / By-passes at Outfall 003 of the wastewater treatment plant with a comprehensive program to reduce inflow and infiltration into the Kline’s Island Sanitary Sewer Service Area (KISS) wastewater systems. Pursuant to the Concession Lease Agreement (Lease), the City is responsible for making all decisions related to work to be performed on the City’s infrastructure and for funding said work. LCA is responsible for the execution of the work.

Uncompleted Work (UW) Projects: This category includes projects that the City expected to be completed before the Lease began, but were not completed prior to the Lease start. The City and LCA reached an agreement providing that LCA will manage these projects but be reimbursed by the City for all project costs. Of these original projects (the WWTP Bar Rack, Sanitary Sewer Evaluation Study, WWTP SCADA Upgrades, WFP Chemical Building Roof Replacements, the alternate remedy for the Schantz Spring Chlorine Booster Station and Rehabilitation of the 28th Street Elevated Tank), all have been completed by LCA since the Lease inception.

Funding by Budget Area and category is as follows:

CAPITAL FUNDING 2023-2027					
Budget Area	LCA	CITY			TOTALS
		UW	RFMS	Sub-Total	
Water	\$40,654,000	\$0	\$0	\$0	\$40,654,000
Wastewater	\$31,853,000	\$0	\$2,150,000	\$2,150,000	\$34,003,000
Totals	\$72,507,000	\$0	\$2,150,000	\$2,150,000	\$74,657,000

Water Projects: Focus on regulatory compliance, asset management, immediate and future needs at the Water Filtration Plant (WFP) and addressing the Lease operating standards. The recently completed WFP Master Plan identified capital improvements to address future regulatory requirements and/or operational needs. Amended lease requirements include the annual replacement of 1-mile of aged and/or failing spun and pit cast water main.

Wastewater Projects: The Projects focus on regulatory compliance, asset management, immediate and future needs at the Wastewater Treatment Plant (WWTP) and addressing the Lease operating standards. Projects of note include the replacement of the solids process boiler and HVAC upgrade project and replacement of electrical substation no. 1. In addition, annual funding is available for the replacement and/or rehabilitation of defective sewer mains when warranted.

Additional information regarding these and other projects can be found in the Plan's individual Project Detail Sheets.

Supplemental Revenues: Under the Concession Agreement, LCA is able to charge Capital Cost Recovery Fees and Capital Recovery Fees to City customers. These charges will be applied to all Major Capital Improvements (MCI), which are defined as projects exceeding \$1 million (indexed for inflation in the future) within the proposed Plan. The capital plan includes five (5) potential wastewater MCI project and five (5) potential water MCI projects (not including the annual water main replacement).

FINANCIAL JUSTIFICATION

In 2023 and beyond, LCA anticipates that Capital Projects will be funded through operating revenues, contributions or grants and cash reserves.

2023-2027 Capital Plan Allentown Division Funding Sources						
	LCA SOURCES			CITY SOURCES		
Budget Area	Contributions	Operating/Capital Reserves	New Borrowing	RFMS	UW	Total Sources
Water	\$4,150,000	\$36,504,000	\$0	\$0	\$0	\$40,654,000
Wastewater	\$0	\$31,853,000	\$0	\$2,150,000	\$0	\$34,003,000
Totals	\$4,150,000	\$68,357,000	\$0	\$2,150,000	\$0	\$74,657,000

CONDENSED CASH FLOW - CITY DIVISION					
US DOLLARS	2023	2024	2025	2026	2027
User Charges	48,249,218	53,109,689	56,442,812	60,454,513	63,542,442
Other Operating Revenues	-	-	-	-	-
Non-Operating Revenues	2,099,343	1,349,343	949,343	749,343	749,343
Operating expenses	(21,698,486)	(22,349,440)	(23,019,924)	(23,710,522)	(24,421,837)
Annual Lease & Other Payments	(1,316,070)	(1,313,128)	(1,006,147)	(1,005,166)	(1,004,186)
Debt Service - Current Debt	(15,130,921)	(15,664,816)	(16,217,696)	(16,786,111)	(17,374,611)
Debt Service - NEW Debt	(63,218)	(63,218)	(63,218)	(63,218)	(63,218)
Investments Converting to Cash	-	-	-	-	-
Grants	4,150,000	-	-	-	-
Proceeds From NEW Debt	-	-	-	-	-
Capex	(12,887,000)	(14,049,500)	(16,466,000)	(20,838,000)	(10,786,500)
NET FUND FLOWS	3,402,867	1,018,930	619,171	(1,199,161)	10,641,433
Plan Volume Increase	0.00%	0.00%	0.00%	0.00%	0.00%
User Charge Revenue Increase %	5.50%	5.20%	5.10%	5.00%	4.90%
Total User Charge Revenue Increase	5.50%	5.20%	5.10%	5.00%	4.90%
Unrestricted Cash Balance	17,560,429	17,748,281	18,026,610	16,476,550	26,756,725
Unrestricted Investments	-	-	-	-	-
Total Unrestricted Balances	17,560,429	17,748,281	18,026,610	16,476,550	26,756,725
Days Cash on Hand	295	290	286	254	400
DEBT SERVICE COVERAGE RATIO	1.71	1.92	2.04	2.17	2.23

WATER

LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
2023-2027 CAPITAL PROGRAM
WATER

Project #	Name or Title of Proposal	Pri. Category	Funding (1)	Approval Stage (1)	Plan Total Cost	This Capital Program							Prior Project Cost (4)	Future Project Cost (4)	Total Project Cost
						2022 Budget Approved	2023 Year 1	2024 Year 2	2025 Year 3	2026 Year 4	2027 Year 5	2023-2027 Total			
	OPERATING/CAPITAL RESERVE FUNDS														
	ANNUAL PROJECTS														
AD-W-A	Annual Projects	AM - Varies	LCA	A	\$ 7,639,000	1,135,000	1,149,000	1,340,000	1,326,000	1,467,500	1,221,500	\$ 6,504,000	\$0		\$7,639,000
	Sub-total Annual				\$ 7,639,000	\$ 1,135,000	\$ 1,149,000	\$ 1,340,000	\$ 1,326,000	\$ 1,467,500	\$ 1,221,500	\$ 6,504,000	\$ -	\$ -	\$ 7,639,000
	NON-CCRC PROJECTS														
AD-W-1	Indenture Improvements	AM-high	LCA	C	\$ 1,000,000	\$ 300,000	\$ 200,000	\$ 200,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 700,000	\$200,000		\$1,200,000
AD-W-25	Tank and Reservoir Rehabilitation	AM-high	LCA	V	\$ 1,050,000	\$ 300,000	\$ 250,000	\$ 200,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 750,000	\$0		\$1,050,000
AD-W-26	Large Diameter Valve Replacement Project	AM-high	LCA	V	\$ 2,550,000	\$ 100,000	\$ 750,000	\$ 700,000	\$ 500,000	\$ 250,000	\$ 250,000	\$ 2,450,000	\$0	\$500,000	\$3,050,000
AD-W-9	Various Water System Related Studies	CA/OS	LCA	S	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$300,000		\$450,000
	TOTAL NON-CCRC PROJECTS				\$ 4,750,000	\$ 700,000	\$ 1,200,000	\$ 1,100,000	\$ 700,000	\$ 600,000	\$ 450,000	\$ 4,050,000	\$ 500,000	\$500,000	\$ 5,750,000
	Large Projects and CCRC Projects (3)														
AD-W-7	Annual Water Main Replacements	CA/OS	CCRC	C	\$ 21,600,000	2,400,000	2,400,000	2,400,000	4,800,000	4,800,000	4,800,000	\$ 19,200,000	\$12,900,000		\$34,500,000
AD-W-16	Water Meter Replacement Program	AM-High	CCRC (2)	P	\$ 2,300,000	\$ -	\$ -	\$ -	\$ 800,000	\$ 1,500,000	\$ -	\$ 2,300,000	\$0		\$2,300,000
AD-W-21	Fixed-Base Meter Reading System	Efficiency	CCRC (2)	P	\$ 1,700,000	\$ -	\$ -	\$ -	\$ 850,000	\$ 850,000	\$ -	\$ 1,700,000	\$0	\$0	\$1,700,000
AD-W-22	Filter Upgrades	Master Plan	CCRC (2)	P	\$ 5,700,000	\$ 200,000	\$ 2,350,000	\$ 2,850,000	\$ 300,000	\$ -	\$ -	\$ 5,500,000	\$50,000	\$0	\$5,750,000
AD-W-23	Intake Upgrades	Master Plan	CCRC (2)	P	\$ 1,400,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 500,000	\$ 800,000	\$ 1,400,000	\$0	\$13,000,000	\$14,400,000
	TOTAL CCRC PROJECTS				\$ 32,700,000	\$ 2,600,000	\$ 4,750,000	\$ 5,250,000	\$ 6,850,000	\$ 7,650,000	\$ 5,600,000	\$ 30,100,000	\$ 12,950,000	\$13,000,000	\$ 58,650,000
	GRAND TOTAL				\$ 45,089,000	\$ 4,435,000	\$ 7,099,000	\$ 7,690,000	\$ 8,876,000	\$ 9,717,500	\$ 7,271,500	\$ 40,654,000	\$ 13,450,000	\$13,500,000	\$ 72,039,000

(1) "Administrative Order" Projects as per the Agreement are to be Funded by the City and executed by LCA.
(2) Project to be reviewed by the City for Major Capital Improvement/CCRC approval
(3) Includes projects that have not been reviewed by the City for MCI/CCRC approval
(4) If blank future cost not applicable (annual/recurring cost) or to be determined

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ANNUAL PROJECTS						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project No.	AD-W-A
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CV/JP

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	N/A
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	N/A
Will the Project Require Obtaining Land Rights	No		

Detailed Project Description
This annual project includes the following: New & Replacement Meter Installations, Distribution Mains - Development & Service Connections, Distribution Mains - Upsizing, Other Equipment, WFP General Improvements, PennDOT relocations, Mobile Equipment, reservoir rehab/maintenance, Indenture report preparation, General Water System Replacements/Improvements, Capital Management, and various water system studies. Major mobile equipment purchases within the capital plan include two new dump trucks, new fork lift, and new utility trucks.

Project Drivers and Needs to be Met by the Project
Primary project drivers are asset management (to maintain level of service and system longevity) and system improvement. Annual projects that help maintain the operation of the distribution system and the WFP.

Project Status - Describe what work, if any has been completed or underway for this project
This is an annual project.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-A
Project Name	ANNUAL PROJECTS

Prior Project Cost	N/A
Estimated Project Costs:	2022-2027
LCA Staff	\$ 500,000
Land Acquisition	
Construction/Equipment	\$ 6,139,000
Professional Services	\$ 500,000
Other	\$ 100,000
Contingencies	\$ 400,000
Total Project Cost	\$ 7,639,000

Project Estimate Level	
	Conceptual Estimate
X	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 6,504,000
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	Need	Phase of Work
2022 Budget	\$ 1,135,000	procurement, planning, design & construction
1st Year 2023	\$ 1,149,000	procurement, planning, design & construction
2nd Year 2024	\$ 1,340,000	procurement, planning, design & construction
3rd Year 2025	\$ 1,326,000	procurement, planning, design & construction
4th Year 2026	\$ 1,467,500	procurement, planning, design & construction
5th Year 2027	\$ 1,221,500	procurement, planning, design & construction

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INDENTURE REPORT IMPROVEMENTS						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project No.	AD-W-I
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		TC

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2016
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	N/A
Will the Project Require Obtaining Land Rights	No		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.

Detailed Project Description
<p>This project includes the following, but not limited to: 1) General repairs on concrete, reinforcing steel and exposed wood; 2) Pipe protection upgrades including preparation, painting and dehumidification particularly sub-grade sites; 3) Structural upgrades including roofs; 4) Water tank and reservoir upgrades; 5) Security upgrades including fencing, lighting and vegetation control; 6) Electrical upgrades.</p>

Project Drivers and Needs to be Met by the Project
<p>The primary project driver is asset management. This project addresses the deficiencies identified in the annual Indenture Report. Funding needed to address Indenture-related deficiencies is roughly split 50% between the sewer system and 50% between the water system.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>A number of roofs were replaced prior to 2019 that were documented in annual Indenture reports. In addition, minor routine maintenance was performed in 2019 as it relates to Indenture projects. A larger Indenture upgrade project was completed in 2022 that focused on concrete repairs at the WFP. 2022 Indenture upgrade work will again include concrete repairs at the WFP and also concrete work at the South Mountain Reservoir.</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
<p>Annual cost impact to be determined as needed.</p>

Project No.	AD-W-I
Project Name	INDENTURE REPORT IMPROVEMENTS

Prior Project Cost	\$200,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 50,000
Land Acquisition	\$ -
Construction/Equipment	\$ 700,000
Professional Services	\$ 150,000
Other	
Contingencies	\$ 100,000
Total Project Cost	\$ 1,200,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 700,000
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	Need	Phase of Work
2022 budget	\$ 300,000	design & construction
1st Year 2023	\$ 200,000	design & construction
2nd Year 2024	\$ 200,000	design & construction
3rd Year 2025	\$ 100,000	design & construction
4th Year 2026	\$ 100,000	design & construction
5th Year 2027	\$ 100,000	design & construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	TANK AND RESERVOIR REHABILITATION						
Budget Area	Water	Department	Operations	Date	1/24/2022	Project No.	AD-W-25
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		TC/BG

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information			
Expected Useful Life (Years)	Varies	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	Ongoing
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.

Detailed Project Description
The project involves the mechanical upgrades, surface coatings and miscellaneous rehabilitation and repair of the high-level pumping stations, concrete tanks, and concrete reservoirs: (a) Schantz Spring Reservoir, (b) Huckleberry Ridge Reservoir, (c) South Mountain Reservoir, (d) East Side Reservoir, (e) Wash Water Tank, (f) Halstead Pump Station. The majority of the work will be located on the exterior of the tanks and within the adjacent process piping systems, but may include interior repairs and upgrades. This work will include replacement of process valves, actuators, painting, HVAC, building rehabilitation, electrical components, and mixing systems. It will also encompass work to the interior of the three large concrete reservoirs which is not currently covered under a service agreement.

Project Drivers and Needs to be Met by the Project
Enhanced process and physical redundancy, improved operations and maintenance, and asset management are the project drivers.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in 2017 as part of the Water Filtration Plant Master Plan project. The Master Plan's scope for this project is also linked to AD-W-I (Indenture Report Improvements); therefore, a portion of this project is allocated to that capital number as well.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-25
Project Name	TANK AND RESERVOIR REHABILITATION

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 50,000
Land Acquisition	\$ -
Construction/Equipment	\$ 750,000
Professional Services	\$ 100,000
Other	\$ 50,000
Contingencies	\$ 100,000
Total Project Cost	\$ 1,050,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 750,000
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		Need	Phase of Work
2022 Budget		\$ 300,000	construction
1st Year	2023	\$ 250,000	construction
2nd Year	2024	\$ 200,000	construction
3rd Year	2025	\$ 100,000	construction
4th Year	2026	\$ 100,000	construction
5th Year	2027	\$ 100,000	construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	LARGE DIAMETER VALVE REPLACEMENT PROJECT						
Budget Area	Water	Department		Date	1/24/2022	Project No.	AD-W-26
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - High	Secondary	Sys Imp	Preparer		CV/JG

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input checked="" type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	project inception date	2020
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	project completion date	2022
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.

Detailed Project Description
<p>This is a multi-year project to identify critical large diameter inoperable valves and replace them. The existing 36-inch cast iron water main that supplies the city with water from the South Mountain Reservoir is nearly 100 years old and has numerous large diameter valves that are inoperable or no longer seal properly. The valves have manual or electrical actuators and the current condition does not allow for isolation of the Reservoir in event of main breakage or maintenance. There are other critical large diameter valves that supply the city and the LCA Suburban Division that are inoperable or do not seal properly that likely require replacement as well.</p>

Purpose and Needs to be Met by the Project
<p>The replacement of critical inoperable major water supply valves will allow for isolating of reservoirs and other areas of the distribution system in event of a water main break or other essential maintenance operations.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>The inception of this project is the result of a major break in the South Mountain transmission main that occurred in late 2020 and required emergency repair. The inoperable or otherwise poor condition of the valves discovered on this line and adjacent connecting mains justify the need to create a new project to replace critical transmission and distribution system valves.</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	
Debt Service	\$ -
Net	\$ -

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Revenue Impact	
Gain/(Loss) in Annual Revenue	
Assessment, Contribution	
in Aid-of-Construction	
Other	

Explanation if Necessary

Project No.	AD-W-26
Project Name	LARGE DIAMETER VALVE REPLACEMENT PROJECT

Prior Project Cost	0
Estimated Project Costs: 2022-2027	
LCA Staff	\$ 75,000
Land Acquisition	
Construction/Equipment	\$ 2,200,000
Professional Services	\$ 175,000
Other	
Contingencies	\$ 100,000
Total Project Cost	\$ 2,550,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,450,000
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Source of Funds			
		Need	Phase of Work
2022 Budget		\$ 100,000	study
1st Year	2023	\$ 750,000	construction
2nd Year	2024	\$ 700,000	construction
3rd Year	2025	\$ 500,000	construction
4th Year	2026	\$ 250,000	construction
5th Year	2027	\$ 250,000	construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	VARIOUS WATER SYSTEM RELATED STUDIES						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project No.	AD-W-9
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	CA/OS	Secondary	Planning	Preparer		TC

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input checked="" type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	N/A	Project inception date	2016
Approx. No. of Customers Benefitted	N/A		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	TBD
Will the Project Require Obtaining Land Rights	N/A		

Detailed Project Description
As infrastructure ages and regulations become more stringent, there are periodic needs for professional services to study the feasibility of changes, upgrades, etc. The following study is requested in 2022: (1) WFP Master Plan. This is a requirement of the Lease as some original components of the Allentown WFP are over 60 years.

Project Drivers and Needs to be Met by the Project
Engineering studies are periodically required to address feasibility of implementing new programs or changing existing ones. The WFP Master Plan is a requirement of the Lease Agreement and is to be completed every 5 years. The first Master Plan was completed in 2017 and the second installment will be completed in 2022.

Project Status - Describe what work, if any has been completed or underway for this project
The first Master Plan was completed in 2017.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-9
Project Name	VARIOUS WATER SYSTEM RELATED STUDIES

Prior Project Cost	300,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 25,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 120,000
Other	\$ -
Contingencies	\$ 5,000
Total Project Cost	\$ 450,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 150,000
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		Need	Phase of Work
2022 Budget		\$ 150,000	Master Plan
1st Year	2023	\$ -	
2nd Year	2024	\$ -	
3rd Year	2025	\$ -	
4th Year	2026	\$ -	
5th Year	2027	\$ 150,000	Master Plan

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WATER MAIN REPLACEMENTS						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project No.	AD-W-7
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	CA/OS	Secondary	AM - High	Preparer		JMP

Purpose of Expenditure (check all that apply)			
<input checked="" type="checkbox"/>	New Facility (replacement)		Correct Known or Potential Safety Issue
	Existing Facility - Rehabilitation/Upgrade		Equipment Obsolete
	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
	Study	<input checked="" type="checkbox"/>	Other (explain): Lease requirement

Additional Information			
Expected Useful Life (Years)	100	Project inception date	2014
Approx. No. of Customers Benefitted	N/A		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2062
Will the Project Require Obtaining Land Rights	N/A		

Detailed Project Description
Through the original Operating Standards of the Lease Concession Agreement, LCA was required to replace 2 miles of aging spun cast or pit cast iron water mains per year, until such time as the City would deem it not necessary. LCA works closely with the City's Office of Compliance and Streets Department to coordinate the annual water main replacement projects, which are prioritized by LCA's engineer. The re-negotiated Lease and settlement with the City requires annual replacement of one mile of water main starting in 2021 up to and including 2024 (4 miles total). In 2024, a review of the program (including break history) will be performed by LCA and City to determine if greater than 1 mile, but no more than 2 miles, of water main replacement shall be required annually. The capital budget assumes 2 miles of annual water main replacement starting in 2025.

Project Drivers and Needs to be Met by the Project
Primary project drivers are lease requirements and asset management. Replacing cast iron mains will reduce the frequency of breaks in the system which create customer outages and unaccounted for water, and will reduce the potential for damage which can occur to private property from catastrophic pipe breaks.

Project Status - Describe what work, if any has been completed or underway for this project
As of the end of 2019, the replacement of 9.00 miles of water main was completed. In 2020 the design of the next phase of water main replacement (Cycle 5) was started, although no main was replaced that year. Cycle 5 main replacement will be completed in 2021, followed by the next annual cycles of prioritized water main replacement.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Explanation if Necessary
N/A

Project No.	AD-W-7
Project Name	WATER MAIN REPLACEMENTS

Prior Project Cost	\$12,900,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 500,000
Land Acquisition	\$ -
Construction/Equipment	\$ 19,000,000
Professional Services	\$ 1,500,000
Other	\$ -
Contingencies	\$ 600,000
Total Project Cost	\$ 34,500,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
<input checked="" type="checkbox"/>	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 19,200,000
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		Need	Phase of Work
2022 Budget		\$ 2,400,000	design & construction
1st Year	2023	\$ 2,400,000	design & construction
2nd Year	2024	\$ 2,400,000	design & construction
3rd Year	2025	\$ 4,800,000	design & construction
4th Year	2026	\$ 4,800,000	design & construction
5th Year	2027	\$ 4,800,000	design & construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	METER REPLACEMENT PROGRAM						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project	AD-W-16
Location	Allentown			Prj. Type	Regular	Prj.	CCRC
Prj. Category	Primary	AM-varies	Secondary	rev oport	Preparer	ALK	

Purpose of Expenditure (check all that apply)			
	New Facility		Correct Known or Potential Safety Issue
	Existing Facility - Rehabilitation/Upgrade	X	Equipment Obsolete
X	Scheduled Replacement		Comply with Regulatory Requirements
	Improved Service		Equipment/Infrastructure at End of Useful Life
	Study		Other (explain):

Additional Information			
Expected Useful Life (Years)	20	Project inception date	2021
Approx. No. of Customers Benefitted	N/A		
Is this System part of a Common User Rate?	N/A		
Will the Project Require Obtaining Land Rights	N/A	Anticipated Project completion date	2026

Detailed Project Description
There are approximately 4,300 badger water meters ranging in size from 5/8" to 2" that are currently being used to monitor water consumption in the city. These sites were not a part of the original City of Allentown AMR project in 2012/2013. The sites also have existing but outdated Encoder Receiver Transmitters (ERTs) which are now approaching the end of their useful lives. Should LCA decide to implement Project AD-W-21 (Fixed Base AMR), the outdated 40W/50W/60W ERTs will not be readable on the new system. Radio read capability is included on all meter exchanges, allowing for mobile read application.

Project Drivers and Needs to be Met by the Project
The Badger meters have an outdated style radio that is incorporated into the meter and cannot be replaced separately. The old style radio does not include data logging or tamper alarms. Replacement of meters that may not be registering all water usage or have faulty radios is expected to reduce the amount of non-revenue water. Analysis of metering data will allow for enhanced customer service including data-backed resolution of customer metering complaints, flow analysis and other useful functions. In addition, the data will be used in identifying and addressing customer metering issues.

Project Status - Describe what work, if any has been completed or underway for this project
No work to date.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$
Net	\$

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.50%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-16
Project Name	METER REPLACEMENT PROGRAM

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$40,000
Land Acquisition	\$ -
Construction/Equipment	\$2,150,000
Professional Services	\$50,000
Other Contingencies	\$60,000
Total Project Cost	\$2,300,000

Requested in this Capital Program	\$ 2,300,000
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Project Estimate Level	
	Conceptual Estimate
x	Preliminary Estimate
	Budget Estimate
	Definitive Estimate

	Need	Phase of Work
2022 Budget	\$ -	
1st Year 2023	\$ -	
2nd Year 2024	\$ -	
3rd Year 2025	\$ 800,000	procurement & construction
4th Year 2026	\$ 1,500,000	construction
5th Year 2027	\$ -	

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FIXED-BASE METER READING SYSTEM						
Budget Area	Water	Department	Capital Works	Date	1/24/2022	Project No.	AD-W-21
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	Efficiency	Secondary	Sys Imp	Preparer		BB/ALK

Purpose of Expenditure (check all that apply)		
<input checked="" type="checkbox"/>	New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/>	Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	20	Project inception date	2018
Approx. No. of Customers Benefitted	N/A		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2026
Will the Project Require Obtaining Land Rights	N/A		

Detailed Project Description
The City of Allentown's original AMR project started in 2011 and ran until 2013. There were insufficient funds from the Pennvest Loan to cover all 33,000 water meters. The original AMR was installed as a hybrid system which is upgradeable to a fixed-base system. A fixed-base system provides instantaneous readings of any water meter via a radio signal sent directly to the customer care center through a series of transmitters (exact number is to be determined) and repeaters installed throughout the water system service area.

Project Drivers and Needs to be Met by the Project
The primary project drivers are efficiency and system improvement. A fixed-base system would allow for instantaneous readings (and monthly reads) on any account. In order to implement the fixed base system, data analytics software must be procured and installed to house the enormous volume of data that will accumulate. The data analytics software was an original component of the City's AMR project. This software was purchased under AD-W-15 in 2021.

Project Status - Describe what work, if any has been completed or underway for this project
No work has been done to date. Implementation is anticipated to begin in 2025.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-21
Project Name	FIXED-BASE METER READING SYSTEM

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 80,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,200,000
Professional Services	\$ 120,000
Other	\$ 100,000
Contingencies	\$ 200,000
Total Project Cost	\$ 1,700,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,700,000
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		Need	Phase of Work
2022 Budget		\$ -	
1st Year	2023	\$ -	
2nd Year	2024	\$ -	
3rd Year	2025	\$ 850,000	procurement & construction
4th Year	2026	\$ 850,000	procurement & construction
5th Year	2027	\$ -	

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FILTER UPGRADES						
Budget Area	Water	Department	Operations	Date	1/24/2022	Project No.	AD-W-22
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)	
New Facility	Correct Known or Potential Safety Issue
Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
Scheduled Replacement	Comply with Regulatory Requirements
Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	Varies	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2030
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.

Detailed Project Description
The filter underdrains are nearly 60 years old and have exceeded their service life. A recent inspection of the underdrain in Filter No. 6 determined that the underdrains are in poor condition and must soon be replaced. In addition, a number of filter components are obsolete, including the filter control valves and filter control panels. Also, there has been difficulty in obtaining spare parts. Properly functioning filter underdrains, coupled with optimized filter media and backwash routines, will be critical to maintaining regulatory compliance.

Project Drivers and Needs to be Met by the Project
The primary project drivers are asset management (Master Plan), system improvement, and regulatory compliance. Primary benefit will be enhanced regulatory compliance, improved operability and reduced maintenance. Secondary benefits include better asset management and process reliability. In addition, replacing the underdrains and rebuilding the filters will allow for the addition of air scour auxiliary wash and modified media configuration, which will improve reliability and performance of the filters.

Project Status - Describe what work, if any has been completed or underway for this project
The initial evaluation was completed in 2017 as part of the Water Filtration Plant Master Plan, and a follow-up detailed filter condition assessment and study was completed in 2020. The Capital Plan budget is based on performing short term rehabilitation work recommended by the filter study in 2022 and 2023, which includes backwash valve replacement, verification of surface sweeps pressure, removal of top layer of filter media fines, and repair of filter troughs. Design of the filter upgrade project commenced in late 2021 and will be completed in 2022. Construction is anticipated to occur in 2023 and 2024.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-22
Project Name	FILTER UPGRADES

Prior Project Cost	50,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 150,000
Land Acquisition	\$ -
Construction/Equipment	\$ 5,000,000
Professional Services	\$ 300,000
Other	\$ 50,000
Contingencies	\$ 200,000
Total Project Cost	\$ 5,750,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 5,500,000
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	Need	Phase of Work
2022 Budget	\$ 200,000	design & permitting
1st Year 2023	\$ 2,350,000	construction
2nd Year 2024	\$ 2,850,000	construction
3rd Year 2025	\$ 300,000	construction
4th Year 2026	\$ -	
5th Year 2027	\$ -	

This project is unfunded.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INTAKE UPGRADES						
Budget Area	Water	Department	Operations	Date	1/24/2022	Project No.	AD-W-23
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Master Plan	Secondary	Sys Imp	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	Varies	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	TBD
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, Central Lehigh Division and bulk water sales to other municipalities.

Detailed Project Description
This project as described in the Master Plan includes multiple upgrade phases: 1) Replace the existing travelling screen in the 1953 Little Lehigh screening building (<i>this phase is within the 5-year Capital Plan</i>); 2) Upgrade the Big Lehigh intake facility, which is limited to 3 MGD due to taste and odor complaints, and requires manual cleaning of the existing bar screens. This phase of the project will include the installation of traveling screens and a new screenings handling facility at the Big Lehigh intake; 3) Construct new 30 MGD Little Lehigh intake structure and screenings building including coarse screens, traveling screens and screenings handling facilities. In addition, new buried piping and tie-in connection to the existing raw water line will be included in this phase.

Project Drivers and Needs to be Met by the Project
Asset management, regulatory compliance, enhanced redundancy, improved process reliability, improved operations and maintenance and improved water quality are the project drivers.

Project Status - Describe what work, if any has been completed or underway for this project
The intake evaluation was completed in 2017 as part of the Water Filtration Plant Master Plan project. The first phase of this project, which is shown within this 5-year Capital Plan, consists of replacement of the existing Little Lehigh mechanical screen and associated upgrades. This is the short term recommendation in the Master Plan. The long term recommendation includes a second intake structure (see above), which is not included within this 5-year capital plan.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-W-23
Project Name	INTAKE UPGRADES

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 25,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,250,000
Professional Services	\$ 75,000
Other	\$ -
Contingencies	\$ 50,000
Total Project Cost	\$ 1,400,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,400,000
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		Need	Phase of Work
2022 Budget		\$ -	
1st Year	2023	\$ -	
2nd Year	2024	\$ -	
3rd Year	2025	\$ 100,000	design & permitting
4th Year	2026	\$ 500,000	construction
5th Year	2027	\$ 800,000	construction

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WASTEWATER

LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION
2023-2027 CAPITAL PROGRAM
WASTEWATER

Project #	Name or Title of Proposal	Prj. Category	(1) Funding	Approval Stage (1)	Plan Total Cost	This Capital Program							Prior Project Cost (4)	Future Project Cost (4)	Total Project Cost
						2022 Budget Approved	2023 Year 1	2024 Year 2	2025 Year 3	2026 Year 4	2027 Year 5	2023-2027 Total			
	Operating/Capital Reserve Funds														
	<u>ANNUAL PROJECTS</u>														
AD-S-A	Annual Projects	AM - Varies	LCA	A	\$ 9,963,000	\$ 1,460,000	\$ 1,998,000	\$ 1,622,000	\$ 1,665,000	\$ 1,858,000	\$ 1,360,000	\$ 8,503,000	\$0		\$9,963,000
	Sub-total Annual				\$ 9,963,000	\$ 1,460,000	\$ 1,998,000	\$ 1,622,000	\$ 1,665,000	\$ 1,858,000	\$ 1,360,000	\$ 8,503,000	\$ -	\$ -	\$ 9,963,000
	<u>Non-CCRC Projects</u>														
AD-S-I	Indenture Report Improvements	AM - Varies	LCA	C	\$ 1,400,000	\$ 300,000	\$ 400,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 100,000	\$ 1,100,000	\$200,000		\$1,600,000
AD-S-9	Various Wastewater System Related Studies (Master Plan)	CA/OS	LCA	S	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$150,000		\$300,000
AD-S-26	Flow Characterization Study I&I Projects	Regulatory	LCA	V	\$ 3,000,000	\$ -	\$ -	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 3,000,000	\$0	\$0	\$3,000,000
	Sub-total Allentown Division Wastewater Capital Funded by LCA				\$ 4,550,000	\$ 300,000	\$ 550,000	\$ 950,000	\$ 950,000	\$ 950,000	\$ 850,000	\$ 4,250,000	\$ 350,000	\$ -	\$ 4,900,000
	<u>Large Projects and CCRC Projects</u>														
AD-S-5	WWTP Electrical Substation Replacement Phase 2	AM - High	CCRC (3)	D	\$ 3,750,000	\$ -	\$ 400,000	\$ 2,000,000	\$ 1,200,000	\$ 150,000	\$ -	\$ 3,750,000	\$2,450,000	\$0	\$6,200,000
AD-S-19	WWTP Main & Auxiliary Pump Station Improvements	AM - Varies	CCRC (3)	P	\$ 6,650,000	\$ 150,000	\$ 100,000	\$ 200,000	\$ 2,000,000	\$ 4,000,000	\$ 200,000	\$ 6,500,000	\$0	\$0	\$6,650,000
AD-S-20	Boiler Replacement & Solids Process HVAC Upgrade Project	AM - Varies	CCRC	D	\$ 2,800,000	\$ 800,000	\$ 1,200,000	\$ 800,000	\$ -	\$ -	\$ -	\$ 2,000,000	\$40,000	\$0	\$2,840,000
AD-S-21	WWTP IPS Pump Station Upgrade & 480v MCC Replacement	AM - Varies	CCRC (3)	P	\$ 6,000,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 1,500,000	\$ 4,000,000	\$ 200,000	\$ 5,900,000	\$0	\$0	\$6,000,000
AD-S-22	WWTP Final Clarifier 1-4 Rehabilitation	AM - Varies	CCRC (3)	P	\$ 950,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 850,000	\$ 950,000	\$0	\$1,000,000	\$1,950,000
	Sub-total Allentown Division Wastewater Large & CCRC Projects				\$ 20,150,000	\$ 1,050,000	\$ 1,800,000	\$ 3,100,000	\$ 4,700,000	\$ 8,250,000	\$ 1,250,000	\$ 19,100,000	\$ 2,490,000	\$ 1,000,000	\$ 23,640,000
	<u>City Funded Projects</u>														
AD-S-11	Regional Flow Management Strategy (2)	Regulatory	Allentown	S	\$ 2,250,000	\$ 1,500,000	\$ 750,000	\$ -	\$ -	\$ -	\$ -	\$ 750,000	\$1,540,000	\$0	\$3,790,000
AD-S-12	Flow Characterization Study (2)	Regulatory	Allentown	S	\$ 1,720,000	\$ 920,000	\$ 350,000	\$ 350,000	\$ 100,000	\$ -	\$ -	\$ 800,000	\$1,360,000	\$0	\$3,080,000
AD-S-27	Miscellaneous Act 537 Planning	Regulatory	Allentown	V	\$ 850,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 100,000	\$ -	\$ -	\$ 600,000	\$0		\$850,000
	Sub-total Allentown Division Wastewater Capital Funded by the City				\$ 4,820,000	\$ 2,670,000	\$ 1,350,000	\$ 600,000	\$ 200,000	\$ -	\$ -	\$ 2,150,000	\$2,900,000	\$0	\$ 7,720,000
	GRAND TOTAL				\$ 39,483,000	\$ 5,480,000	\$ 5,698,000	\$ 6,272,000	\$ 7,515,000	\$ 11,058,000	\$ 3,460,000	\$ 34,003,000	\$ 5,740,000	\$ 1,000,000	\$ 46,223,000

(1) Reference Glossary of Acronyms and Terms found after the Table of Contents"Administrative Order" .
(2) "Administrative Order" Projects as per the Agreement are to be Funded by the City and executed by LCA.
(3) Project to be reviewed by the City for Major Capital Improvement/CCRC approval
(4) If blank future cost not applicable (annual/recurring cost) or to be determined

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	ANNUAL PROJECTS						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-A
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CV/BG/TC/JG

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2014
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	N/A
Will the Project Require Obtaining Land Rights	No		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.

Detailed Project Description
This is an annual project that has been previously listed as separate projects. This annual project includes the following: Collection System - Development and Service Connections, Other Equipment, WWTP General Improvements, Sanitary Sewer Main Replacements & Rehabilitation, Penn DOT relocations, Indenture Report, Capital Management, and Mobile Equipment. Major mobile equipment purchases within the capital plan include a new jet/vac truck, new flusher truck, and new loader.

Project Drivers and Needs to be Met by the Project
Asset management and system improvement are the primary drivers. Annual items help maintain the level of service for operation of the wastewater collection/conveyance system and the Kline's Island Wastewater Treatment Plant.

Project Status - Describe what work, if any has been completed or underway for this project
This is an annual project.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-A
Project Name	ANNUAL PROJECTS

Prior Project Cost	N/A
Estimated Project Costs:	2022-2027
LCA Staff	\$ 400,000
Land Acquisition	\$ -
Construction/Equipment	\$ 7,063,000
Professional Services	\$ 600,000
Other	\$ 40,000
Contingencies	\$ 400,000
Total Project Cost	\$ 9,963,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 8,503,000
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		Need	Phase of Work
2022 Budget		\$ 1,460,000	procurement & construction
1st Year	2023	\$ 1,998,000	procurement & construction
2nd Year	2024	\$ 1,622,000	procurement & construction
3rd Year	2025	\$ 1,665,000	procurement & construction
4th Year	2026	\$ 1,858,000	procurement & construction
5th Year	2027	\$ 1,360,000	procurement & construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	INDENTURE REPORT IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-I
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		BG

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2016
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	N/A
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
This project includes the following, but not limited to: 1) General repairs on concrete, reinforcing steel and exposed wood; 2) Pipe protection upgrades including preparation, painting and dehumidification (particularly in sub-grade sites); 3) Structural upgrades including roofs; 4) Concrete tank upgrades; 5) Security upgrades including fencing, lighting and vegetation control; 6) Electrical upgrades.

Project Drivers and Needs to be Met by the Project
This project addresses the deficiencies identified in the annual Indenture Report, which identifies structural, coatings, security, electrical and other routine upgrades that are needed to maintain the assets.

Project Status - Describe what work, if any has been completed or underway for this project
The first large project to address indenture report improvements was completed in 2021, with annual projects to follow at KIWWTP.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-I
Project Name	INDENTURE REPORT IMPROVEMENTS

Prior Project Cost	200,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,000,000
Professional Services	\$ 200,000
Other	
Contingencies	\$ 100,000
Total Project Cost	\$ 1,600,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 1,100,000
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		Need	Phase of Work
2022 Budget		\$ 300,000	construction
1st Year	2023	\$ 400,000	construction
2nd Year	2024	\$ 200,000	construction
3rd Year	2025	\$ 200,000	construction
4th Year	2026	\$ 200,000	construction
5th Year	2027	\$ 100,000	construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	VARIOUS WASTEWATER SYSTEM RELATED STUDIES (MASTER PLAN)						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-9
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	CA/OS	Secondary	Planning	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input checked="" type="checkbox"/> Study	<input checked="" type="checkbox"/> Other (explain): Lease requirement

Additional Information			
Expected Useful Life (Years)	N/A	Project inception date	2018
Approx. No. of Customers Benefitted	N/A		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	N/A
Will the Project Require Obtaining Land Rights	N/A		

Detailed Project Description
As infrastructure ages and regulations become more stringent, there are periodic needs for professional services to study the feasibility of changes, upgrades, etc. The following study is requested in 2023: WWTP Master Plan. As some original components of the Allentown WWTP are about 90 years old, a periodic update of the Master Plan is important to monitor the condition and performance of plant processes. This is a requirement of the Lease.

Project Drivers and Needs to be Met by the Project
The primary project driver is city lease requirement. Engineering studies are periodically required to address feasibility of implementing new programs or changing existing ones. The WWTP Master Plan is a requirement of the Lease Agreement and is to be completed every 5 years. The first Master Plan was completed in 2018 and the second installment will be completed in 2023.

Project Status - Describe what work, if any has been completed or underway for this project
The first Master Plan was completed in 2018.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-9
Project Name	VARIOUS WASTEWATER SYSTEM RELATED STUDIES (MASTER PLAN)

Prior Project Cost	\$150,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 10,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 130,000
Other	\$ -
Contingencies	\$ 10,000
Total Project Cost	\$ 300,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 150,000
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		Need	Phase of Work
2022 Budget		\$ -	
1st Year	2023	\$ 150,000	master planning
2nd Year	2024		
3rd Year	2025		
4th Year	2026	\$ -	
5th Year	2027	\$ -	

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FLOW CHARACTERIZATION STUDY I&I PROJECTS						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-26
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input checked="" type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2024
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2032
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
The Years 5-8 I&I projects (2024 through 2027) will be determined by August 2022. As the data from the 2021 Flow Characterization Study continues to be analyzed, the specific I&I projects will be identified. A placeholder of \$750,000 per year will be included in the Capital Plan.

Project Drivers and Needs to be Met by the Project
The primary project driver is regulatory (project is a component of the Interim Act 537 Plan submitted to DEP in September 2020). The 2020 Lease Amendment requires LCA to fund I&I projects beginning no earlier than 2024.

Project Status - Describe what work, if any has been completed or underway for this project
The Interim Act 537 Plan was submitted to DEP on 9/4/20. As part of the Interim Plan, the KISS Region committed to performing a flow characterization study (FCS) in 2021. The FCS started in March 2021 and was concluded in October 2021. I&I projects from 2024 through 2032 will be determined from the 2021 FCS study.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed. The project is funded by the LCA Allentown Division per requirements of the 2020 Lease Amendment.

Project No.	AD-S-26
Project Name	FLOW CHARACTERIZATION STUDY I&I PROJECTS

Prior Project Cost	\$ -
Estimated Project Costs:	2022-2027
LCA Staff	\$ 40,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,600,000
Professional Services	\$ 320,000
Other	\$ -
Contingencies	\$ 40,000
Total Project Cost	\$ 3,000,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,000,000
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		Need	Phase of Work
2022 Budget		\$ -	See AD-S-11
1st Year	2023	\$ -	See AD-S-11
2nd Year	2024	\$ 750,000	I&I Year 5
3rd Year	2025	\$ 750,000	I&I Year 6
4th Year	2026	\$ 750,000	I&I Year 7
5th Year	2027	\$ 750,000	I&I Year 8

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP ELECTRICAL SUBSTATION REPLACEMENT						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-5
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - High	Secondary	Efficiency	Preparer		CEV

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	
Approx. No. of Customers Benefitted	*		2016
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2024
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories are positively impacted.

Detailed Project Description
<p>This project includes the replacement of existing electrical substation #1 with a new electrical substation at the Kline's Island Wastewater Treatment Plant. The existing 12.4kV switchgear will also be replaced. Substation #2 (Phase 1) was replaced in 2019. Final design of the Substation #1 and switchgear replacement will be completed in 2022. The switchgear and Substation #1 (Phase 2) construction is scheduled to commence in late 2023 and finish in 2025.</p>

Project Drivers and Needs to be Met by the Project
<p>Asset management, efficiency and regulatory compliance are the project drivers. The WWTP contains 12.4kV switchgear and two substations (Substation Nos. 1 and 2). The electrical equipment was installed in the 1970s and has reached the end of its useful life. In addition, prior to its recent replacement, substation #2 was overloaded during high flow events. These are critical pieces of electrical equipment that must continue to function properly in order to power the facility. Replacement of the equipment will provide electrical reliability from PP&L for the next 40 years at the WWTP.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>An engineering study for Substation Nos. 1 and 2 was completed in 2016, followed up by the completion of design for both substations replacement in 2018. The project was phased due to budget concerns, and Substation #2 only was replaced in 2019. Substation #1 and the switchgear will be replaced 2024 and 2025 (Phase 2).</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
<p>Annual cost impact to be determined as needed.</p>

Project No.	AD-S-5
Project Name	WWTP ELECTRICAL SUBSTATION REPLACEMENT

Prior Project Cost	2,450,000
Estimated Project Costs: 2022-2027	
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 3,200,000
Professional Services	\$ 250,000
Other	
Contingencies	\$ 200,000
Total Project Cost	\$ 6,200,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 3,750,000
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		Need	Phase of Work
2022 Budget		\$ -	
1st Year	2023	\$ 400,000	permitting, bidding, commence construction phase
2nd Year	2024	\$ 2,000,000	construction
3rd Year	2025	\$ 1,200,000	construction
4th Year	2026	\$ 150,000	construction
5th Year	2027	\$ -	

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**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP MAIN AND AUXILIARY PUMP STATION IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-19
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2025
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
The main headworks pump station at the Kline's Island Wastewater Treatment Plant is critical to plant performance and the ability to maximize wet-weather flow into the KIWWTP. The existing pumps are 50 years old and approaching the end of their useful life. Valves and piping are corroded and predate the 1965 upgrade. Replacement of the valves and piping is required to allow maintenance to occur while simultaneously keeping the pumping station operational. The Auxiliary Pump Station is critical to plant performance and the ability to accommodate wet weather flows. The pumps and mechanical equipment are approaching the end of their service life and require replacement to mitigate risk and consequence of failure.

Project Drivers and Needs to be Met by the Project
The project drivers are Master Plan and asset management. The main and auxiliary pump station improvements projects are listed in the Master Plan as project nos. 1 and 2, respectively, under "near term" projects. Pump and valve replacements will provide improved equipment reliability, reduced long-term maintenance costs, extension of service life and enhanced level of service.

Project Status - Describe what work, if any has been completed or underway for this project
This project was identified in the 2018 Master Plan (Projects 1 and 2). These pumps were also previously planned to be replaced as part of the blending project improvements (project on hold at 30% design). Preliminary design commenced in 2022 and the project should be substantially completed in 2026.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-19
Project Name	WWTP MAIN AND AUXILIARY PUMP STATION IMPROVEMENTS

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 5,900,000
Professional Services	\$ 350,000
Other	
Contingencies	\$ 150,000
Total Project Cost	\$ 6,500,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 6,500,000
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		Need	Phase of Work
	2022 Budget	\$ 150,000	design
1st Year	2023	\$ 100,000	design
2nd Year	2024	\$ 200,000	final design, permitting, bidding
3rd Year	2025	\$ 2,000,000	construction
4th Year	2026	\$ 4,000,000	construction
5th Year	2027	\$ 200,000	construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP BOILER REPLACEMENT AND SOLIDS PROCESS HVAC UPGRADE PROJECT						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-20
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	CCRC
Prj. Category	Primary	Sys Imp	Secondary	AM - Varies	Preparer		CEV

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input checked="" type="checkbox"/> Scheduled Replacement	<input type="checkbox"/> Comply with Regulatory Requirements
<input checked="" type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	<input type="checkbox"/> Other (explain):

Additional Information			
Expected Useful Life (Years)	30	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2023
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
<p>This project involves the replacement of the 3 boiler system that is used to heat the digesters, the digester building, and the sludge dewatering area. The scope includes, but is not limited to, the following new equipment and modifications: 1) 2 each dual fuel digester boilers; 2) digester building addition to house new boilers; 3) new methane booster pumps and gas piping; 4) new hot water recirculation pumps with expansion tank and associated piping; 5) new hot water air handling units and circulators in digester building, boiler room, and dewatering room; 6) SCADA system integration; 7) sprinkler system extension into new building; 8) new boiler water treatment system; 9) demolition and removal of old boilers, piping and related abandoned mechanical equipment.</p>

Project Drivers and Needs to be Met by the Project
<p>Asset management is the primary project driver, as the equipment has reached the end of its useful life and this equipment is critical to the operation of the plant anaerobic digestion system. In addition, this project will reduce maintenance costs.</p>

Project Status - Describe what work, if any has been completed or underway for this project
<p>This project was identified in the 2018 Master Plan (Project 3). A conceptual engineering report (basis of design) was submitted to the City in early 2021 per Lease requirements for major capital improvement (MCI) project protocol. Design phase will be completed in 2022 and construction phase is anticipated to occur in 2022 into 2023.</p>

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
<p>Annual cost impact to be determined as needed.</p>

Project No.	AD-S-20
Project Name	WWTP BOILER REPLACEMENT AND SOLIDS PROCESS HVAC UPGRADE PROJECT

Prior Project Cost	\$40,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 60,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,200,000
Professional Services	\$ 320,000
Other	
Contingencies	\$ 220,000
Total Project Cost	\$ 2,840,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 2,000,000
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		Need	Phase of Work
2022 Budget		\$ 800,000	design & construction
1st Year	2023	\$ 1,200,000	construction
2nd Year	2024	\$ 800,000	construction
3rd Year	2025	\$ -	
4th Year	2026	\$ -	
5th Year	2027	\$ -	

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP IPS PUMP STATION UPGRADE AND 480V MCC REPLACEMENT						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-21
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)	
<input type="checkbox"/> New Facility	<input checked="" type="checkbox"/> Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/> Equipment Obsolete
<input checked="" type="checkbox"/> Scheduled Replacement	Comply with Regulatory Requirements
<input checked="" type="checkbox"/> Improved Service	<input checked="" type="checkbox"/> Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2026
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
Scope of near-term work in this Capital Plan focuses on the Intermediate Pump Station (IPS), and includes new VFDs and electrical upgrades for Primary Effluent (PE) Pumps 9, 10, and 11 and Plastic Media Tricking Filters (PMTF) Pumps 12, 14, and 16 with the objective of increasing wet weather capacity and reliability. Also, various 480v electrical motor control centers (MCCs) located at the IPS and throughout the plant have exceeded their useful service life and should be replaced, as a loss of power to any key critical processes would likely impact the ability to maintain treatment permit limits and DEP requirements relative to the prior Administrative Order (now RFMS).

Project Drivers and Needs to be Met by the Project
Replacement of VFDs and associated electrical equipment at the IPS will eliminate the problem of overheating electrical system components (including VFDs) at wet weather flows greater than 84 mgd. An increase in wet weather capacity and operational reliability would be realized with new VFDs, motor control centers and breakers. Also, a reduction in maintenance costs would result as older, failure prone equipment is replaced with newer equipment.

Project Status - Describe what work, if any has been completed or underway for this project
This project is part of a phased approach to a larger project that was identified in the 2018 Master Plan (Project 10) as a "near term" project. This project was split into to separate phases according to plant process areas and wet weather treatment capacity needs. Preliminary design was started in 2022 and the project is anticipated to be substantially completed in 2026.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-21
Project Name	WWTP IPS PUMP STATION UPGRADE AND 480V MCC REPLACEMENT

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 100,000
Land Acquisition	\$ -
Construction/Equipment	\$ 5,500,000
Professional Services	\$ 300,000
Other	\$ -
Contingencies	\$ 100,000
Total Project Cost	\$ 6,000,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 5,900,000
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		Need	Phase of Work
2022 Budget		\$ 100,000	preliminary design
1st Year	2023	\$ 100,000	design
2nd Year	2024	\$ 100,000	final design, permitting, bidding
3rd Year	2025	\$ 1,500,000	construction
4th Year	2026	\$ 4,000,000	construction
5th Year	2027	\$ 200,000	construction

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	WWTP FINAL CLARIFIER 1-4 REHABILITATION						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-22
Location	Allentown			Prj. Type	LCA-MCI	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CEV/BG

Purpose of Expenditure (check all that apply)			
<input type="checkbox"/>	New Facility	<input checked="" type="checkbox"/>	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/>	Existing Facility - Rehabilitation/Upgrade	<input checked="" type="checkbox"/>	Equipment Obsolete
<input checked="" type="checkbox"/>	Scheduled Replacement		Comply with Regulatory Requirements
<input checked="" type="checkbox"/>	Improved Service	<input checked="" type="checkbox"/>	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/>	Study		Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2018
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2027
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
This project includes the following, but not limited to: 1) mechanism and drive replacement on all four clarifiers; 2) miscellaneous concrete repairs to all four clarifiers.

Project Drivers and Needs to be Met by the Project
The primary project driver is asset management. This project addresses the deficiencies with the existing Final Clarifiers Nos. 1 - 4 as identified in the Master Plan (Project 14). The concrete tanks are from 1931 and the mechanical equipment is from the late 1960s and has operated 24/7 since that time.

Project Status - Describe what work, if any has been completed or underway for this project			
This project was identified both in the 2018 Master Plan (Project 14) and in a 2016 concrete report by Corrosion Probe. This project scope consists of the replacement of the four drive mechanisms and associated mechanical equipment. The work anticipated to begin construction in 2027 and finish in 2028.			
Annual Cost Impact		Revenue Impact	
Operating - Increase/(Decrease)	N/A	Gain/(Loss) in Annual Revenue	N/A
Debt Service	\$ -	Assessment, Contribution in Aid-of-Construction	N/A
Net	\$ -	Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed.

Project No.	AD-S-22
Project Name	WWTP FINAL CLARIFIER 1-4 REHABILITATION

Prior Project Cost	0
Estimated Project Costs:	2022-2027
LCA Staff	\$ 30,000
Land Acquisition	\$ -
Construction/Equipment	\$ 800,000
Professional Services	\$ 70,000
Other	
Contingencies	\$ 50,000
Total Project Cost	\$ 950,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 950,000
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		Need	Phase of Work
2022 Budget		\$ -	
1st Year	2023	\$ -	
2nd Year	2024	\$ -	
3rd Year	2025	\$ -	
4th Year	2026	\$ 100,000	design & permitting
5th Year	2027	\$ 850,000	construction begin

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	REGIONAL FLOW MANAGEMENT STRATEGY						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-11
Location	Allentown			Prj. Type	AO	Prj. Funding	Allentown
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input checked="" type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2019
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2023
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
The I&I Improvements include the following: Year 1 (2020) consists of a lining project for a 30" sewer section along MLK Drive; Year 2 (2021), Year 3 (2022), and Year 4 (2023) all consist of a combination of heavy cleaning, grouting, lining point repairs, excavating point repairs, and pipe lining.

Project Drivers and Needs to be Met by the Project
The primary project driver is regulatory. This project is a component of the work that will be necessary to comply with the submitted Regional Flow Management Strategy (RFMS) in accordance with DEP, which is focused on reducing inflow and infiltration into the wastewater collection system. The RFMS was initially required by EPA as part of compliance with the Administrative Order. Since Act 537 planning was mandated by DEP in late 2019, the projects listed in the original RFMS are still being implemented.

Project Status - Describe what work, if any has been completed or underway for this project
The City's I&I Source Reduction Plan (five year plan) was submitted to the EPA in 2018. DEP is now in control of overseeing the RFMS implementation and 537 development. Year 1 was completed in 2020, Year 2 was completed in early 2022, Year 3 will be completed by the Q4 of 2022, and Year 4 will be completed by Q4 of 2023. The Year 5 project has been absorbed by the prior years' projects.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed. This is an Administrative Order (AO) Project that will be funded by the City of Allentown in 2022 and 2023 (and was funded by the City of Allentown in 2020 and 2021). Funding source switches to LCA in 2024 and beyond as dictated in the 2020 Lease Amendment (See Project AD-S-26).

Project No.	AD-S-11
Project Name	REGIONAL FLOW MANAGEMENT STRATEGY

Prior Project Cost	\$ 1,540,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 20,000
Land Acquisition	\$ -
Construction/Equipment	\$ 2,010,000
Professional Services	\$ 200,000
Other	\$ -
Contingencies	\$ 20,000
Total Project Cost	\$ 3,790,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 750,000
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		Need	Phase of Work
2022 Budget		\$ 1,500,000	I&I Year 3
1st Year	2023	\$ 750,000	I&I Year 4
2nd Year	2024	\$ -	
3rd Year	2025	\$ -	
4th Year	2026	\$ -	
5th Year	2027	\$ -	

(1) This is an Administrative Order (AO) Project that will be funded by the City of Allentown.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	FLOW CHARACTERIZATION STUDY/ACT 537						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-12
Location	Allentown			Prj. Type	AO	Prj. Funding	Allentown
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)	
<input checked="" type="checkbox"/> New Facility	Correct Known or Potential Safety Issue
<input checked="" type="checkbox"/> Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
<input type="checkbox"/> Scheduled Replacement	<input checked="" type="checkbox"/> Comply with Regulatory Requirements
<input type="checkbox"/> Improved Service	Equipment/Infrastructure at End of Useful Life
<input type="checkbox"/> Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2020
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2025
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
The Flow Characterization Study (FCS) include the following: Year 1 (2021) consists of 65 temporary meters, 24 permanent sewer billing meters, and 11 permanent/non sewer billings. Year 1 also consists of QA/QC of the meter data and initial development of the Regional KISS sewer model; Year 2 (2022) consists of finalizing the development of the Regional KISS sewer model and beginning scenario planning and alternative analyses; Year 3 (2023) consists of additional 537 scenario planning and alternative analyses as needed.

Project Drivers and Needs to be Met by the Project
The primary project driver is regulatory. This project is a component of the work that will be necessary to comply with the submitted (August 2018) Regional Flow Management Strategy (RFMS) in accordance with DEP, which is focused on reducing inflow and infiltration into the wastewater collection system. This project is also a component of the Interim Act 537 Plan submitted to DEP in September 2020.

Project Status - Describe what work, if any has been completed or underway for this project
The Interim Act 537 Plan was submitted to DEP on 9/4/20. As part of the Interim Plan, the KISS Region committed to performing a flow characterization study (FCS) in 2021. The FCS is underway as of early January 2021 and will conclude by late 2021. The remainder of the work includes model development in late 2021 through 2022. After the model is calibrated in 2022, specific models run will be needed to determine a 537 solution that meets the needs of the Region.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary
Annual cost impact to be determined as needed. The project is funded by the City.

Project No.	AD-S-12
Project Name	FLOW CHARACTERIZATION STUDY/ACT 537

Prior Project Cost	\$ 1,360,000
Estimated Project Costs:	2022-2027
LCA Staff	\$ 120,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 1,500,000
Other	\$ -
Contingencies	\$ 100,000
Total Project Cost	\$ 3,080,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 800,000
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		Need	Phase of Work
2022 Budget		\$ 920,000	Begin model development; preliminary alternative screening
1st Year	2023	\$ 350,000	Preliminary screening of 537 alternatives
2nd Year	2024	\$ 350,000	Final screening of 537 alternatives; select projects
3rd Year	2025	\$ 100,000	Submit 537 Plan
4th Year	2026	\$ -	
5th Year	2027	\$ -	

(1) This is an Administrative Order (AO) Project that will be funded by the City of Allentown.

**LEHIGH COUNTY AUTHORITY
ALLENTOWN DIVISION - CAPITAL IMPROVEMENTS PLAN
PROJECT DETAIL SHEET**

Project Name	MISCELLANEOUS ACT 537 PLANNING						
Budget Area	Wastewater	Department	Capital Works	Date	1/24/2022	Project No.	AD-S-27
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	Regulatory	Secondary	CA/OS	Preparer		PMD

Purpose of Expenditure (check all that apply)		
X	New Facility	Correct Known or Potential Safety Issue
X	Existing Facility - Rehabilitation/Upgrade	Equipment Obsolete
	Scheduled Replacement	X Comply with Regulatory Requirements
	Improved Service	Equipment/Infrastructure at End of Useful Life
	Study	Other (explain):

Additional Information			
Expected Useful Life (Years)	40	Project inception date	2022
Approx. No. of Customers Benefitted	*		
Is this System part of a Common User Rate?	N/A	Anticipated Project completion date	2025
Will the Project Require Obtaining Land Rights	N/A		

*All customers of the City of Allentown, City signatories and Western Lehigh signatories.

Detailed Project Description
This project is a new detail sheet related to Act 537 planning items funded by the LCA Allentown Division.

Project Drivers and Needs to be Met by the Project	
Regional Act 537 Planning requirements may dictate planning items funded from the LCA Allentown Division.	

Project Status - Describe what work, if any has been completed or underway for this project
The 2022 budget included a placeholder amount for a potential wet weather pilot study at KIWWT. The years 2023 and 2024 will include a placeholder for future 537 planning items.

Annual Cost Impact	
Operating - Increase/(Decrease)	N/A
Debt Service	\$ -
Net	\$ -

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution in Aid-of-Construction	N/A
Other	

Borrowing Information	
Interest Rate	5.5000%
Term (Years)	30

Explanation if Necessary	
Annual cost impact to be determined as needed. The project is funded by the LCA Allentown Division.	

Project No.	AD-S-27
Project Name	MISCELLANEOUS ACT 537 PLANNING

Prior Project Cost	\$ -
Estimated Project Costs:	2022-2027
LCA Staff	\$ 30,000
Land Acquisition	\$ -
Construction/Equipment	\$ -
Professional Services	\$ 800,000
Other	\$ -
Contingencies	\$ 20,000
Total Project Cost	\$ 850,000

Project Estimate Level	
	Conceptual Estimate
	Preliminary Estimate
x	Budget Estimate
	Definitive Estimate

Requested in this Capital Program	\$ 600,000
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		Need	Phase of Work
2022 Budget		\$ 250,000	Miscellaneous Act 537 planning items
1st Year	2023	\$ 250,000	Miscellaneous Act 537 planning items
2nd Year	2024	\$ 250,000	Miscellaneous Act 537 planning items
3rd Year	2025	\$ 100,000	Miscellaneous Act 537 planning items
4th Year	2026	\$ -	
5th Year	2027	\$ -	