



## LEHIGH COUNTY AUTHORITY

**LCA Main Office:**  
1053 Spruce Road  
Wescosville, PA 18106  
610-398-2503

**Agendas & Minutes Posted:**  
[www.lehighcountyauthority.org](http://www.lehighcountyauthority.org)

Published: March 2, 2020

### BOARD MEETING AGENDA – March 9, 2020

1. Call to Order

- NOTICE OF MEETING RECORDINGS

Meetings of Lehigh County Authority's Board of Directors that are held at LCA's Main Office at 1053 Spruce Road, Wescosville, PA, may be recorded for viewing online at [lehighcountauthority.org](http://lehighcountauthority.org). Recordings of LCA meetings are for public convenience and internal use only and are not considered as minutes for the meeting being recorded, nor are they part of public record. Recordings may be retained or destroyed at LCA's discretion.

- *Public Participation Sign-In Request*

2. Review of Agenda / Executive Sessions

3. Approval of Minutes

- *February 24, 2020 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

**FINANCE AND ADMINISTRATION**

- *Preliminary 2021-2025 Capital Plans – Revised Allentown Division sheets (Discussion)*

**WATER**

- *Emergency 36" Transmission Water Main Repair & Valve Replacement Memorandum (tan)*

**WASTEWATER**

- *Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (Year 1) (Approval) (blue)*

6. Monthly Project Updates / Information Items (1<sup>st</sup> Board meeting per month) – **March report attached**

7. Monthly Financial Review (2<sup>nd</sup> Board meeting per month)

8. Monthly System Operations Overview (2<sup>nd</sup> Board meeting per month)

9. Staff Comments

10. Solicitor's Comments

11. Public Comments / Other Comments

12. Executive Sessions

13. Adjournment

**UPCOMING BOARD MEETINGS**

*Meetings begin at Noon at LCA's Main Office, unless noted otherwise below.*

March 23, 2020

April 13, 2020

April 27, 2020

**PUBLIC PARTICIPATION POLICY**

In accordance with Authority policy, members of the public shall record their name, address, and discussion item on the sign-in sheet at the start of each meeting; this information shall also be stated when addressing the meeting. During the Public Comment portions of the meeting, members of the public will be allowed 5 minutes to make comments/ask questions regarding non-agenda items, but time may be extended at the discretion of the Chair; comments/questions regarding agenda items may be addressed after the presentation of the agenda item. Members of the public may not request that specific items or language be included in the meeting minutes.

## **REGULAR MEETING MINUTES**

### **February 24, 2020**

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The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:00 p.m. on Monday, February 24, 2020, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Richard Bohner, Norma Cusick, Ted Lyons and Amir Famili. Authority Staff present were Chuck Volk, Ed Klein, John Parsons, Andrew Moore, Susan Sampson, Todd Marion, Phil DePoe, and Lisa Miller. Solicitor Michael Gaul was also present.

Chairman Nagle announced that today's Board meeting is being videotaped and streaming live and recordings will be posted to the Authority's website.

Chairman Nagle stated that LCA received a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association (GFOA) for its Comprehensive Annual Financial Report for the Fiscal Year ended December 31, 2018. The Board congratulated the Staff for this achievement. Susan Sampson will post the information to the Authority's blog and also to its website.

#### **REVIEW OF AGENDA**

Ed Klein stated there are no changes to the agenda. Chairman Nagle stated there will be an Executive Session at the end of the regular meeting to discuss a personnel issue.

#### **APPROVAL OF MINUTES**

##### **February 10, 2020 Regular Meeting Minutes**

Richard Bohner noted one grammatical error. On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the minutes of the February 10, 2020 Board meeting as corrected (6-0).

#### **PUBLIC COMMENTS**

None.

#### **ACTION AND DISCUSSION ITEMS**

##### **Board of Directors – Nomination of Officers**

Norma Cusick, serving as the Nominating Committee, indicated she had polled the Board members to determine their interest in serving as a Board officer. She then offered the following slate of nominations for 2020 officers:

Brian C. Nagle, Chair  
Scott Bieber, Vice Chair  
Richard H. Bohner, Secretary

Norma A. Cusick, Assistant Secretary  
Ted Lyons, Treasurer

Ms. Cusick asked if there were any other nominations, which there were not. Richard Bohner made a motion to close the nominations, which was seconded by Linda Rosenfeld. With no additional nominations from the floor, on a vote of 6-0, the nominations were closed and the Chairman directed

the Secretary to cast one ballot for each of the nominees, thus electing the officers for 2020. The term of the officers elected will begin on March 1, 2020.

### **MONTHLY FINANCIAL REVIEW**

Ed Klein gave a PowerPoint presentation of the financial key performance indicators and the unaudited financial statements 2019, highlighting variances between actual expenses and budgeted or forecasted expenses. The Suburban Water financial statements are better than forecasted and better than budgeted. Mr. Klein stated that we are doing a good job managing financial targets and are aware of, and in control of, the finances. Mr. Klein also explained the budgeting process and how forecasts are updated if changes occur. The Suburban Wastewater net income was at a loss due to the Western Lehigh Interceptor Emergency project. However, it was better than forecasted. The City Division net income and cash flows were better than forecasted. Chuck Volk explained the Suburban Water capital budget variances for the Kohler and Buss Acres projects. The Kohler project was delayed due to acquisition of easements for the pump station site. The Buss Acres project was delayed due to the length of time needed to receive a special exception approval from Upper Milford Township that was required for this project. The Sand Spring project under the Suburban Wastewater capital budget was delayed due to permitting.

### **MONTHLY SYSTEM OPERATIONS OVERVIEW**

John Parsons reviewed the Monthly System Operations Overview report for January 2020, and noted the report was updated to display final totals for 2019. Mr. Parsons reported that existing groundwater monitoring wells LE860, LE861 and LE862 have all been located with the help of the U.S. Geological Survey (USGS). USGS has also recently installed surface water flow monitoring stations on (1) the Cedar Creek near the confluence with the Little Lehigh Creek, (2) the Little Lehigh Creek near Trexlertown, and (3) the Schantz Spring bypass line which is the headwaters of Cedar Creek. The stations are currently collecting data onto the USGS website. This is in addition to the Authority's monitoring stations which are now collecting data as well. More information will be available about this project in the next few months.

Chairman Nagle called a recess at 12:44 p.m. The meeting reconvened at 12:55 p.m.

An Executive Session was held at 12:55 p.m. to discuss a personnel issue.

The Executive Session ended at 2:01 p.m.

### **ADJOURNMENT**

There being no further business, the Chairman adjourned the meeting at 2:01 p.m.

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Richard H. Bohner  
Secretary

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

<b>Project Name</b>	WWTP SOLIDS PROCESSING BOILER AND HEATING SYSTEMS REPLACEMENT AND UPGRADE						
<b>Budget Area</b>	Wastewater	<b>Department</b>	Capital Works	<b>Date</b>	12/27/2019	<b>Project No.</b>	AD-S-20
<b>Location</b>	Allentown			<b>Prj. Type</b>	LCA-MCI	<b>Prj. Funding</b>	CCRC
<b>Prj. Category</b>	Primary	AM - Varies	Secondary	Sys Imp	<b>Preparer</b>		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	Other (explain):

Additional Information			
Expected Useful Life (Years)	30	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
This project involves the replacement of the 3 boiler system that is used to heat the digesters, the digester control building, the boiler rooms, and 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 control building, boiler rooms, and dewatering room; 6) new unit heaters in associated areas; 7) new dedicated SCADA system with heating/boiler controls integration; 8) sprinkler system extension into new building; 9) new boiler water treatment system; 10) demolition and removal of old boilers, piping and related abandoned mechanical equipment.

Project Drivers and Needs to be Met by the Project
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 heating of the anaerobic digesters, digester control building and sludge dewatering building. In addition, these projects should reduce maintenance costs on aging equipment.

Project Status - Describe what work, if any has been completed or underway for this project
Preliminary design has not been started to date. This project is identified in the KIWWTP Master Plan (No. 9).

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-20
Project Name	WWTP SOLIDS PROCESSING BOILER AND HEATING SYSTEMS REPLACEMENT AND UPGRADE

Prior Project Cost	0
Estimated Project Costs:	2021-2025
LCA Staff	\$ 50,000
Land Acquisition	\$ -
Construction/Equipment	\$ 1,000,000
Professional Services	\$ 150,000
Other	
Contingencies	\$ 50,000
Total Project Cost	\$ 1,250,000

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

Requested in this Capital Program	\$ 1,250,000
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		Need	Phase of Work
2020 Budget		\$ -	
1st Year	2021	\$ 100,000	design & permitting
2nd Year	2022	\$ 500,000	construction
3rd Year	2023	\$ 650,000	construction
4th Year	2024	\$ -	
5th Year	2025	\$ -	

This project is unfunded.

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

Project Name	GENERAL IMPROVEMENTS						
Budget Area	Wastewater	Department	Capital Works	Date	12/27/2019	Project No.	AD-S-G
Location	Allentown			Prj. Type	Regular	Prj. Funding	LCA
Prj. Category	Primary	AM - Varies	Secondary	Sys Imp	Preparer		CEV

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)	40	Project Inception date	2019
Approx. No. of Customers Benefitted	*	Anticipated Project completion date	N/A
Is this System part of a Common User Rate?	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 unfunded General Improvement project includes General Wastewater Systems Replacement/Upgrades/Improvements at the Wastewater Treatment Plant (WWTP). These projects include the following, but are not limited to: solids process upgrades including primary sludge digester feed line replacement, thickener tank #3 mechanical equipment rehabilitation, digester and dewatering buildings piping replacement, replacement of the dewatering building second story floor; as well as sewer maintenance locker room refurbishment, dewatering process SCADA installation, Plastic Media Trickling Filter (PMTF) effluent flushing line replacement, Odor Control Unit 24 replacement, PMTF rehab (partial), drainage lift station rehab, etc.

Project Drivers and Needs to be Met by the Project
The primary project driver is asset management, to maintain level of service and system longevity. These projects are essential to maintain the continuous operation of the WWTP as equipment reaches the end of its useful life.

Project Status - Describe what work, if any has been completed or underway for this project
These are annual projects identified by both staff and the Master Plan (Projects 4, 5, 6, 8 (portion), and 13).

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

Revenue Impact	
Gain/(Loss) in Annual Revenue	N/A
Assessment, Contribution	N/A
In Aid-of-Construction	
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-G
Project Name	GENERAL IMPROVEMENTS

Prior Project Cost	N/A
Estimated Project Costs:	2021-2025
LCA Staff	\$ 125,000
Land Acquisition	\$ -
Construction/Equipment	\$ 3,100,000
Professional Services	\$ 250,000
Other	\$ 50,000
Contingencies	\$ 100,000
<b>Total Project Cost</b>	<b>\$ 3,625,000</b>

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

Requested in this Capital Program	\$ 3,625,000
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		Need	Phase of Work
2020 Budget		\$ -	
1st Year	2021	\$ 725,000	procurement, design & construction
2nd Year	2022	\$ 725,000	procurement, design & construction
3rd Year	2023	\$ 725,000	procurement, design & construction
4th Year	2024	\$ 725,000	procurement, design & construction
5th Year	2025	\$ 725,000	procurement, design & construction

This project is unfunded.
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LEHIGH COUNTY AUTHORITY  
ALLENTOWN DIVISION  
2021-2025 CAPITAL PROGRAM  
WASTEWATER

Project #	Name or Title of Proposal	Pri. Category	Funding (1)	Approval Stage (1)	Priority Ranking (2)	Plan Total Cost	This Capital Program							Prior Project Cost (4)	Future Project Cost (4)
							2020 Budget Approved	2021 Year 1	2022 Year 2	2023 Year 3	2024 Year 4	2025 Year 5	2021-2025 Total		
	LCA FUNDED SOURCES														
	Operating/Capital Reserve Funds														
AD-S-A	Annual Projects	AM - Varies	LCA	A	-	\$ 9,460,000	\$ 1,210,000	\$ 1,410,000	\$ 1,210,000	\$ 1,560,000	\$ 2,110,000	\$ 1,960,000	\$ 8,250,000		
AD-S-9	Various Wastewater System Related Studies (Master Plan)	CAVOS	LCA	S	-	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$200,000	
	TOTAL LCA FUNDED SOURCES					\$ 9,610,000	\$ 1,210,000	\$ 1,410,000	\$ 1,210,000	\$ 1,710,000	\$ 2,110,000	\$ 1,960,000	\$ 8,400,000	\$200,000	\$0
	CITY FUNDED SOURCES														
AD-S-11	Regional Flow Management Strategy	Regulatory	Allentown	S	-	\$ 3,145,000	\$ 730,000	\$ 835,000	\$ 465,000	\$ 340,000	\$ 775,000	\$ -	\$ 2,415,000	\$0	
AD-S-16	WWTP Interim Blending Pumping System <sup>(3)</sup>	Regulatory	Allentown	S	-	\$ 1,500,000	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$0	\$0
	TOTAL CITY FUNDED SOURCES					\$ 4,645,000	\$ 2,230,000	\$ 835,000	\$ 465,000	\$ 340,000	\$ 775,000	\$ -	\$ 2,415,000	\$0	\$0
	GRAND TOTAL FUNDED SOURCES					\$ 14,255,000	\$ 3,440,000	\$ 2,245,000	\$ 1,675,000	\$ 2,050,000	\$ 2,885,000	\$ 1,960,000	\$ 10,815,000	\$200,000	\$0
	UNFUNDED SOURCES														
AD-S-G**	General Improvements	AM - Varies	LCA	S	2	\$ 3,625,000	\$ -	\$ 725,000	\$ 725,000	\$ 725,000	\$ 725,000	\$ 725,000	\$ 3,625,000	\$0	
AD-S-I***	Indenture Report Improvements	AM - Varies	LCA	S	7	\$ 3,500,000	\$ -	\$ 700,000	\$ 700,000	\$ 700,000	\$ 700,000	\$ 700,000	\$ 3,500,000	\$1,500,000	
AD-S-5A	WWTP Electrical Substation Replacement Phase 2	AM - High	CCRC	S	1	\$ 3,250,000	\$ -	\$ 100,000	\$ 1,250,000	\$ 1,900,000	\$ -	\$ -	\$ 3,250,000	\$2,450,000	\$0
AD-S-19	WWTP Main Pump Station Improvements	AM - Varies	CCRC	S	4	\$ 2,600,000	\$ -	\$ -	\$ 600,000	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 2,600,000	\$0	\$0
AD-S-20	WWTP Solids Processing Boiler & Heating Systems Upgrade	AM - Varies	CCRC	S	3	\$ 1,250,000	\$ -	\$ 100,000	\$ 500,000	\$ 650,000	\$ -	\$ -	\$ 1,250,000	\$0	\$0
AD-S-21	WWTP 480V MCC Replacement	AM - Varies	CCRC	S	5	\$ 3,250,000	\$ -	\$ -	\$ 200,000	\$ 1,525,000	\$ 1,525,000	\$ -	\$ 3,250,000	\$0	\$0
AD-S-22	WWTP Final Clarifier 1-4 Rehabilitation	AM - Varies	CCRC	S	6	\$ 1,800,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 850,000	\$ 850,000	\$ 1,800,000	\$0	\$0
	TOTAL UNFUNDED SOURCES					\$ 19,275,000	\$ -	\$ 1,625,000	\$ 3,975,000	\$ 6,600,000	\$ 4,800,000	\$ 2,275,000	\$ 19,275,000	\$ 3,950,000	\$ -
	GRAND TOTAL FUNDED + UNFUNDED SOURCES					\$ 33,530,000	\$ 3,440,000	\$ 3,870,000	\$ 5,650,000	\$ 8,650,000	\$ 7,685,000	\$ 4,235,000	\$ 30,090,000	\$ 4,150,000	\$ -

(1) Reference Glossary of Acronyms & Terms found immediately after the Table of Contents

(2) Ranking system of unfunded project priority, 1 being highest priority

(3) The 2020 budgeted item is a placeholder and does not count towards total project costs

\*\*Includes Project Proposal 4,5,8 (portion),13 from WWTP Master Plan

\*\*\*Includes Project Proposal 7,11,12,14 (portion) from WWTP Master Plan





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email: [service@lehighcountyauthority.org](mailto:service@lehighcountyauthority.org)

## MEMORANDUM

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**TO:** LCA Board of Directors  
**FROM:** John Parsons, Chief Operating Officer  
**DATE:** March 2, 2020  
**RE:** Emergency 36 Inch Transmission Water Main Repair & Valve Replacements

On February 17, 2020, Lehigh County Authority Water Distribution System personnel were dispatched to the intersection of North 17<sup>th</sup> Street and Turner Street. This site is between the Lehigh Valley Hospital and the main entrance to Allen High School. It was determined that a water leak was coming from the 36 inch water main that feeds the Huckleberry Ridge Reservoir. The 10,000,000 gallon reservoir supplies the northern end of Allentown and the interconnection to the Central Lehigh Division. LCA crews excavated a small test hole to determine the exact location, and to verify the type of leak. The bell of the 36 inch pipe had cracked. Due to the scale of the job, the size of the pipe, and work required to repair the 36 inch pipe in a very bad location, staff called in our emergency contractor, Joao Bradley, Inc.

In order to make the repairs, the 36 inch line had to be shut down. During isolation of this section of main, two valves broke. The first was a 6 inch valve at South 17<sup>th</sup> Street and Elm Street, which is a fire hydrant control valve that acts as a blow off to the larger 36 inch line. The second was an 8 inch valve at Martin Luther King Drive and Lehigh Parkway, which is also a blow off line to help dewater the existing 36 inch main.

With the assistance of LCA crews, Joao Bradley completed all three repairs on February 19, 2020, and February 20, 2020. The total cost for the repairs was \$119,972.36. Breaking down that amount, Core & Main supplies totaled \$46,811.64, Ferguson Waterworks supplies totaled \$20,801.00, and the emergency contractor, Joao Bradley, charged \$52,359.72.

We are asking for a retroactive emergency declaration for this event. Between the location of the break and the size of the pipe involved, the repairs were out of the capabilities of LCA equipment and crews.

CC: Liesel Gross, Chief Executive Officer  
Edward C. Kline, Chief Financial Officer  
Patricia Walck, Purchasing Agent

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## MEMORANDUM

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**Date:** March 2, 2020

**To:** LCA Board of Directors  
Liesel Gross, C.E.O.  
**From:** Phil DePoe, Interim Senior Planning Engineer  
**Subject:** Allentown Division: I&I Source Reduction Improvements – Construction  
Phase Year 1

**MOTIONS / APPROVALS REQUESTED:**

No.	Item	Amount
1	Capital Project Authorization – Construction	\$600,395
2 (1)	Professional Services Authorization – Kleinfelder (1)	\$88,700

*(1) Included in the Capital Project Authorization*

**PROJECT OVERVIEW**

The City's 2018 I&I Source Reduction Program identified specific improvements to be implemented each year of a five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 1 of the five-year plan, which includes heavy cleaning and full cured-in-place-pipelining (CIPP). The remaining four projects will occur in 2021 and beyond.

**FINANCIAL**

The project is an Administrative Order (AO) Project and it will be funded by the City. The terms of the concession lease agreement between LCA and the City specify that the City will directly fund projects associated with the AO, and LCA will collect fees from City customers to pay any associated debt service for these projects. The City determines the projects to be completed and directs LCA to complete the projects in the manner desired by the City.

**PROJECT STATUS**

Pending Board approval of this I&I Source Reduction Improvement Project - Construction Phase Year 1.

**BIDDING SUMMARY – CONSTRUCTION CONTRACT**

This project requires a General Construction contract. The project was advertised for bid on February 3, 2020. A mandatory prebid meeting was held on February 11, 2020. Bids were received on February 20, 2020.

The bidding results are as follows:

Contractor	Cost
<i>Standard Pipe Services</i>	<i>\$486,695</i>
SAK Construction	\$554,050

Insituform Technologies	\$662,049
IPR Northeast	\$688,164
AM-Liner East	\$750,340

Standard Pipe Services recently completed extensive rehabilitation work in the Western Lehigh Interceptor. That work was found to be satisfactory; therefore, we recommend awarding the General Construction contract to Standard Pipe Services subject to receipt of the necessary Performance Bonds, insurance, and other required documentation.

#### **PROFESSIONAL SERVICES – CONSTRUCTION PHASE**

The City has instructed LCA to utilize Kleinfelder for the construction administration phases of the project. Also, at the request of the City, Kleinfelder was asked to subcontract with Barry Isett & Associates (BIA) for the construction inspection services related to this project. BIA completed the construction inspection services of prior manhole rehabilitation projects in the City.

#### **PROJECT SCHEDULE**

Assuming Board approval of the Construction Phase Year 1 at the March 9, 2020 meeting, Notice to Proceed will be issued late March 2020 with an estimated completion date of early June 2020.

#### **FUTURE AUTHORIZATIONS – CONSTRUCTION PHASE YEARS 2-5**

A Capital Project Authorization (CPA) will be presented to the Board in March of 2021 and March of 2022 for approval of the remaining construction phases. This will also include a professional services award, staff costs, and other related components. Projects in Years 2-3 will proceed accordingly in 2021 and projects in Years 4-5 will proceed accordingly in 2022.

# CAPITAL PROJECT AUTHORIZATION

<b>PROJECT NO.:</b>	<u>AD-S-20-2</u>	<b>BUDGET FUND:</b>	<u>Allentown Div\Wastewater\Capital</u>
<b>PROJECT TITLE:</b>	<u>Allentown Division: I&amp;I Source Reduction Improvements - Construction Phase Year 1</u>		<b>PROJECT TYPE:</b>
		<input checked="" type="checkbox"/>	Construction
		<input type="checkbox"/>	Engineering Study
<b>THIS AUTHORIZATION:</b>	<u>\$600,395</u>	<input type="checkbox"/>	Equipment Purchase
<b>TO DATE (W/ ABOVE)</b>	<u>\$778,695</u>	<input checked="" type="checkbox"/>	<b>Amendment No. 1</b>

## DESCRIPTION AND BENEFITS:

The scope of this project is to: (1) clean and CCTV approximately 1,500' of 8", 10", and 30" sewer main; (2) line 120' of 8" sewer main; (3) line 100' of 10" sewer main, (4) and line 1,400' of 30" sewer main. The location of this project is directly upstream of the Water Filtration Plant and was identified by the City as a priority area.

This is considered an Administrative Order (AO) project and will be funded by the City of Allentown. Due to expenditure requirements associated with a prior AO bond, the City had all five proposed years designed in 2019. The Year 1 project will occur in 2020, followed by two projects in 2021 and the final two projects in 2022.

Please see attached Board Memo for further project details.

## Authorization Status:

Requested This Authorization	
<b>Construction Phase</b>	
<b>Staff</b>	<b>\$20,000</b>
<b>Construction Contractor</b>	<b>\$486,695</b>
<b>Engineering Consultant</b>	<b>\$88,700</b>
<b>Contingency</b>	<b>5,000</b>
<b>Total This Authorization</b>	<b>\$600,395</b>

  

Prior Authorizations	\$178,300
Future Authorizations (Years 2-5)	TBD
Total Estimated Project (Year 1)	\$778,695

## REVIEW AND APPROVALS:

_____	_____	_____	_____
Project Manager	Date	Chief Executive Officer	Date
_____	_____	_____	_____
Chief Capital Works Officer	Date	Chairman	Date



**Lehigh County Authority**

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(610)398-2503 \* FAX (610)398-8413 \* Email: service@lehighcountyauthority.org

**PROFESSIONAL SERVICES AUTHORIZATION  
AMENDMENT NO. 2**

**Professional:** KLEINFELDER  
321 Wall Street  
Princeton, NJ 08540

**Date:** March 9, 2020

**Requested By:** Phil DePoe

**Approvals**

**Department Head:** \_\_\_\_\_

**Chief Executive**

**Officer:** \_\_\_\_\_

**Allentown Division: I&I Source Reduction Improvements – Construction Phase Year 1**

The I&I Source Reduction Program identified specific improvements to be implemented each year of the five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 1 of the five-year plan, which includes heavy cleaning and full cured-in-place-pipelining (CIPP). This proposal includes the following construction observation and contract administration services:

<b>Professional Services <sup>(1)</sup></b>
1. Inspection/Monitoring Services
2. Submittal Review
3. Clarifications and Interpretations
4. Meetings
5. Change Order Assistance
6. System Testing and Commissioning
7. Project Administration

*(1) For Construction Phase Only.*

**Design Phase Years 1-5 (Prior):** \$173,300

**Bid Phase Year 1 (Prior):** \$5,000

**Construction Phase Year 1 (This Amendment):** \$88,700

**Cost Estimate (not to be exceeded without further authorization):** \$267,000

**Time Table and Completion Deadline:** As required to meet various critical deadlines as set forth in the proposal.

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**(For Authority Use Only)**

**Authorization Completion:**

**Approval:** \_\_\_\_\_ **Actual Cost:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## FINANCE & ADMINISTRATION

### ACTION ITEMS

#### 1. Approval of 2021-2025 Capital Plan – March 23, 2020

The status of the 2021-2025 Capital Plan will be reviewed with the Board by Staff and Board Approval of the Capital plan will be requested by Staff.

### DISCUSSION ITEMS

#### 1. Preliminary 2021-2025 Capital Plans – March 9, 2020

Staff will present minor revisions to the unfunded projects in the City Division 2021-2025 Capital Plan. The KIWWTP Solids Process Boiler Replacement Project, previously indicated as part of unfunded “WWTP Sludge Thickening/Digestion Improvements,” has been determined to qualify as a Major Capital Improvement project, and therefore is now reflected as a separate unfunded project. This revision was relayed to the City Compliance Office and the City approved of the changes.

### INFORMATION ITEMS

#### 1. Recently Purchased Investments – Certificates of Deposit (CDs)

CERTIFICATES OF DEPOSIT						
31-Jan-20						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
WW Capac	Morgan Stanley Private Bank	Purchase, NY	245,000.00	1/16/20	1/18/22	1.750
WW Capac	Morgan Stanley Bank	Salt Lake City, UT	245,000.00	1/16/20	1/18/22	1.750
WW Capac	Wells Fargo National Bank West	Las Vegas, NV	245,000.00	1/17/20	1/18/22	1.800

Cons Wtr (2)	Consolidated Water (2)
LLRI CR	Little Lehigh Relief Interceptor Capital Reserves
Cons LL2 (314)	Consolidated Little Lehigh Relief Interceptor 2
WW Capac	Wastewater Capacity
2010 Wtr Cons A	2010 Water Construction, Series A Bond
Wtr R&R	Renewal and Replacement

#### 2. Developments

Water system construction is occurring in the following developments:

5354 Hamilton Blvd., 1 commercial lot, LMT  
 8615/8783 Congdon Hill Drive, 2 industrial lots with warehouses, LMT  
 Fields at Indian Creek, Phases 4 & 5, 86 residential units (sfd), water and sewer, UMiIT & Emmaus  
 Kohler Tract, 123 residential lots (sfa), water and sewer, UMiIT  
 Lehigh Hills, Lot 5, Phase 1, 273 apartments & clubhouse, UMT

Water system plans are being reviewed for the following developments:

749 Route 100, 1 industrial lot with warehouse, UMT  
 1047 Cetronia Road, 8 unit apartment building, UMT

5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT  
5374/5392 Hamilton Blvd., 1 commercial lot, LMT  
5420 Crackersport Road, 1 commercial lot, UMT  
8323/8449 Congdon Hill Drive, 2 industrial lots with warehouses, LMT  
ATAS International, 1 industrial lot, UMT  
Cedarbrook Road Industrial Park, 2 industrial lots, LMT  
Estates at Maple Ridge, 30 residential units (sfd), UMT  
Jaindl Commercial Park North, 1 commercial lot, LMT  
Laurel Field, Phase 5, 25 townhouses, UMT  
Madison Village at Penn's View, 66 manufactured homes, 1 lot, water and sewer, LynnT  
Mill Creek Hotel, 1 commercial lot with 205 room hotel & restaurant, UMT  
Mountain View Estates, 27 residential units (sfd), LMT  
Ridings at Parkland, 53 residential units (sfd), NWT  
Ridings at Parkland – Phase 2, 38 residential units (sfd), NWT  
Schoeneck Road, Lot 1, 1 lot warehouse, LMT  
Towneplace Suites by Marriott, 91-room hotel, UMT  
Weilers Road Twins, 82 residential lots (sfa), UMT

Sewage Planning Modules Reviewed in Prior Month:  
4154 Roosevelt Street, Whitehall, 10,535 gpd.

## WATER

### ACTION ITEMS

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### DISCUSSION ITEMS

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### INFORMATION ITEMS

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1. **Allentown Division – Hamilton Street Cedar Creek Bridge Water Main Relocation Project**

As part of the Pennsylvania Rapid Bridge Replacement Program, the replacement of the Cedar Creek Bridge on Hamilton Street has required the relocation of approximately 500 linear feet of water main. The design phase was approved at the December 2016 Board meeting and the construction phase at the January 2018 meeting. As of February 22, 2018, the contractor completed a majority of the relocation work for LCA's facilities; however, they were pulled off the site due to construction conflicts. As of March 22, 2019 the original LCA water line relocation scope of work was completed, however an additional relocation of a LCA sanitary sewer line was added to the original scope and agreement as of April 15, 2019 with an anticipated completion of April 26, 2019. LCA anticipates submitting all final paper work to the state for reimbursement in the very near future when the project has reached 100% completion. As of November 27, 2019 the project is still under construction due to delays caused by environmental timelines to preserve the high quality clear water fishery. It is anticipated that this work will be reimbursed 100% by the state and that the construction related activities. As of February 2020, the LCA utility relocation portion of this project is 100% complete; total project is approximately 75% complete. **(No Change)**

2. **Allentown Division – Water Main Replacement Program Cycle 5**

The project is for the replacement of 2-miles of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with the lease requirement, and using our engineer's risk prioritization protocol. The design engineer (Gannett Fleming) halted work on Cycle 5 following main replacement prioritization identification and preliminary project scoping until funds become available. Construction is not anticipated in 2020. **(No Change)**

3. **Allentown Division – Water Filtration Plant: SCADA System Replacement**

The project consists of the replacement of the existing SCADA System at the Water Filtration Plant. The purchase and installation of new servers, new control panel cabinets, new cabling, and new programming software will encompass this project. Board approval to purchase this equipment was granted at the August 27, 2018 Board Meeting. Replacement will be completed by early 2020. Construction is 95% complete. This project will be funded by LCA Allentown Division.

4. **Allentown Division – Water Filtration Plant: High Lift Pump VFD Replacements**

The Water Filtration Plan (WFP) supplies water to residential and commercial customers in the City of Allentown, as well as wholesale water to surrounding communities. One of the critical elements at the WFP is the High Service Pumping System (HSPS), which is the primary means of conveying treated water into the distribution system. The HSPS has experienced regular failures of aging electrical components. The July 2017 Allentown Water Master Plan categorizes the pump variable frequency drives (VFDs) in very poor condition and notes that the VFDs are no longer supported by the manufacturer. This project will replace two of the existing VFDs and add a third VFD. This project is currently unfunded, but may be supported through a PENNVEST loan pending ongoing discussion with the City of Allentown. Board approval was granted at the 8/12/19 Meeting for the design phase of this project to ensure loan application timelines can be met - in the event an agreement can be reached. Contract drawings representing 90% design were received in mid-November. Since an agreement was not reached by the 2/5/20 PennVEST



application deadline, the project is on hold. The next PennVEST application deadline is 5/6/20. **(No Change)**

5. **Allentown Division – Water Filtration Plant: Raw Water Pump Room Painting Construction Phase**

Since 2015, the piping and appurtenances of the high lift pump station (Phase 1) and the filter gallery (Phase 2) have been painted. It is the intent of Phase 3 to paint the piping and associated appurtenances in and around the raw water pump room, as the coatings are in poor condition. The project was advertised for bid in late December and bids were received mid-January. Construction phase Board approval was approved at the 2/10/20 Board meeting. The pre-construction meeting was held on 2/12/20 and construction is expected to begin in March and will be completed by May 2020.

6. **Suburban Division – Mechanical Asset Management Upgrade Project**

This third phase of Suburban Division Asset Management upgrade program will again focus on mechanical components, and will replace components that were deferred due to budget limitations in 2019. Design phase commenced in Q4 of 2019, and the project will be bid in Spring 2020. The upgrade locations were determined from asset management data collected by LCA's engineer consultant and from internal interviews conducted by Capital Works with senior Operations staff, and based on risk consequence ratings. **(No Change)**

7. **Suburban Division – CLD Auxiliary Pump Station Project**

The project consists of installation of a new booster pumping station with SCADA and water main extension to pump water from the Lower Pressure System to the Upper Pressure System. The LCA Suburban Division will fund the project. Bids for the project were received on 6/29/18. Board approval for the construction phase of the project was granted at the 7/23/18 meeting. A preconstruction meeting was held on 8/28/19. Construction will be substantially completed in February 2020. Current status is addressing items not completed during start-up testing – construction is 99% complete.

8. **Suburban Division – Upper Milford-CLD Interconnection Project (Kohler Tract)**

The project will feature the installation of a new booster pumping station and water main extension to interconnect the Central Lehigh Division (CLD) with the Upper Milford Division (UMD) allowing the abandonment of the UMD water supply facilities, and to provide water service to the proposed 123-lot Kohler Tract subdivision in Upper Milford Township. Costs are being shared between the LCA Suburban Division and the developer of the Kohler Tract. Pumping station bids were opened on 4/25/19. Board approval for the construction phase of the project was granted at the 5/13/19 meeting. A preconstruction meeting was held on 6/25/19. Construction should be completed by September of 2020. Awaiting NPDES permit to start construction – construction is 0% complete.

9. **Suburban Division – Watershed Monitoring Program**

The project will include setting up a surface water flow-monitoring network for the Little Lehigh Creek. The work is in response to the Watershed Monitoring Plan that was developed and reported to LCA by AI Guiseppe (SSM, Inc.) in 2017. In 2018, USGS selected the Delaware River Basin to pilot the National Next Generation Integrated Water Observing System (NGWOS). The Little Lehigh Watershed was picked as a targeted area of the NGWOS Project and additional surface water and ground water monitoring stations will be developed. USGS and LCA met on 11/19/2019 to discuss the proposed monitoring stations and the program in general. A follow up meeting was held on 12/16/2019. USGS and LCA have now found all three GW monitoring wells, LE860, LE 861 and LE862, who's usage had all been discontinued decades ago and their locations were presently unknown. USGS is now checking the viability of using them again. USGS has now completed the installation of (3) new SW Gauging Stations in the Little Lehigh Watershed and all (3) are collecting data. Additional SW flow monitoring stations

are within the installation process. All six (6) Fybr sites are currently collecting flow data and the calibration process is expected to last several months.

**10. Suburban Division - Additional (Redundant) Water Supply - Small Satellite Divisions**

This Project addresses the needs of three satellite water systems that currently are operating on one source of supply and have no redundant water supply. The Clear View Farms system long operated on one well, and in 2019 Well No. 2 was successfully rehabilitated to restore diminished well capacity for use as a secondary source. The Madison Park North system has only one well, and an additional well is planned to be developed and constructed. An engineer has been retained to assist with the development of a second well for Madison Park North. An agreement is in place with an adjoining property owner to Madison Park North to drill a test well on their property, in coordination with DEP guidelines. The "step drawdown test" was performed on 3/26/19 and indicated that the test well is a viable backup source to Well 1. A Pre-Drilling and Aquifer Test Plan was conditionally approved by DEP in late September of 2019. The reconstruction of the test well was completed in mid-January of 2020. The next item to be completed will be a 72 hour sustained pump test, scheduled for this spring. If the test is successful, we will need to obtain approval from the Agricultural Lands Condemnation Approval Board prior to permitting and construction of the new well facilities. Permanent facilities design is 0% complete.

**11. Suburban Division – Buss Acres Pump Station Replacement Construction**

The project consists of the consolidation and replacement of two well stations with a single new pump station and a new water storage tank to replace two antiquated hydropneumatic pump stations. The new station will be a variable frequency drive controlled double pumping system with full SCADA control. The design will include radon reduction elements and also accommodate the future installation of additional radon removal equipment, to be implemented upon DEP's mandate of a regulatory limit. The project is in construction phase. The Notice to Proceed was issued to the contractors on 9/24/19. Construction began in February 2020 and is approximately 5% complete.

**12. Suburban Division – Water Meter Reading Equipment Upgrade**

LCA's capital program includes the replacement of 20,000 transceiver units, and 10,000 units will be replaced in 2019 with the remaining to be replaced in 2020 under separate authorization. The new units have a 20-year battery life and are compatible with the new meter reading software purchased in 2017. This project will replace 100% of the remaining old style radio units over a two-year period. Construction phase services for the first round of 10,000 units was approved at the 5/13/19 Board meeting. Construction began in July 2019 and a change order was issued to the contractor for the installation of the remaining transceiver units that were originally scheduled for replacement in 2020, in order to expedite the completion of the work under the program and take advantage of favorable contract unit pricing. The project is approximately 98% complete. The remaining units will be installed in March. This project is funded by the LCA Suburban Division.

## WASTEWATER

### ACTION ITEMS

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1. **Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program (Year 1) – March 9, 2020**

This project includes the design of the City of Allentown's Inflow and Infiltration (I&I) Source Reduction Program. In 2014, Video Pipe Services complete various CCTV inspections throughout twenty primary and secondary basins. All pipe segments that called for complete pipe replacement have already been repaired. The remaining source reduction activities within the twenty basins have been organized into a 5-year program, with each year focusing on a different geographic region of the City's sewer collection system. Design has been approved for all five years, with the first project commencing in 2020 and the last project finishing in 2024. Board approval for the construction phase of the "Year 1 Project" will be requested at a March 9, 2020 Board meeting. Therefore, design is 100% percent. This project is considered an Administrative Order expense under terms of the Lease and is City funded

### DISCUSSION ITEMS

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### INFORMATION ITEMS

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1. **Allentown Division – Kline's Island WWTP: Phase 1 AO Design Improvements**

This project includes the design of the AO improvements at the wastewater treatment plant. This conceptual design concept was approved by the City and the relevant final deliverables were received by LCA. The City then directed LCA to proceed with the final design of improvements related to the blending alternative. Board approval for the Professional Services Authorization with Kleinfelder East, Inc. was granted at the September 11, 2017 Board Meeting. The project is identified as Administrative Order Work and will be funded by the City. The 30% design drawings and specifications have been received. The City directed to "pause" the design phase of the project. The City has now directed LCA to keep this project on indefinite hold. **(No Change)**

2. **Allentown Division – Kline's Island WWTP: Max Monthly Flow Capacity Evaluation**

DEP has noted that the KIWWTP has been performing at a high level and meeting its permitted effluent quality limits during a period of prolonged wet weather since early 2018. This study will provide the basis for confirming the plant's maximum monthly average that can be sustained during prolonged periods of wet weather – while remaining in full compliance with effluent quality requirements of the plant's permit. Approval of the study was granted at the 8/26/19 Board Meeting. The study was completed in mid-October 2019 and a Part II Permit was sent to DEP on 10/18/19. The permit will be resubmitted in late 2020 or early 2021 upon action by DEP on the Interim Act 537 Plan (to be submitted in September 2020). Therefore, the permit submission is 100% completed – awaiting Revision #1. This project is considered an AO expense under terms of the Lease and is City funded.

3. **Allentown Division – Kline's Island WWTP: Sodium Hypochlorite Disinfection**

This project involves the replacement of the existing gas chlorination system at the WWTP. The use of gas chlorination for sewage disinfection, while reliable, is outdated and contains inherent safety risks. In addition, the existing equipment has reached the end of its useful life. Switching to sodium hypochlorite was also identified in the 2018 WWTP Maser Plan. The design started in March of 2019. The project was advertised for bid in February 2020 and bids will be received on 3/31/20. The construction phase of the project will begin in Q2 of 2020 and will be completed by Q4 of 2020. This project will be funded by the LCA Allentown Division.

4. **Allentown Division – Lehigh Street (Rte. 145) Water and Sewer Main Relocation Project**

As part of the Pennsylvania Rapid Bridge Replacement Program, the proposed replacement of the Lehigh Street Bridge near the intersection with MLK Boulevard has required the relocation of existing City water and sewer lines that are located within the PennDOT right of way. Because the bridge is owned by Lehigh County and not the Commonwealth, the normal PennDOT relocation reimbursement schedules do not apply. Therefore, the County and LCA have executed an agreement on cost reimbursement on similar terms. LCA's engineer is working on behalf of LCA on a final sewer relocation design that minimizes the extent of the relocation. There will be less water infrastructure relocation work required since the existing water main is attached under the bridge and will be reattached after the new bridge is constructed. Construction will commence in 2021. **(No Change)**

5. **Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Interim Act 537 Plan Preparation**

Following several months of discussion with the Pennsylvania Department of Environmental Protection (PA-DEP), all municipalities flowing into the Kline's Island Wastewater Treatment Plant have agreed to complete an Interim Act 537 Plan ("Interim Plan") by September 2020. This Interim Plan will primarily consist of projecting new connections to the regional sewer system from 2021 through 2025 and outlining steps to be taken during this timeframe to prepare a full Regional (Long-Term) Act 537 Plan ("Regional Plan"). This two-step planning process has been developed to allow all municipalities to work cooperatively toward a Regional Plan to meet future sewer capacity needs of the region, and to provide proper regulatory oversight and control of new connections to the system while the Interim Plan is in force from 2021 to 2025. To begin the process of compiling the Interim Plan, a consulting engineer has been preliminarily retained, and approval of their full Professional Service proposal was granted at the February 10, 2020 Board meeting. Costs associated with the development of the Interim Plan will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. As of late February, Interim 537 Draft is 95% completed and will be given to sixteen planning commissions on 3/16/20.

6. **Suburban Division – Western Lehigh Service Area – 2020 Flow Metering Program**

Future flow metering work is anticipated over the next several years for both the Western Lehigh service area as well as the entire regional Kline's Island Sewer System. In 2020, the Western Lehigh group will conduct flow metering for a period of eight months to gather additional data on inflow and infiltration and the impact of prior rehabilitation work. It is anticipated that more extensive flow metering will be required in 2021 and 2022 to develop a Regional Plan. Approval of a Professional Services Authorization and three-year contract with Flow Assessment Services was granted at the February 10, 2020 Board meeting. Also on February 10, 2020, the Board approved a Professional Services Authorization for Arcadis to provide quality assurance and data analysis services for the 2020 flow monitoring program. As of the end of February, all temporary flow meters and rain gauges for the 2020 program have been installed, and data collection is 1% completed.

7. **Suburban Division – Park Pump Station Force Main Rehabilitation**

The Park Pump Station and Force Main line were constructed in 1980 to provide wet weather relief to the Little Lehigh Creek Interceptor, which conveys wastewater from ten municipalities from outlying areas to the Kline's Island Wastewater Treatment Plant (KIWWTP). The force main consists of 8,715 linear feet of prestressed concrete cylinder pipe (PCCP) of various sizes (2,615' of 24"; 2,695' of 30"; and 3,405' of 36"), and connects with the 54" sanitary sewer interceptor that runs to KIWWTP. PCCP is particularly sensitive to deterioration due to hydrogen sulfide gas from wastewater, and corrosion of exposed reinforcing steel can result in structural degradation and pipe failure. An internal investigation of the pipe is required to assess the condition of the PCCP pipe and identify damage areas, in order to determine the locations and extent of rehabilitation needed to restore the level of service, prolong service life, and

mitigate the risk of failure. Capital Works is planning a limited manned inspection of the force main pipe at 5 air release valve (ARV) locations, 100 feet in both directions from the ARV manhole, which will be used as the initial evaluation of the representative condition of the pipe. Using this data, the need for performing a complete pipeline condition assessment will be determined, possibly utilizing a new electromagnetic technology for performing an internal pipe condition assessment that entails minimal interruption of operation of the pump station and force main. Commencement of this work will follow the return of “normal” dry weather flows, and also following the completion of the Park Pump Station upgrade construction. **(No Change)**

8. **Suburban Division – Park Pump Station Upgrade**

The Park Pump Station is to be upgraded to address mitigate risk of failure, restore station capacity, and prolong the service life of this critical facility. Design was completed in December 2017. The Park Pump Station Upgrade was advertised for bid in December 2017, pre-bid meeting was held on 1/4/18, and bids were opened 2/1/18. Construction phase was authorized at the 2/12/18 Board meeting. Notice to proceed for the construction contracts was issued dated 3/26/18. A pre-construction meeting was conducted in early April 2018, and construction was substantially completed in January 2020. Start-up and performance testing of the new mechanical and electrical equipment was successfully performed in January 2020, and the project is approximately 98% complete. Final project completion and final restoration will be completed in Spring 2020.

9. **Suburban Division – Wynnewood WWTP Upgrade Project**

Wynnewood Terrace WWTP was constructed in 1980 by the developer to serve the Wynnewood Terrace subdivision, located in the Laury's Station area in North Whitehall Township. Sewer service is provided to approximately 217 residential and 2 commercial properties. LCA acquired the system in 2003.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and was concluded in late Summer 2018. The DEP Part 2 Water Quality Management Permit was received in March 2018. The project was advertised for bid in August 2018, bids were opened in September 2018, and bids were authorized for award at the October 22, 2018 Board meeting. Construction work mobilized in early 2019 and is anticipated to finish in Spring 2020. Construction is approximately 75% complete. **(No Change)**

10. **Suburban Division - Lynn Township Corrective Action Plan**

Excessive inflow and infiltration (I&I) and high wet-weather flows into the Lynn Township sewer system has been ongoing and increasingly challenging to address. As noted in LCA's monthly operations reports, treatment plant bypasses and sanitary sewer overflows have occurred in this system and must be addressed. On 6/4/19 a meeting was held with DEP, Lynn Township and LCA representatives as a result of a hydraulic overload at the wastewater treatment plant, based on 2018 Chapter 94 Report monthly plant flows. At the meeting, DEP directed LCA to submit an amendment to the pre-existing Corrective Action Plan (originally submitted by Lynn Township Sewer Authority) to include an updated system condition assessment and an outline of steps to be taken to mitigate I/I flows and maintain NPDES permit compliance. The Corrective Action Plan (CAP) includes structural and non-structural initiatives and involves coordination with the host municipality. The framework for the CAP was shared with the Board in February 2019. A meeting was held at Lynn Township with DEP in June 2019 to discuss the Lynn Township CAP and Township sewer planning/growth issues, and DEP directed LCA to submit a CAP

Amendment by the end of summer 2019. The CAP Amendment contained an updated sewer system condition assessment and a corrective plan to further mitigate I/I flows. Updated CCTV work of the entire system was substantially completed in August 2019, and the inspection data was summarized in the CAP Amendment and is being used to scope a capital repair project. The Lynn Township Board of Supervisors adopted a sewer system rules and regulations ordinance on 9/12/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. A meeting with DEP and Lynn Township representatives was held on 1/15/20 to discuss the CAP Amendment and plan moving forward. A letter is forthcoming from DEP to grant 55 EDUs of sewer allocation relief in 2020. **(No Change)**

**11. Suburban Division - Heidelberg Heights Sanitary Sewer Rehabilitation Program**

High wet-weather flows caused by excessive inflow and infiltration into the sewage collection system have challenged the Heidelberg Heights sanitary sewage system and has been the cause of numerous wastewater treatment plant bypasses over the past two years. In 2019, the second phase of the sewer main replacement program was completed and involved the replacement of approximately 1,100 lf of VCP sewer main and 26 residential sewer laterals to address a high priority area of the system was completed. The third phase of the sewer main replacement program will be construction in 2020, to be in Spring 2020. **(No Change)**

**12. Suburban Division - Heidelberg Heights Corrective Action Plan**

On 2/11/19, DEP submitted a notice of violation to LCA regarding bypasses and permit exceedances at the Heidelberg Heights wastewater treatment plant. As discussed with the LCA Board during several meetings in 2018, this small satellite system has been challenged by high groundwater levels and significant infiltration and inflow (I&I) of clear water into the sewer system during rain events. LCA staff met with DEP officials on March 6, 2019 to discuss the problems and, as a result, LCA prepared a comprehensive Corrective Action Plan (CAP) and submitted DEP on 5/5/19. A draft of the plan was attached for Board review at the 4/22/19 Board meeting. The final CAP was submitted to DEP on 4/29/19. The Heidelberg Heights Board of Supervisors approved the advertisement for adoption of a sewer system rules and regulations ordinance on 9/19/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. The ordinance was adopted by the township the in October 2019. **(No Change)**

**13. Suburban Division – Sand Spring WWTP Upgrade Project Construction**

The Sand Spring WWTP was constructed in 1972 by the developer to serve the Sand Spring development, located in the Schnecksville area in North Whitehall Township. Sewer service is provided to approximately 248 apartment units, 8 commercial properties, and an elementary school. Lehigh County Authority (LCA) acquired the system in 2005.

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and final design was delayed due to DEP Part 2 Water Quality Management and NPDES permitting issues. DEP approval of the Water Quality Management Permit was received in late December 2018, the design was finalized in late Spring 2019, and the project was advertised for bid in July 2019. Bids were opened on 8/13/19 and construction phase authorization was approved at the 8/26/19 Board meeting. A pre-construction meeting was held on 11/1/19 following execution of contract documents. Construction is temporarily on hold pending

Conditional Use Approval and waiver of Land Development Approval from North Whitehall Township. Construction mobilization is anticipated for late winter 2020. **(No Change)**

**14. Suburban Division - Trexlertown Wastewater Storage Facility**

As part of the Western Lehigh service area's Sewer Capacity Assurance & Rehabilitation Program (SCARP), a conveyance capacity "bottleneck" was identified in the Trexlertown area of the Western Lehigh Interceptor, and this area was assigned a high priority due to occurrence of sanitary sewer overflows and basement backups in the vicinity. A parallel interceptor was originally conceived to run approximately from Cetronia Rd to Spring Creek Rd. The concept was modified to focus on providing storage capacity in the system for this area, due to concerns about downstream hydraulic impacts. This project is an interim solution to address local impacts of the system bottleneck, and will become part of the future long-term solution to alleviate regional conveyance capacity challenges. A pre-design feasibility study is being performed to evaluate various engineering alternatives, including an "in-line" parallel storage tank, conventional concrete tank (flow equalization basin), or other options. Award of the pre-design feasibility study to HDR was authorized at the 10/21/2019 Board meeting. The study is on hold until modeling data is received from Arcadis.