



BOARD MEETING AGENDA – December 9, 2019

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. 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

- *November 11, 2019 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Resolution 12-2019-1 – Customer Facility Fees (Approval) (pink)*
- *2020 Board Meeting Schedule (Approval) (green)*

WATER

- *Suburban Division - Water Main Replacement Program Cycle 5 – Change Order No. 1 (Approval) (yellow)*
- *Laboratory Analysis Contract (Approval) (blue)*

WASTEWATER

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

7. Monthly Financial Review (2nd Board meeting per month)

8. Monthly System Operations Overview (2nd 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.

January 13, 2020

January 27, 2020

February 10, 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

November 11, 2019

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:02 p.m. on Monday, November 11, 2019, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Jeff Morgan, Kevin Baker, Richard Bohner, Norma Cusick, Scott Bieber, Ted Lyons and Amir Famili. Authority Staff present were Liesel Gross, Brad Landon, Chuck Volk, Ed Klein, Pat Mandes, Chris Moughan, John Parsons, Susan Sampson, Todd Marion, and Lisa Miller.

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 also announced that an Executive Session was held at 11:00 a.m. to discuss a personnel matter. The Executive Session ended at 12:00 p.m.

REVIEW OF AGENDA

Chairman Nagle announced that there was a change to the agenda with the addition of the SMART Union Contract added under Action and Discussion items prior to the meeting. Liesel Gross stated there are no changes to the agenda other than noted above by Chairman Nagle and there will be an Executive Session at the end of the regular meeting to discuss matters of potential litigation and personnel.

APPROVAL OF MINUTES

October 21, 2019 Regular Meeting Minutes

On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the minutes of the October 21, 2019 meeting as published (9-0).

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

Resolution No. 11-2019-1 – Document Control Procedure

Chris Moughan presented a PowerPoint presentation regarding Document Management and Document Control outlining the process the Authority wants to establish. Mr. Moughan reviewed the necessity for standardizing file names and file structures and establishing a document control procedure. Document retention is a large part of the project as it's very important for the Authority to maintain historical and financial information while maintaining a methodical, organized record management system. The Authority will follow the Commonwealth of Pennsylvania Municipal Records Act, which thoroughly outlines retention and disposition schedules.

Brad Landon explained that Resolution No. 11-2019-1 will establish the Document Control procedure and authorize management to modify it as necessary, so long as it is no less stringent than the requirements of the Municipal Records Act, and administer the procedure. The procedure will require Board approval of a list of any files or documents when they are ready for destruction. Scott Bieber asked if the Authority will be keeping all paper documents. Mr. Landon explained that

historical documents and agreements will be kept and the procedure allows for digital copies to be retained in specified formats. Liesel Gross said that a fully developed procedure regarding paper document retention or destruction has not yet been established.

Jeff Morgan commented that regulatory agencies have record retention policies regarding regulatory items. Mr. Morgan also stated that engineering and shop drawings are invaluable in hard copy form. Ms. Gross explained that all regulatory document retention requirements would be met in addition to following the Pa. Municipal Records Act.

On a motion by Linda Rosenfeld, seconded by Kevin Baker, the Board approved Resolution No. 11-2019-1 which authorizes the establishment of a Document Control procedure and authorizing management ability to administer it (9-0).

Chairman Nagle emphasized and commented on the criticality of security of the Authority's computer systems.

2020 Water & Wastewater Rate Schedules

Liesel Gross explained that the 2020 Water & Wastewater rate schedules presented are in line with the 2020 Budget that was adopted in October. There are four drivers for the rate increases in 2020 including the Asset Management program, Capital Financing, Strategy Development, and increases in Payroll & Health Insurance. The three primary components of the rate setting procedure include developing the Allentown Division water and sewer rates based on the terms of the lease agreement; updating Western Lehigh sewer rates in accordance with the User Charge Report presented to the Board in October; and development of Suburban Division water rates based on the 2018 rate study and updated to include projected expenses for 2020.

Ms. Gross noted that the townships that are subject to increases in public fire hydrant charges have been notified of the proposed rates, and the large industrial customers have also been notified in accordance with any applicable service agreements. She information included with the Board agenda regarding the impact of the rate changes to average residential customers as well as a rate comparison of the Authority's proposed rates to other utilities within the Lehigh Valley region. In the Suburban Division, the average residential customer using 15,000 gallons of water per quarter will see a 4.9% increase and the City Division will see a 5.5% increase.

Ms. Gross reminded everyone why the rate increases are necessary stating that the Authority is a non-profit, municipal authority and that all revenues collected through the water and sewer rates are used for the sole benefit of the systems for improvements. The Authority operates as a single organization, but with two divisions; therefore, the water and sewer revenues collected for the Suburban Division may not and will not be used to pay for expenses associated with the Allentown Division lease agreement, or vice versa. In closing, Ms. Gross stated that the Authority increases rates because the responsibility to maintain the systems' infrastructure and protect the public's health and the environment is taken very seriously.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the 2020 Water & Wastewater rate schedules (9-0).

SMART Union Contract

Liesel Gross reviewed the highlights of the new contract for the Sheet Metal, Air, Rail and Transportation Workers (SMART) union employees which included benefits, time off, wages, and

work rules & recognition of operating conditions, all of which were outlined in detail in the draft Memorandum of Agreement provided to the Board. The contract offers incentives for employees to continue to learn and grow with the organization, controls benefit costs for both LCA and the employees, and offers improvements to work rules to support effective management in the Suburban operation.

On a motion by Norma Cusick, seconded by Jeff Morgan, the Board approved the SMART Union contract (9-0).

MONTHLY PROJECT UPDATES / INFORMATION ITEMS

Liesel Gross noted that there are no monthly items for action or approval for the November 25, 2019 meeting. If nothing comes up over the next week, there is a possibility of cancelling the meeting.

Scott Bieber asked about the Suburban Division Watershed Monitoring Program and if the Authority is currently working with USGS. Liesel Gross said that the Authority already has a partnership with USGS and will work with them regarding any new gaging locations. Mr. Bieber also questioned the status of the Suburban Division Additional Redundant Water Supply – Small Satellite Divisions. Chuck Volk replied that currently testing is going on at Madison Park North prior to developing a permanent well to quantify the impact on the neighboring wells in accordance with DEP requirements. Mr. Bieber then asked for an explanation of the DEP permit that was applied for regarding the monthly flow capacity at Kline's Island. Liesel Gross explained that the Part II permit application was submitted to DEP and awaiting response. The updated Part II permit would reflect the Kline's Island Wastewater Treatment Plant's hydraulic capacity to treat sustained high flows during prolonged periods of wet weather.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

Chairman Nagle called a recess at 12:58 p.m. The meeting reconvened at 1:10 p.m.

EXECUTIVE SESSION

An Executive Session was held at 1:10 p.m. to discuss matters of potential litigation and personnel.

The Executive Session ended at 2:54 p.m.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 2:54 p.m.

Richard H. Bohner
Secretary

RESOLUTION No. 12-2019-1

(Duly adopted 9 December 2019)

A RESOLUTION ESTABLISHING THE VARIOUS COMPONENTS OF THE LEHIGH COUNTY AUTHORITY CAPITAL RECOVERY FEES SPECIFICALLY THE CUSTOMER FACILITIES FEES FOR THE CITY WATER SYSTEM AND SUBURBAN DIVISION WATER AND WASTEWATER SYSTEMS AND THE CONNECTION FEES FOR THE CITY WATER SYSTEM.

WHEREAS, Lehigh County Authority ("Authority") is a Pennsylvania municipal authority incorporated by the County of Lehigh in accordance with the Municipality Authorities Act to provide, among other services, wastewater and water services; and

WHEREAS, the Authority owns and/or operates water and wastewater systems throughout the Lehigh Valley of Pennsylvania, which systems are divided between its City of Allentown and Suburban Divisions; and

WHEREAS, the Authority charges certain rates and fees for use of and connection to its systems; and

WHEREAS, the Authority desires to establish its fees in accordance with §5607 of the Municipality Authorities Act, as amended by legislative action in December 2003, setting forth the appropriate fee components; and

WHEREAS, the Authority has calculated the allowable basis for such fees for certain of its wastewater and water systems in accordance with the attached calculations and its Summary of the Capital Recovery Fees for the Customer Facilities Fees and Connection Fees for the City Division water system and the Customer Facilities Fees for the Suburban Division water and wastewater systems (as Exhibit A), the current version of which, as well as any future changes thereto, is made a part hereof as if included herein; and

NOW THEREFORE, the Lehigh County Authority, pursuant to powers invested in it by the Pennsylvania Municipality Authorities Act, as amended, hereby resolves that:

1. The capital recovery fees for wastewater and water service in various of the Authority's wastewater and water systems as indicated and shown on *2020 Tapping Fee Resolution - Exhibit A, Customer Facilities Fees and Connection Fees, Allentown Division - Water and Customer Facilities Fees for Suburban Division - Water and Wastewater*, attached hereto and made a part hereof, are adopted effective 1 January 2020.

2. The Authority's Schedules of Rates and Charges shall be amended to reflect the fees hereby adopted, which fees shall be effective as of 1 January 2020.

On motion of _____, seconded by _____, this Resolution was adopted the 9th day of December 2019.

2020 TAPPING FEE RESOLUTION - EXHIBIT A
LCA CUSTOMER FACILITIES FEES AND CONNECTION FEES
ALLENTOWN AND SUBURBAN DIVISIONS - WATER AND WASTEWATER

Suburban Division - Water System - Customer Facilities Fees

Meter Component - With DC Backflow

<u>Meter Size</u>	<u>2020 Supply Cost</u>	<u>2020 Labor Cost</u>	<u>2020 Rate</u>
5/8"	\$304	\$124	\$428
5/8" Pit	\$367	\$124	\$491
3/4"	\$322	\$124	\$446
3/4" Pit	\$377	\$124	\$501

Meter Component - With No Backflow

<u>Meter Size</u>	<u>2020 Supply Cost</u>	<u>2020 Labor Cost</u>	<u>2020 Rate</u>
5/8"	\$271	\$124	\$395
5/8" Pit	\$334	\$124	\$458
3/4"	\$289	\$124	\$413
3/4" Pit	\$344	\$124	\$468
1"	\$366	\$124	\$489
1" Pit	\$390	\$124	\$514
1 1/2" Displacement	\$654	\$50	\$704
1 1/2" Turbine	\$912	\$50	\$962
1 1/2" Compound	\$1,255	\$50	\$1,305
2" Displacement	\$861	\$50	\$911
2" Turbine	\$1,053	\$50	\$1,103
2" Compound	\$1,441	\$50	\$1,491

Suburban Division - Wastewater System - Customer Facilities Fees

Meter Purchase Only (Plumber Install)

<u>Meter Size</u>	<u>2020 Supply Cost</u>	<u>2020 Inspection Fee</u>	<u>2020 Rate</u>
5/8"	\$271	\$50	\$321
5/8" Pit	\$334	\$50	\$384
3/4"	\$289	\$50	\$339
3/4" Pit	\$344	\$50	\$394
1"	\$366	\$50	\$416
1" Pit	\$390	\$50	\$440
1 1/2" Displacement	\$654	\$50	\$704
1 1/2" Turbine	\$912	\$50	\$962
1 1/2" Compound	\$1,255	\$50	\$1,305
2" Displacement	\$861	\$50	\$911
2" Turbine	\$1,053	\$50	\$1,103
2" Compound	\$1,441	\$50	\$1,491

Allentown Division - Water System - Customer Facilities Fees

<u>Meter Size</u>	<u>2020 Meter Price</u>	<u>Components</u>	<u>2020 Labor Cost</u>	<u>2020 Rate</u>
5/8"	\$84	\$119	\$120	\$323
3/4"	\$144	\$119	\$120	\$383
1"	\$133	\$118	\$120	\$370
1 1/2"	\$286	\$231	\$120	\$637
2"	\$373	\$306	\$120	\$799
3" Compound	\$1,513	\$150	\$50	\$1,623
3" Turbine	\$1,063	\$150	\$50	\$1,263
4" Compound	\$2,599	\$160	\$50	\$2,809
4" Turbine	\$2,043	\$160	\$50	\$2,253
6" Compound	\$4,459	\$193	\$50	\$4,702
6" Turbine	\$3,656	\$193	\$50	\$3,899
8" Compound	\$7,275	\$253	\$50	\$7,578
8" Turbine	\$6,184	\$253	\$50	\$6,487

<u>Other Components</u>	<u>2020 Price</u>
5/8" Meter Horn	\$45.31
3/4" Meter Horn	\$53.04
Curb Box - Metal	\$82.25

Allentown Division - Water System - Water Connection Fees

Water Taps 3/4 inch - 2 inch

	<u>Corporation</u>	<u>Tail Piece</u>	<u>Saddle Clamp</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2020 Rate</u>
Size 3/4 "	\$30	\$21	\$0	\$292	\$68	\$412
Size 1 "	\$45	\$35	\$0	\$292	\$68	\$440
Size 1 1/2"	\$138	\$92	\$64	\$292	\$68	\$655
Size 2 "	\$235	\$147	\$64	\$292	\$68	\$807

Water Sleeve and Valve Connectors

	<u>Valve</u>	<u>Casing</u>	<u>Tapping Fitting</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2020 Rate</u>
Size 4"x 4"	\$528	\$126	\$428	\$840	\$230	\$2,153
Size 6"x 4"	\$528	\$126	\$653	\$840	\$230	\$2,378
Size 6" x 6"	\$674	\$126	\$654	\$840	\$230	\$2,525
Size 8"x 4"	\$528	\$126	\$489	\$840	\$230	\$2,214
Size 8"x 6"	\$674	\$126	\$547	\$840	\$230	\$2,418
Size 8"x 8"	\$1,073	\$126	\$936	\$840	\$230	\$3,206
Size 12"x 4"	\$528	\$126	\$645	\$840	\$230	\$2,370
Size 12"x 6"	\$674	\$126	\$855	\$840	\$230	\$2,725
Size 12"x 8"	\$1,073	\$126	\$990	\$840	\$230	\$3,260
Size 12"x 12"	\$1,802	\$126	\$1,540	\$840	\$230	\$4,539



**LEHIGH COUNTY AUTHORITY
2020 MEETING SCHEDULE**

*Meetings are held on the 2nd & 4th Mondays of each month, except as noted below.
All LCA Board meetings begin at Noon at the Main Office Conference Room located at
1053 Spruce Road, Wescosville, PA 18106.*

*Meetings are recorded with live feed to LCA's website during the meeting, and a copy
of the meeting video posted online at www.lehighcountyauthority.org following the
conclusion of the meeting.*

Board Meetings

January 13, 27

February 10, 24

March 9, 23

April 13, 27

May 11, 18

June 8, 22

July 13, 27

August 10, 24

September 14, 28

October 12, 26

November 9, 23

December 14

BRIAN NAGLE
Chair



Lehigh County Authority

1053 Spruce Road * P.O. Box 3348 * Allentown, PA 18106-0348
(610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

MEMORANDUM

Date: December 9, 2019

To: Lehigh County Authority Board

From: Charles Volk, Chief Capital Works Officer

Subject: Suburban Division – Capital Project Authorization Amendment
For Cycle 5 Water Main Replacement Construction

MOTIONS /APPROVALS REQUESTED:

No.	Item	Amount
1	<u>Capital Project Authorization Amendment:</u> Cycle 5 Construction Phase Change Order	\$155,880

PROJECT OVERVIEW:

The Suburban Division water systems serve multiple municipalities in Lehigh and Northampton Counties. The Suburban Division Cycle 5 project included replacement of approximately 1.4 mile of water main and water services in the LCA Central Lehigh Division. The work was performed by Joao and Bradley Construction, Inc.

During the past year, LCA Operations began to experience numerous water service leaks in the North Whitehall Division (NWD), specifically in the Schnecksville North development. Most of the original developer-installed water services in this area consist of plastic pipe, which is prone to damage from settlement, loading, and chlorine degradation issues over time. Capital Works coordinated with Operations to prioritize the replacement of plastic water services and perform the work as part of the current water main construction contract. The highest risk area of Schnecksville North development was delineated based on leakage history, and 58 plastic water services were replaced with copper line from the corporation stop at the main to the curb stop at the right of way line. Expanding the scope of the SD Cycle 5 contract allowed for leveraging reasonable unit costs from the current contract with Joao and Bradley Construction, avoided additional costs that would be incurred by bidding a separate project, and facilitated the expedient remediation of high risk infrastructure.

FUNDING:

The Project was funded by the LCA Suburban Division.

PROJECT STATUS:

The work was completed in October 2019 and the contract is being closed out.

THIS APPROVAL: CPA AMENDMENT CONSTRUCTION PHASE CHANGE ORDER

This Amendment covers the replacement of 58 plastic water services with new copper services.

FUTURE AUTHORIZATIONS:

None

CAPITAL PROJECT AUTHORIZATION AMENDMENT No. 1

PROJECT NO.: SD-W-12 **BUDGET FUND:** Suburban Div\Water\Capital

PROJECT TITLE: SD Cycle 5 Water Main Replacement – Construction Phase **PROJECT TYPE:**

- Construction
- Engineering Design
- Engineering Study
- Amendment

THIS AUTHORIZATION: \$ 155,880

TO DATE (W/ ABOVE) \$ 2,367,056

DESCRIPTION AND BENEFITS:

The scope of construction work for the Suburban Division Cycle 5 Water Main Replacement project was increased to include replacement of 58 plastic water services with new copper services lines in the highest risk area of the Schnecksville North development in the North Whitehall Division (NWD) water system.

Previous Authorizations	
Cycle 5 Construction Phase	\$2,211,226

REQUESTED THIS AUTHORIZATION	
Construction Change Order	
Staff	\$2,000
Construction Services:	
Joao and Bradley Construction, Inc.	\$153,880
Total This Authorization	\$155,880

Future Authorization	
none	

REVIEW AND APPROVALS:

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



Lehigh County Authority

1053 Spruce Road * P.O. Box 3348 * Allentown, PA 18106-0348
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MEMORANDUM

Date: December 2, 2019

To: Lehigh County Authority Board of Directors
From: Andrew Moore, LCA Compliance Manager
Subject: Contract Laboratory Analysis for Water and Wastewater Samples

Approvals Requested

Approvals Requested	Brief Description	Amount
Professional Services Authorization	ALS Environmental	Unit Prices*

*** It is estimated that total costs over the three-year period will be \$225,152 which includes \$65,000 of Jacobs' costs.**

Background

The existing contract for laboratory services with Suburban Testing Labs is set to expire at the end of 2019. A Request for Proposal (RFP) was prepared to solicit qualifications and unit prices for the testing needs of the Allentown Division, Suburban Division, and the Pretreatment Plant. It was anticipated that the combined quantities of testing would result in favorable unit pricing from environmental laboratories.

Project Scope

The purpose of this project is to contract a single laboratory to perform over 24,000 water, wastewater, and biosolids analyses for the Allentown Division, Suburban Division, and Pretreatment Plant over the next three years. LCA's onsite laboratories do not have the certifications or equipment necessary to complete analysis with all permitted analytes. The contracted laboratory will provide sample pick-up, perform requested analyses, and provide laboratory reports to demonstrate permit compliance and operational performance.

The contract term is for three years with the option to extend for two additional one-year periods. All Pretreatment Plant testing will be invoiced separately and paid for by Jacobs as the operator of that facility.

RFP Process

The RFP was issued to four certified contract laboratories including:

- ALS Environmental
- Suburban Testing Labs
- MJ Reider and Associates
- Eurofins QC Environmental

Based on the total cost, only ALS and Suburban Testing Labs were evaluated on unit prices and qualifications. The qualifications evaluated included:

- Sample turnaround time
- Costs associated with pick-up and transportation
- Key personnel qualifications and experience
- Innovative/value-added services
- List of subcontracted analysis

ALS Environmental was ranked #1 in qualifications by the selection team and also provided the lowest costs for testing as shown below.

	3-Year Estimate
ALS Environmental	\$225,152
Suburban Testing Labs	\$287,387
MJ Reider and Associates	\$431,497
Eurofins QC Environmental	\$519,447

Recommendation

The Compliance Department reviewed and evaluated the four proposals based on unit costs and qualifications ranking. Based on these factors, ALS Environmental has been selected to be recommend to the Board. Their newly constructed laboratory in Middletown, Pa and field offices throughout the state will be able to provide free sample pick-up and reliable results. ALS Environmental has demonstrated a thorough understanding of the services LCA will be requesting, as well as has presented the best combination of qualified staff, quality control measures, laboratory equipment, and unit costs.

The ALS Environmental proposal is on average a 4% reduction from the 2019 Suburban Testing Labs’ unit charges, indicating that the bidding process and inclusion of the analytical needs from all LCA Divisions and the Pretreatment Plant resulted in favorable pricing.

The Compliance Department is requesting approval of the attached ALS Environmental unit prices for a three-year Professional Services Authorization with the option to extend for two additional one-year terms for as-needed analytical services.

Water Analysis Tests	Estimated Total for Contract	Unit Price
Aluminum	12	\$ 4.00
Asbestos (fiber > 10 micrometers)	28	\$ 149.00
Cadmium	3	\$ 4.00
Calcium	105	\$ 4.00
Chloride	12	\$ 9.00
Combined Uranium	19	\$ 20.00
Copper	168	\$ 4.00
Corrosivity (Langelier Saturation)	12	\$ 30.00
Foaming Agents (MBAS)	12	\$ 29.00
Gross Alpha	7	\$ 40.00
HAA5 (group)*	136	\$ 49.00
Heterotrophic Plate Count	126	\$ 16.00
IOC (group)*	33	\$ 83.00
<i>Antimony</i>		
<i>Arsenic</i>		
<i>Barium</i>		
<i>Beryllium</i>		
<i>Cadmium</i>		
<i>Chromium (total)</i>		
<i>Cyanide (as free cyanide)</i>		
<i>Fluoride</i>		
<i>Mercury (inorganic)</i>		
<i>Nickel</i>		
<i>Selenium</i>		
<i>Thallium</i>		
Iron	105	\$ 4.00
Lead	165	\$ 4.00
Magnesium	105	\$ 4.00
Manganese	105	\$ 4.00
Mercury	3	\$ 11.00
Nickel	3	\$ 4.00
Nitrate	225	\$ 9.00
Nitrite	225	\$ 9.00
Radium-226	9	\$ 115.00
Radium-228	9	\$ 115.00
Silver	12	\$ 4.00
SOC (group)*	43	\$ 637.00
<i>Alachlor</i>		
<i>Atrazine</i>	4	\$ 90.00
<i>Benzo(a)pyrene (PAHs)</i>	4	\$ 90.00
<i>Carbofuran</i>		
<i>Chlordane</i>		
<i>2,4-D</i>		
<i>Dalapon</i>		
<i>1,2-Dibromo-3-chloropropane (DBCP)</i>		
<i>Di(2-ethylhexyl) adipate</i>	5	\$ 90.00
<i>Di(2-ethylhexyl) phthalate</i>	2	\$ 90.00
<i>Dinoseb</i>		
<i>Dioxin (2,3,7,8-TCDD)</i>		
<i>Diquat</i>		

<i>Endothall</i>		
<i>Endrin</i>		
<i>Ethylene dibromide</i>		
<i>Glyphosate</i>		
<i>Heptachlor</i>		
<i>Heptachlor epoxide</i>		
<i>Hexachlorobenzene</i>		
<i>Hexachlorocyclopentadiene</i>		
<i>Lindane</i>		
<i>Methoxychlor</i>		
<i>Oxamyl (Vydate)</i>		
<i>Polychlorinated biphenyls (PCBs)</i>		
<i>Pentachlorophenol</i>		
<i>Picloram</i>		
<i>Simazine</i>		
<i>Toxaphene</i>		
<i>2,4,5-TP (Silvex)</i>		
Sodium	105	\$ 4.00
Sulfate	12	\$ 9.00
TOC	48	\$ 19.00
Total Coliform/E. coli (Enumeration)		\$ 14.00
Total Coliform/E. coli (P/A)	90	\$ 14.00
Total Dissolved Solids (TDS)	105	\$ 7.00
TTHMs (group)*	136	\$ 44.00
<i>Chloroform</i>		
<i>Chlorodibromomethane</i>		
<i>Bromoform</i>		
<i>Bromodichloromethane</i>		
VOCs (group) *	51	\$ 44.00
<i>Benzene</i>		
<i>Carbon tetrachloride</i>		
<i>o-Dichlorobenzene</i>		
<i>p-Dichlorobenzene</i>		
<i>1,2-Dichloroethane</i>		
<i>1,1-Dichloroethylene</i>		
<i>cis-1,2-Dichloroethylene</i>		
<i>trans-1,2-Dichloroethylene</i>		
<i>Dichloromethane</i>		
<i>1,2-Dichloropropane</i>		
<i>Ethylbenzene</i>		
<i>Monochlorobenzene</i>		
<i>Styrene</i>		
<i>Tetrachloroethylene</i>		
<i>Toluene</i>		
<i>1,2,4-Trichlorobenzene</i>		
<i>1,1,1-Trichloroethane</i>		
<i>1,1,2-Trichloroethane</i>		
<i>Trichloroethylene</i>		
<i>Vinyl Chloride</i>		
<i>Xylenes (total)</i>		
Zinc	15	\$ 4.00

Wastewater Analysis Test	Estimated Total for Contract	Unit Price

Aluminum	39	\$ 4.00
Aluminum	216	\$ 4.00
Ammonia	576	\$ 12.00
Arsenic	1152	\$ 4.00
BOD	72	\$ 11.00
Cadmium	1152	\$ 4.00
Cadmium	819	\$ 4.00
CBOD	144	\$ 14.00
Chromium	1152	\$ 4.00
Chromium	120	\$ 4.00
Copper	1188	\$ 4.00
Copper	819	\$ 4.00
Cobalt	27	\$ 4.00
Cyanide, Total	180	\$ 18.00
Fecal Coliform	96	\$ 14.00
Hardness, Total as CaCO3	24	\$ 9.00
Iron	96	\$ 4.00
Iron, Dissolved	24	\$ 4.00
Lead	336	\$ 4.00
Manganese	36	\$ 4.00
Manganese	216	\$ 4.00
Mercury	1401	\$ 11.00
Molybdenum	1152	\$ 4.00
Molybdenum	840	\$ 4.00
Nickel	1152	\$ 4.00
Nickel	819	\$ 4.00
Nitrate as N	120	\$ 9.00
Nitrite as N	60	\$ 9.00
Nitrogen, Nitrate-Nitrite	483	\$ 9.00
Oil and Grease	30	\$ 29.00
Phenolics, Total	72	\$ 19.00
Phosphorus, Total	654	\$ 12.00
Selenium	1152	\$ 4.00
Selenium	600	\$ 4.00
Silver	120	\$ 4.00
Solids, Total %	1008	\$ 4.00
Solids, Total Dissolved - TDS	150	\$ 8.00
Solids, Total Suspended - TSS	396	\$ 8.00
Solids, Volatile Suspended - VSS	72	\$ 9.00
Sulfide	48	\$ 12.00
Tin	3	\$ 4.00
Titanium	3	\$ 4.00
TKN	72	\$ 19.00
TPH	30	\$ 29.00
Valadium	3	\$ 4.00
Zinc	1152	\$ 4.00
Zinc	855	\$ 4.00

VOCs	51	\$ 44.00
SVOC	51	\$ 99.00
VOC	6	\$ 80.00
<i>Amyl acetate (mixed isomers)</i>		
<i>Ethyl acetate</i>		
<i>Isopropyl acetate</i>		
Priority Pollutants	18	\$ 485.00
Heterotrophic Plate Count	36	\$ 16.00
Total Coliform/E coli	24	\$ 14.00

Biosolids Analysis Test	Estimated Total for Contract	Unit Price
Aluminum	36	\$ 4.00
Ammonia as N	42	\$ 12.00
Arsenic	42	\$ 4.00
Cadmium	42	\$ 4.00
Calcium	36	\$ 4.00
Chromium	36	\$ 4.00
Copper	98	\$ 4.00
Corrosivity (pH)	36	\$ 4.00
Iron	36	\$ 4.00
Lead	42	\$ 4.00
Manganese	36	\$ 4.00
Magnesium	36	\$ 4.00
Mercury	42	\$ 11.00
Molybdenum	106	\$ 4.00
Nickel	42	\$ 4.00
PCBs	36	\$ 42.00
Potassium	36	\$ 4.00
Reactive Cyanide	36	\$ 18.50
Selenium	98	\$ 4.00
Sodium	36	\$ 4.00
Total Nitrogen	36	\$ 4.00
TKN	36	\$ 19.00
Nitrite/Nitrate, Combined	36	\$ 9.00
Total Phosphorus	36	\$ 12.00
Total Solids	36	\$ 4.00
Volatile Solids	36	\$ 6.00
Zinc	42	\$ 4.00
Priority Pollutants	12	\$ 485.00
Form U (Parameters for all and Additional Parameters for	3	\$ 765.00
Form 43 (All facilities and Additional Parameters for	6	\$ 850.00
COD	6	\$ 14.00
Oil and Grease	6	\$ 29.00
Molybdenum	6	\$ 4.00

Oil and Grease	6	\$ 29.00
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Lehigh County Authority

1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348
(610)398-2503 * FAX (610)398-8413

PROFESSIONAL SERVICES AUTHORIZATION

Professional: ALS Environmental
301 Fulling Mill Road
Middletown, PA 17057

Date: December 2, 2019

Requested By: Andrew Moore
Approvals
Department Head: _____
General Manager: _____

Description of Services:

Provide full-service accredited external environmental testing for the Lehigh County Authority (LCA) as per the LCA Request for Proposal dated September 2019. The Professional Services Authorization is inclusive of the LCA Suburban Water and Wastewater Division, LCA Allentown Water and Wastewater Division, and the LCA Pretreatment Plant operated by Jacobs.

Cost Estimate:

The estimated cost for external laboratory services over the three-year contract term is \$225,152. This cost is based on the estimate of quantities in the RFP and the unit prices submitted by ALS Environmental on October 31, 2019. The actual costs will be based on the unit costs and the quantities of analytical services provided. ALS Environmental may only charge LCA for services actually rendered.

Time Table and Completion Deadline:

January 1, 2020 through December 31, 2022 with the option for LCA to extend the contract two additional one-year extensions.

(For Authority Use Only)

Authorization Completion :

Approval : _____ **Actual Cost:** _____ **Date:** _____



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FINANCE & ADMINISTRATION

ACTION ITEMS

1. Resolution 12-2019-1 – Customer Facility Fees – December 9, 2019

Resolution No. 12-2019-1 is presented for Board consideration to update certain tapping fees related to customer facilities and connection fees. The 2020 fees reflect actual costs for LCA purchase and installation of required metering equipment and other installation details for each connection size for water and sewer service.

2. 2020 Board Meeting Dates – December 9, 2019

The proposed Board meeting schedule for 2020 is presented for Board approval so the schedule can be advertised and posted to the Authority’s website.

DISCUSSION ITEMS

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
22-Oct-19						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
LLRI CR	PSDLAF Flex Pool		400,000.00	9/20/19	11/1/19	1.8
Cons Wtr (2)	PSDLAF Flex Pool		155,000.00	9/20/19	11/1/19	1.8
Cons LL2 (314)	PSDLAF Flex Pool		245,000.00	9/20/19	11/1/19	1.8
WW Capac	PSDLAF Flex Pool		600,000.00	9/20/19	11/1/19	1.8
Wtr R&R	PSDLAF Flex Pool		1,000,000.00	9/20/19	11/1/19	1.8
WW Capac	New York Community Bank	Westbury, NY	125,000.00	9/27/19	9/27/21	1.800
WW Capac	Reading Co-Operative Bank	Reading, MA	249,000.00	10/21/19	10/21/21	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 - NEW
- Air Products & Chemicals, 1 commercial lot, UMT
- 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 - NEW
- Lower Macungie Twp. Community Center Expansion, 1 institutional lot, LMT
- Millbrook Farms, Section 6, 42 residential units, LMT & UMiIT

Stone Hill Meadows, Phase 2, 85 residential units (sfd), LMT

Water system plans are being reviewed for the following developments:

749 Route 100, 1 industrial lot with warehouse, 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 – NEW
Cedarbrook Road Industrial Park, 2 industrial lots, LMT
Estates at Maple Ridge, 30 residential units (sfd), UMiIT
Jaindl Commercial Park North, 1 commercial lot, LMT - New
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 - New
Schoeneck Road, Lot 1, 1 lot warehouse, LMT
Towneplace Suites by Marriott, 91-room hotel, UMT
Weilers Road Twins, 82 residential lots (sfa), UMT
Wrenfield Townhouses, 98 townhouse units, UMT

Sewage Planning Modules Reviewed in Prior Month:
None.

WATER

ACTION ITEMS

1. **Suburban Division - Water Main Replacement Program Cycle 5 – Change Order No. 1 – December 9, 2019**

The project consists of the replacement of approximately 1.4 miles of aged and/or failing Cast Iron water mains throughout multiple location in the Suburban Division. The construction phase of this project was approved at the May 20, 2019 meeting. Construction was substantially complete as of the end of September 2019.

During the past year, LCA Operations began to experience numerous water service leaks in the North Whitehall Division (NWD), specifically in the Schnecksville North development. Most of the original developer-installed water services in this area consist of plastic pipe, which is prone to damage from chlorinated water, settlement and loading issues over time. Capital Works coordinated with Operations to prioritize the replacement of plastic water services and perform the work as part of a construction contract change order to the SD Cycle 5 water main replacement contract. The highest risk area of Schnecksville North development was delineated, and 58 plastic water services were replaced with copper line from the corporation stop at the main to the curb stop at the right of way. Expanding the scope of the SD Cycle 5 contract allowed for leveraging reasonable unit costs from the current contract with Joao and Bradley Construction, avoided additional costs that would be incurred by bidding a separate project (including mobilization costs), and allowed for expedient remediation of problematic infrastructure. The work was performed in October, immediately following substantial completion of the base contract work. Board authorization for the contract change order is to be requested at the December 9, 2019 meeting.

2. **Laboratory Analysis Contract – December 9, 2019**

Bids were received from four contract labs for a three-year contract for laboratory analytical services for both water and wastewater, with the potential for two additional one-year extensions. A recommendation for award will be presented for Board approval at the December 9, 2019 meeting.

DISCUSSION ITEMS

INFORMATION ITEMS

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.

2. **Allentown Division – Water Main Replacement Program Cycle 4**

The project is the replacement of 0.97-mile of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with our prioritization protocol. We propose to

utilize the 1.1-mile credit of excess water main replacement length accumulated from previous years in order to satisfy the 2.0 miles of annual pipe replacement as outlined in the lease. This Project is required under the Operating Standards in the Concession Agreement and will be funded by the LCA Allentown Division. The reduced-scale project was re-bid following rejection of the bids for the original 2.2-mile project. The project was authorized by the Board on 9/10/18 and will be completed by December 2018. On October 30, 2018 the contractor (Doli Construction) began water main installation. As of January 4, 2019 all water main construction, prelease valve and meter replacement was completed. In April 2019, Doli began final restoration throughout the project with an anticipated completion by mid-Summer 2019. As of August 23, 2019 Doli has finished all restoration work on the project except cross walk areas on 4th and Chew streets. As of November 12, 2019 the project has reached 100% completion.

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

The project is the replacement of 2-mile of aged and/or failing cast iron water main in multiple locations throughout the City, in accordance with our prioritization protocol. Currently Gannett Fleming is designing the 2-miles of required water main replacement. At this time, the construction phase of this project is not budgeted for unless monies become available in 2020. **(No Change)**

4. **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 late 2019. This project will be funded by LCA Allentown Division. **(No Change)**

5. **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. 90% contract drawings were received in mid-November. Since an agreement will not be reached by the 2/5/20 PennVEST application deadline, the project is on hold indefinite hold.

6. **Allentown Division – Water Filtration Plant: Raw Water Pump Room Painting**

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. The project will be advertised in late December and bids are expected by the middle of January. Board approval will be requested at the second board meeting in January. Construction is expected to begin in February and will be completed before May.

7. **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 will commence in Q4 of 2019, and the project will be bid in early 2020. The upgrade locations were determined from asset management data collected

from internal interviews conducted by Capital Works with senior Operations staff, and based on risk ratings. **(No Change)**

9. **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 August 28th and construction should be completed in December 2019. **(No Change)**

10. **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.

A voice vote approving a “Special Exception” use of the Kern Tract as a pumping station site was received from the Upper Milford Township Zoning Hearing Board in September 2019. The written decision has now been received.

11. **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. Flow monitoring in 2019 will focus on the Little Lehigh Creek only. 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. Four sites are relatively firm, including one near the mouth of the Swabia Creek, one at Schantz Spring, one near the mouth of Cedar Creek and one on the Little Lehigh Creek near SR100. The other two sites are TBD. Additional groundwater monitoring sites may be added to the program as well. All six (6) Fybr sites are currently collecting flow data and the calibration process is expected to last several months.

12. **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 Madison Park North system has only one well, and an additional well is planned to be developed and constructed. The Clear View Farms and Mill Creek systems have one operating well each, but have at least one other existing well that has water supply or quality issues and cannot be presently utilized. An engineer has been retained to assist with the development of a second well for Madison Park North and the rehabilitation of an existing well at Clear View Farms. 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 has been approved by DEP. The next step is reconstruction of the test well and permitting which is currently being coordinated with the Engineer and well driller. Clear View Farms Well No. 2 was successfully rehabilitated to restore diminished well capacity for use as a secondary source. **(No Change)**

13. 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. **(No Change)**

14. 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 is expected to be concluded by December of 2019. The first phase of the project is currently 95% complete. This project is funded by the LCA Suburban Division. 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 second phase of the project is approximately 70% complete.

WASTEWATER

ACTION ITEMS

DISCUSSION ITEMS

INFORMATION ITEMS

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 – Sanitary Sewer Collection System: I&I Source Reduction Program Plan**

This project includes the design of the City of Allentown’s I&I Source Reduction Program Plan. 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 Plan, 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 of the “Year 1 Project” will be requested in Q1 of 2020. This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

3. **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. This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

4. **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 risks. In addition, the existing equipment has reached the end of its useful life. Switching to sodium hypochlorite was also identified in the recently completed WWTP Maser Plan. The design started in March of 2019. Approval of the construction contract will be requested at a Board Meeting in early 2020. 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.

5. **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. PennDOT

initially indicated that LCA would be eligible for 75% reimbursement for all projects costs associated with the utility relocations, and the LCA board adopted Resolution No. 3-2019-1 in March 2019 to authorize the negotiation of the PennDOT cost reimbursement. Following the submission of project incorporation paperwork to PennDOT by LCA's design engineer, the local PennDOT office submitted the resolution and agreement to the Harrisburg office, and was later informed that this bridge is owned by Lehigh County and not the Commonwealth. Although PennDOT is handling all preconstruction activities and will administer the federal funding participation between the Commonwealth and the County, the cost reimbursement agreement with PennDOT does not apply. 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. LCA staff will pursue water and sewer relocation cost reimbursement from the County out of the federal (80%) and state (15%) funds being applied to this project. Final design plans were submitted by LCA's design engineer to PennDOT on 10/22/19 and we are awaiting approval. Construction will commence in 2021. **(No Change)**.

6. 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)**

7. 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 is anticipated to be completed by late 2019. Start-up and testing of the new mechanical and electrical equipment is scheduled for mid-December 2019.

8. Suburban Division – Heidelberg Heights Wastewater Treatment Plant Improvements

As part of an asset management approach to maintaining the level of service and mitigating risk of failure at the Heidelberg Heights Wastewater Treatment Plant, a condition assessment evaluation is being performed for the Equalization/Sludge Holding tank. The steel tank is part of the original plant, installed in the mid-1970s, and is compartmentalized to serve as both a raw sewage equalization tank (for sequenced pumping to the newer SBR tanks), and for storing liquid sludge (for pump and haul removal). The exposed portions of this tank display areas of

corrosion, and the tank was drained and cleaned and a thorough assessment was performed to determine structural integrity and remaining service life, and a study provided to LCA. Design phase services were completed in March 2019, the project was advertised for bid in early April, and a pre-bid meeting was held on 4/16/19. Bids were opened on 5/2/19 and award of bid and construction phase services was authorized at the 6/10/19 meeting. A pre-construction meeting was held on 7/19/19, and construction is anticipated to be completed by the end of November 2019. Rehabilitation of the steel tank has been completed and the project is being closed out..

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 early 2020. **(No Change)**

10. Suburban Division – SCARP

Since the U.S. Environmental Protection Agency (EPA) lifted the Administrative Order regarding the regional sewer system in March 2019, LCA, the City of Allentown, and other municipalities have continued to work on elements of the Regional Flow Management Strategy that was submitted to both EPA and the Pa. Department of Environmental Protection (DEP) while awaiting further direction from DEP. LCA and the Western Lehigh Sewerage Partnership (WLSP) installed flow meters throughout the WLSP service area in early 2019. In September 2019, Arcadis was authorized to use the flow metering data to recalibrate to hydraulic flow model to allow for updated flow projections and project planning including the evaluation of the Trexlertown Wastewater Storage Facility Project.

Since August 2018, exceptionally high rainfall amounts have caused the system to experience high flows exceeding capacity limits during several months of this time period. In August 2019, DEP has begun communicating with LCA, the City and the other municipalities regarding this high-flow situation, the need for Act 537 planning, and other related matters. Meetings took place in October and November with DEP and all municipalities to discuss DEP's recommended approach in addition to remaining tasks in the Regional Flow Management Strategy. Additional information about the next steps for addressing regional sewer capacity requirements will be presented at a future LCA Board meeting.

11. Suburban Division - WLI High Flow Emergency Declaration

LCA began the Emergency Response protocol to deal with the high flows within the Western Lehigh Interceptor (WLI) on November 28, 2018. The Emergency Declaration was presented to and approved by the Board on December 10, 2018, retroactive to November 29, 2018. Monthly reports are provided to the LCA Board as part of the Monthly System Operations Overview. As of December 2, 2019, the vast majority of the work related to this Emergency Declaration has

been completed. A report to the Board of this work, and next steps, will be presented in January 2020.

12. 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. Staff have developed Corrective Action Plans (CAPs) that include structural and non-structural initiatives and involves coordination with the host municipality. The framework for the CAPs was shared with the Board in February and are being developed further for submission to DEP. 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 August 2019. The CAP amendment contained an updated sewer system condition assessment and a plan to further mitigate I/I flows. Updated CCTV work of the entire system was substantially completed in August 2019, and the inspection data summarized in the CAP amendment will be 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. **(No Change)**

13. Suburban Division - Heidelberg Heights Sanitary Sewer Rehabilitation Project

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. This project includes the replacement of approximately 1,100 lf of VCP sewer main and 26 residential sewer laterals to address high priority areas of the system to continue to work toward eliminating leakage. The pre-bid meeting was held on 3/28/19, bids were opened on 4/9/19, and award of bid and construction phase services was requested at the 4/22/19 Board meeting. Construction is anticipated to begin in late Summer 2019 and will be completed by the end of the year. **(No Change)**

14. Suburban Division - Heidelberg Heights Corrective Action Plan

On February 11, 2019, the Pa. Department of Environmental Protection (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 is 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 is preparing a comprehensive corrective action plan (CAP) for submission to DEP by May 5, 2019. A draft of the plan was attached for Board review at the April 22, 2019 Board meeting. The final CAP was submitted to DEP on 4/29/19. The Heidelberg Heights Board of Supervisors approved of the advertisement for adoption of a sewer system rules and regulations ordinance on 9/19/19, which will give LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. **(No Change)**

15. 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. **(No Change)**

16. 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 to be performed to evaluate various engineering alternatives, including an "in-line" parallel storage tank, conventional concrete tank (flow equalization basin), or a hybrid option. LCA issued a Request for Proposals in August 2019 to four pre-qualified engineering firms. A pre-proposal meeting was held on 9/5/19, and proposals were received on 9/20/19. Following Capital Works review and follow-up telephone interviews, award of the pre-design feasibility study was authorized at the 10/21/19 Board meeting. **(No Change)**