



Lehigh County Authority

2023-2027

Allentown Division

Capital Plan

Preliminary Plan Board Presentation

April 11, 2022

Planning Process & Board Reviews / Approvals

**Five-Year Capital Plan →
Conceptual**

**Annual Budget → One-year
funding for upcoming projects**

**Project Approval → Authorization
to complete a specific project**

**Financing → Funding for specific
group of projects**

2023- 2027 Capital Plan Timeline:

- Suburban Division – Draft Capital Plan Board presentation – 3/28/2022
- Allentown Division – Draft Capital Plan Board presentation – 4/11/2022
- Public comment period – through 5/11/2022
 - Lehigh Valley Planning Commission review
 - Lehigh County Commissioners review
 - City of Allentown review
 - Website publication
- Final Board Review & Request for Approval – 5/23/2022

Allentown Division Water – 2022 and 5-Year Projects

Annual and recurring projects

CP#	Project	Prior \$	2022 \$	2023-2027 \$	Major Drivers	Responsibility
AD-W-A	ANNUAL PROJECTS (<i>breakdown of projects on following slide</i>)	N/A	\$1,135,000	\$6,504,000	Required rehab, Asset management, Efficiency	Carlson, Gruber, Volk
AD-W-1	INDENTURE IMPROVEMENTS	\$0	\$300,000	\$700,000	Required rehab, Asset Management	Giessel, Volk
AD-W-7	WATER MAIN REPLACEMENTS	N/A	\$2,400,000	\$19,200,000	Lease Requirement, Asset Management	Peters
AD-W-9	VARIOUS WATER SYSTEM RELATED STUDIES	\$300,000	\$150,000	\$150,000	Lease requirement	Carlson, Volk

Allentown Division Annual Water Projects

Distribution Mains
– Development &
Upsizing

WFP General Improvements
(2022 and beyond work includes
Schantz valve replacement in
high service gallery, repairs to
Little Lehigh intake, replace
hydroxide and fluoride tanks)

General Water
System
Improvements
(D&C)

Mobile Equipment

New &
Replacement
Meter Installation

Other Equipment

Reservoir
Rehabilitation &
Maintenance

PennDOT
Relocations

Capital
Management

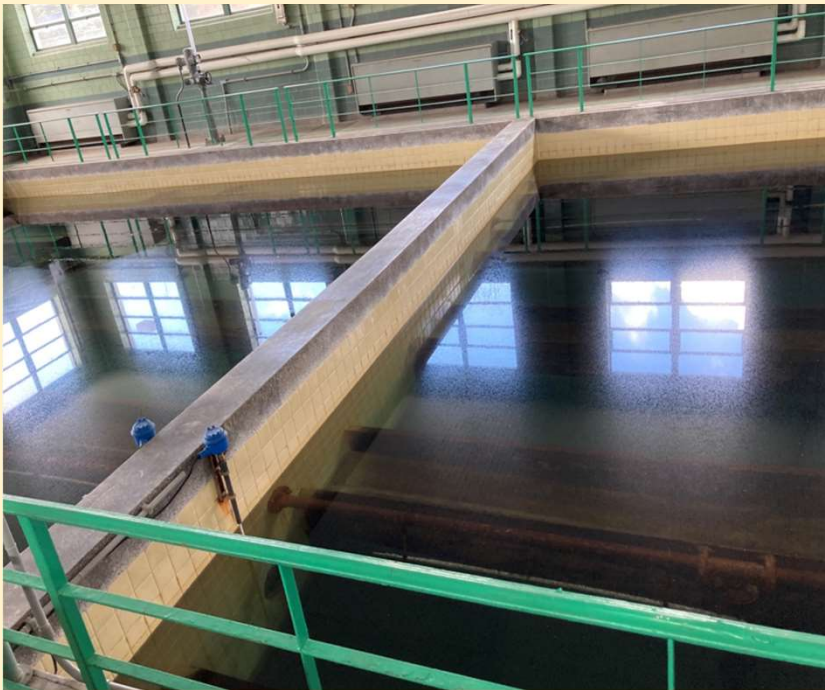
Capital Works
Miscellaneous

Allentown Division Water – Large Projects

CP#	Project	Prior \$	2022 \$	2023-2027 \$	Major Drivers	Responsibility
AD-W-16	WATER METER REPLACEMENT PROGRAM <i>(2025 construction start)</i>	\$0	\$0	\$2,300,000	System Improvement, Efficiency	Kunkel
AD-W-21	FIXED BASE METER READING PROJECT <i>(2025 construction start)</i>	\$0	\$0	\$1,700,000	System Improvement, Efficiency	Kunkel
AD-W-22	FILTER UPGRADES <i>(2023 construction start)</i>	\$50,000	\$200,000	\$5,500,000	Asset Management, Master Plan	Volk
AD-W-23	INTAKE UPGRADES <i>(2026 construction start)</i>	\$0	\$0	\$1,400,000	Asset Management, Master Plan	Volk
AD-W-25	TANK AND RESERVOIR REHABILITATION	\$0	\$300,000	\$750,000	Required rehab, Asset Management	Moore, Carlson
AD-W-26	LARGE DIAMETER VALVE REPLACEMENT PROJECT – new <i>(2023 construction start)</i>	\$0	\$100,000	\$2,450,000	Asset Management, System improvement, Efficiency	Peters

Filter Upgrade Project

Operating Filters



Filter Down for Maintenance



High Service VFD Replacement Project

HSP #2 VFD



HSP #3 constant speed soft starter



Completed AD Water Projects removed from Capital Plan this year)

- High Service Pump VFD Replacement Project (*project to be completed in 2022*)
- Itron/Automatic Meter Reading (AMR) Project (*project was funded and completed by the City in 2021*)

Wastewater Projects – AD 2023-2027 Capital Plan



Allentown Division Wastewater – 2022 and 5-Year Projects Annual and City Funded Projects

CP#	Project	Prior \$	2022 \$	2023-2027 \$	Major Drivers	Responsibility
AD-S-A	ANNUAL PROJECTS	N/A	\$1,460,000	\$8,503,000	Required rehab, asset management, efficiency	Geissel, Gruber, Volk
AD-S-1	INDENTURE REPORT IMPROVEMENTS	\$0	\$300,000	\$1,100,000	Required rehab, Asset Management	Geissel
AD-S-9	VARIOUS WASTEWATER SYSTEM RELATED STUDIES	\$150,000	\$0	\$150,000	Lease requirement	Geissel, Volk
AD-S-11	REGIONAL FLOW MANAGEMENT STRATEGY <i>(City funded)</i>	\$0	\$1,500,000	\$750,000	Regulatory	DePoe
AD-S-12	FLOW CHARACTERIZATION STUDY <i>(City funded)</i>	\$0	\$920,000	\$800,000	Regulatory	DePoe
AD-S-26	FLOW CHARACTERIZATION STUDY I&I PROJECTS	\$0	\$0	\$3,000,000	Regulatory	DePoe
AD-S-27	MISCELLANEOUS ACT 537 PLANNING <i>(City funded)</i>	\$0	\$250,000	\$600,000	Regulatory	DePoe

Allentown Division Annual Wastewater Projects

Mobile Equipment

Other Equipment

Collection System -
Development

Capital Management

Sanitary Sewer Main
Replacements & Rehab

WWTP General
Improvements –
includes major tank
cleaning and
rehabilitation

PennDOT relocations

Capital Works
Miscellaneous

Allentown Division Wastewater – Large Projects

CP#	Project	Prior \$	2022 \$	2023-2027 \$	Major Drivers	Responsibility
AD-S-5	WWTP ELECTRICAL SUBSTATION REPLACEMENTS PHASE 2 (2023 construction start)	\$2,450,000	\$0	\$3,750,000	System Resiliency, Required Rehab	Volk, Geissel
AD-S-19	WWTP MAIN & AUX. PUMP STATION IMPROVEMENTS (2025 construction start)	\$0	\$150,000	\$6,500,000	Asset Management, Master Plan	Volk, Geissel
AD-S-20	WWTP BOILER REPLACEMENT & SOLIDS PROCESS HVAC UPGRADES (2022 construction start)	\$40,000	\$800,000	\$2,000,000	Asset Management, Master Plan, Efficiency	Volk, Geissel
AD-S-21	WWTP IPS PUMP STATION & 480V MCC REPLACEMENT (2025 construction start)	\$0	\$0	\$5,900,000	Asset Management, Master Plan	Volk, Geissel
AD-S-22	WWTP FINAL CLARIFIER 1-4 REHABILITATION (2027 construction start)	\$0	\$0	\$950,000	Asset Management, Required Rehab	Geissel

KIWWTP Electrical Substation Replacement Phase 2 Project

Substation No. 1 & Switchgear



Substation No. 1



KIWWTP Main & Auxiliary Pump Station Upgrade Project

Main Pumps



Auxiliary Pumps



KIWWTP Boiler Replacement and Solids Process HVAC Upgrade Project

Main Digester Boilers



Solids Handling Building Boiler



City Division – Financial Analysis

SOURCES	
Cash from operations and reserves	\$70,877,000
Grants	<u>\$ 4,150,000</u>
Total Sources	<u>\$75,027,000</u>
USES	
Capital project spending	<u>\$75,027,000</u>

- No borrowing for this plan
- Projects being funded out of operations and reserves – \$70,877,000:
 - Water – \$36,504,000
 - Wastewater – \$34,003,000
 - Allocated Admin – \$370,000
- Projects being funded by COA ARPA Grant – \$4,150,000
- Reimbursable by COA of \$2,1500,000:
 - Regional flow management strategy - \$750,000
 - Flow characterization study – \$800,000
 - Regional flow management study - \$600,000

City Division– Financial Analysis

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

Discussion

Questions?