



BOARD MEETING AGENDA – September 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

- *August 26, 2019 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

WATER

WASTEWATER

6. Monthly Project Updates / Information Items (1st Board meeting per month) – **September 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		
<i>Meetings begin at Noon at LCA’s Main Office, unless noted otherwise below.</i>		
September 23, 2019	October 7, 2019	October 21, 2019

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

August 26, 2019

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:06 p.m. on Monday, August 26, 2019, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Kevin Baker, Jeff Morgan, 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, John Parsons, Chris Moughan, Susan Sampson, Todd Marion, Phil DePoe, Amy Kunkel 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. Mr. Nagle also announced that the Board received their packet in the mail prior to the meeting and that a new agenda has been distributed which includes an additional item under Wastewater entitled *Allentown Division – Wastewater Treatment Plant Max Month Capacity Evaluation*.

REVIEW OF AGENDA

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.

APPROVAL OF MINUTES

August 12, 2019 Regular Meeting Minutes

Richard Bohner noted a minor spelling error. On a motion by Richard Bohner, seconded by Norma Cusick, the Board approved the minutes of the August 12, 2019 meeting as corrected (8-0). Ted Lyons abstained.

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

Suburban Division – Buss Acres Pump Station Replacement Construction

Amy Kunkel presented the project and gave an overview of the construction phase of the Buss Acres Pump Station replacement. The proposed project consists of the consolidation of both well stations with a single new pump station on Gary Drive and a larger new water storage tank. The new station will be a variable frequency drive controlled double pumping system with full SCADA telemetry/control. Prior studies have indicated radon is present in the source water in this system but no treatment is currently in place because it's not regulated by state or federal regulations. The new design consists of a larger tank allowing some "gas-off" of radon present. The design will also have provisions to add a recirculation pump which would pump water through the nozzles and reservoir more than once to further remove the radon should DEP impose a regulatory limit for radon. Chuck Volk added that a pilot study was done on the site and the new nozzles are capable of eliminating 70% of radon in the water supply. Amir Famili asked if it would be more cost effective to put in place a radon mitigation system now versus later to eliminate the radon. Ms. Kunkel and Mr. Volk explained that a pre-design study was done and the costs for additional mitigation equipment is costly. In addition, since there is no regulatory limit for radon currently in place, the exact design

specifications for future treatment requirements cannot be designed now. However the 70% radon reduction discussed via the use of the nozzles and new water storage tank will be achieved by this project, so a significant water quality improvement will be in place as a result of this project.

Mr. Volk noted that only one general contractor put in a bid. He did some inquiry and was told by other contractors who were at the pre-bid meeting but didn't bid that there is a lot of work going on and contractors are very busy. He also noted the costs are within the engineer's estimate for the work. Scott Bieber asked if the township zoning hearing board decision from the township had been appealed. Mr. Volk said that he is unaware of any appeals and that revisions had been made to the plan to try to address concerns of the residents.

On a motion by Norma Cusick, seconded by Ted Lyons, the Board approved the Capital Project Authorization – Construction Phase in the amount of \$2,267,778.00, which includes the General Construction Contract awarded to Blooming Glen Contractors WW in the amount of \$1,641,848.00, the Electrical Construction Contract awarded to BSI in the amount of \$395,000.00, the Professional Services Authorization – Construction Phase Engineering to Buchart Horn, Inc. in the amount of \$53,350.00, the Professional Services Authorization – Construction Phase Inspection awarded to Cowan Associates, Inc. in the amount of \$27,580.00 (9-0).

Suburban Division – CLD Auxiliary Pumping Station and Water Main Extension Project – Construction Change Order

Chuck Volk gave an overview of the project that consists of the installation of a new water booster pumping station and 12" water main extension, with emergency generator and SCADA system, to pump water from the Central Lehigh Division's lower pressure system into the upper pressure system. The change order is being requested by the General Contractor, Blooming Glen Contractors WW, because the owner of the property, Kay Builders, raised the grading 2 feet which now impacts the pump station design. Mr. Volk recommends approval of the change order because the owner has given the Authority the easement and is also providing 714 cubic yards of the 914 cubic yards of fill required, both at no cost, which represents an adequate cost-sharing approach for this design change.

On a motion by Norma Cusick, seconded by Jeff Morgan, the Board approved the Capital Project Authorization – Construction Phase, Amendment No. 3 to Blooming Glen Contractors WW in the amount of \$46,078.20 (9-0).

Suburban Division – Sand Spring WWTP Upgrade Project Construction

Chuck Volk distributed an updated memo due to changes to clarifying when the current effluent discharge limits and the stricter limits required by the NPDES permit were established.

Mr. Volk gave an overview of the project which has many DEP requirements such as a redundant UV disinfection system, a tertiary filter and the building needs to be large enough to accommodate a second tertiary filter for the future. Another factor driving up cost is the high groundwater level at the Sand Spring site. Contractors will need pumps running 24/7 to keep groundwater levels down during construction. The contracts are in line with the engineer's estimate.

Mr. Volk is recommending approval of the Capital Project Authorization for the Construction Phase in the amount of \$4,389,300.00 which includes the award of the Construction Contract – General to Lobar, Inc. in the amount of \$3,233,800.00, the Electrical Construction Contract to Brenden Stanton, Inc. (BSI) in the amount of \$524,500.00, the HVAC/Plumbing Construction Contract to W. C.

Eshenaur & Son, Inc. in the amount of \$104,400.00 and the Professional Services Authorization – Construction Phase Engineering to Entech Engineering in the amount of \$251,000.00.

Ted Lyons questioned the Electrical contract cost noting that it's much lower than the others. Mr. Volk said the bid was reviewed and is in order. Jeff Morgan questioned if there was another option to pump elsewhere for treatment rather than build a new plant. Mr. Volk noted that the township would have to update its Act 537 sewage facilities plan and has no current plan to pursue a more regional approach to sewage treatment for the township.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the Capital Project Authorization for the Construction Phase in the amount of \$4,389,300.00 which includes the award of the Construction Contract – General to Lobar, Inc. in the amount of \$3,233,800.00, the Electrical Construction Contract to Brenden Stanton, Inc. (BSI) in the amount of \$524,500.00, the HVAC/Plumbing Construction Contract to W. C. Eshenaur & Son, Inc. in the amount of \$104,400.00 and the Professional Services Authorization – Construction Phase Engineering to Entech Engineering in the amount of \$251,000.00 (9-0).

Liesel Gross noted that Chuck Volk has been very busy with projects and thanked him for all his work.

Western Lehigh Service Area – Sewer Capacity Exploration

Liesel Gross presented a PowerPoint for discussion regarding the Western Lehigh County sewer system capacity highlighting the history and challenges of the system. The two main challenges have been the numerous times the regulatory landscape has changed over the past 10 years and the prolonged wet weather over the past two years. The City of Allentown wastewater treatment plant has been meeting all the permit requirements despite the very high flows and the LCA pretreatment plant has been performing far above the design capacity. Scott Bieber stated that the high flows in the Western Lehigh Interceptor make it difficult to assess the results of work to remove excess inflow and infiltration. Ms. Gross agreed and stated that flow meters are in place and since August has been a dryer period, it is hopeful that we receive good data. The flow meter modeling from Arcadis should be complete in the first quarter of 2020. The conveyance capacity evaluations will help determine how flows have changed and what is needed to include for future growth. Ms. Gross also highlighted stakeholder outreach that is required to ensure the community is engaged in solutions to address economic growth and impacts of climate change.

Allentown Division – Wastewater Treatment Plant Max Month Capacity Evaluation

Phil DePoe gave an overview of the project in which the Authority will retain the services of Kleinfelder to conduct an engineering study to supplement the prior master plan work that was completed in 2018. Liesel Gross added that this study will be very beneficial to evaluate the City of Allentown wastewater treatment plant's capability to accept current and future flows. Mr. DePoe is asking for approval of the Professional Services Authorization to Kleinfelder in the amount of \$50,000.00 which the City has agreed to fund directly, but which costs are then shared by all signatories to the Kline's Island Wastewater Treatment Plant.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the Professional Services Authorization to Kleinfelder in the amount of \$50,000.00 (9-0).

MONTHLY FINANCIAL REVIEW

Ed Klein presented a PowerPoint for the July 2019 financial report with a PowerPoint presentation, highlighting variances between budgeted revenues and expenses and actual or forecasted revenues and expenses.

MONTHLY SYSTEM OPERATIONS OVERVIEW

John Parsons reviewed the Monthly System Operations Overview report for July 2019 and noted that for the past nine months, both Kline's Island Wastewater Treatment Plant and the Pretreatment Plant have treated flows above their design capacity. The report also included a status report of the Western Lehigh Interceptor High Flow Emergency Project as of August 19, 2019. Mr. Parsons stated that the project has produced good results and the team has found many defects and removed a lot of debris. Liesel Gross added that the Authority will review how to document the results from the Western Lehigh Interceptor High Flow Emergency project for further discussion with DEP.

STAFF COMMENTS

Liesel Gross informed the Board that the evaluation of proposals for the Solicitor position has begun and interviews for a mix of in-house and independent contractors will follow. Ms. Gross will keep the Board informed and will bring the top two recommended candidates before the Board prior to a final decision sometime in September or October.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

Chairman Nagle called a recess at 1:45 p.m. The meeting reconvened at 1:57 p.m.

EXECUTIVE SESSION

An Executive Session was held at 1:57 p.m. to discuss matters of potential litigation.

The Executive Session ended at 2:36 p.m.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 2:36 p.m.

Richard H. Bohner
Secretary

FINANCE & ADMINISTRATION

ACTION ITEMS

1. Resolution No. 9-2019-1 – Suburban Division Water Tapping Fees – September 23, 2019

A Resolution will be presented for Board consideration to update certain tapping fees related to the Suburban Water Division. Upon adoption, these fees will be effective October 1, 2019. Resolution and Exhibits will be provided in advance of the Board meeting.

DISCUSSION ITEMS

1. 2020 Budget Review – September 23, 2019

The Board will receive a presentation on the 2020 Preliminary Budget and review the schedule for the remainder of the process for approval in October.

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
27-Aug-19			Gross	Date of	Date	Net Rate
Fund	Bank	Location	Amount	Purchase	Due	%
Cons Wtr (2)	Independent Bank	McKinney, TX	245,000.00	7/29/19	7/29/21	2.000
WW Capac	Goldman Sachs Bank USA	New York, NY	249,000.00	8/21/19	8/23/21	1.900

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
- Air Products & Chemicals, 1 commercial lot, UMT
- Hidden Meadows, Phase 1C, 66 townhouses, UMT – New
- Kohler Tract, 123 residential lots (sfa), UMiT, water and sewer
- Lower Macungie Twp. Community Center Expansion, 1 institutional lot, LMT
- Stone Hill Meadows, Phase 2, 85 residential units (sfd), LMT
- Trexler Business Center, 1 lot with 6 commercial buildings, LMT
- Trexler Fields, Phase 1B/8/9, 100 residential lots (sfa), UMT
- Woodmont Ridge, Phase II, 30 apartment units, UMT – New

Water system plans are being reviewed for the following developments:

- 5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT
- 5374/5392 Hamilton Blvd., 1 commercial lot, LMT
- 5420 Crackersport Road, 1 commercial lot, UMT
- 8615/8783 Congdon Hill Drive, 2 industrial lots with warehouses, LMT

Cedarbrook Road Industrial Park, 2 industrial lots, LMT
Estates at Maple Ridge, 30 residential units (sfd), UMiIT
Lehigh Hills, Lot 5, Phase 1, 273 apartments & clubhouse, UMT
Madison Village at Penn's View, 66 manufactured homes, 1 lot, LynnT, water and sewer
Mill Creek Hotel, 1 commercial lot with 205 room hotel & restaurant, UMT
Millbrook Farms, Section 6, 42 residential units, LMT & UMiIT
Mountain View Estates, 27 residential units (sfd), LMT
Ridings at Parkland, 53 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
Wrenfield Townhouses, 98 townhouse units, UMT

Sewage Planning Modules Reviewed in Prior Month:

Park 100 Logistics Center, Upper Macungie Township, 400,000 gpd. – New

WATER

ACTION ITEMS

1. **Change Order Request - Suburban Division – Water Meter Reading Equipment Upgrade – September 23, 2019**

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 project is currently 40% complete. This project is funded by the LCA Suburban Division. A change order will be requested on the September 23 Board meeting 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.

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 construction 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 has 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 has been completed, however an additional relocation of a LCA sanitary sewer line has been added to the original scope and agreement as of April 15, 2019 with an anticipated completion of April 26, 2019. LCA anticipated submitting all final paper work to the state for reimbursement in the very near future. It is anticipated that this work will be reimbursed 100% by the state and that the construction related activities. **(No Change)**

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. LCA anticipates completion of the cross walk work by mid-September 2019.

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 2019. **(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. If funding is available, project completion is expected by late 2021.

6. **Suburban Division - Water Main Replacement Program Cycle 5**

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. As of July 9, 2019 construction had begun and is progressing along very smoothly. As of August 27, 2019 all water mains have been installed and our contractor is completing the new water service lateral installations at the present time. This project is funded by the LCA Suburban Division.

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

This next phase of Asset Management upgrade work focuses on mechanical components, along with some HVAC and electrical system improvements at ten locations in the Suburban Division. 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 rating. Also as part of the design phase of this project was the condition assessment of seven (7) hydropneumatic tanks that were placed into service in the 1970s and are reaching the end of their service lives. Design phase was authorized in April 2018, the project was advertised for bid in September 2018, bids were opened on October 11, 2018, and award of bids was authorized at the October 22, 2018 Board meeting. Construction will be finished by Summer 2019. **(No Change)**

8. **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 by Fall of 2019. **(No Change)**

9. 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 May of 2020.

Legal counsel will be retained during the zoning process to assist with obtaining a “Special Exception” from Upper Milford Township to use the Kern Tract as a pumping station site. **(No Change)**

10. 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 2019, LCA will develop plans for subsequent years to add new monitoring wells to supplement existing groundwater data that is being collected. Total daily flow recordings at Schantz Spring that will need to include the spring field bypass and the tank overflows as well. SSM will assist LCA in calibrating surface flows under the bridges based on the recorded stream elevations. Authorization for the award of the project was approved at the 3/26/2018 Board meeting. LCA and Fybr are currently gaining PennDOT and PPL approvals that will allow us to mount our equipment on their bridges and poles, which has turned out to be a very slow process. Agreement received from PPL on April 22, 2019. Equipment is to be mounted and flow data is to be received by late summer/early fall 2019. 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 are currently working together on new gaging locations in the LL watershed. Automatic data collection and migration directly to LCA Main Office is currently being developed by Fybr and is to start in September. Three stations are currently operational and another three will be within a few more weeks. Calibrations of the operational stations are currently underway and this process will take at least 6-8 months.

11. 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 will be prepared by our Engineer as required by DEP. Clear View Farms Well No. 2 was successfully rehabilitated to restore diminished well capacity for use as a secondary source.

12. 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 hydro-pneumatic 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. Bids were received on 8/13/19 and the authorization to award bids was approved at the 8/26/19 Board meeting.

WASTEWATER

ACTION ITEMS

1. **Western Lehigh Service Area – Hydraulic Flow Model Recalibration – September 23, 2019**

The Western Lehigh Sewerage Partnership portion of the Kline's Island Sewer System hydraulic model will be recalibrated by Arcadis using the rainfall and flow data collected during the 2019 flow monitoring period. The flow monitoring includes 35 flow meters that are installed throughout the LCA interceptor system, the Western Lehigh signatories' systems and several of the City manholes as well as the City Signatory manholes. The recalibrated model is intended to provide a more accurate reflection of the current systems' rainfall event responses. Arcadis will be providing the flow metering data, rainfall data, Signatory sewer billing data, and SCADA data for the KIWWTP, Spring Creek Pump Station, Flow Equalization Basin, Park Pump Station, and Meter Station No. 5. The model will be dry weather and wet weather calibrated and validated. A professional services authorization for Arcadis to complete this work will be presented to the Board for approval on September 23, 2019 along with a budget amendment as this work was not included in the 2019 capital budget.

2. **Trexlerstown Wastewater Storage Facility – October TBD**

As part of the SCARP program, a conveyance capacity "bottleneck" was identified in the Trexlerstown 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 are due on 9/20/19. Following review and follow-up interviews (if required), authorization to award the pre-design feasibility study is anticipated to be requested at the 10/14/19 Board meeting.

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 Draft study will be completed by the end of September 2019. This project is considered an AO expense under terms of the Lease and is City funded.

4. **Allentown Division – Kline's Island WWTP: Electrical Substation Replacement**

This project involves the replacement of the existing Substation No. 2. The equipment was installed in 1977 and has reached the end of its useful life. The City has reviewed this and has approved this project as a Major Capital Project. Approval of the design engineer was granted at the May 8, 2017 Board Meeting. The project was advertised in early May 2018 and bids were due on June 8, 2018. Approval of the construction contract (Base Bid) was granted at the July 9, 2018 Board Meeting. The construction phase of the project began in August of 2018 and was completed in May 2019. Minor punchlist items remain. This Major Capital Project was funded by the LCA Allentown Division. **(No Change)**

5. **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 Q1 of 2020 and will be completed by Q4 of 2020. This project will be funded by the LCA Allentown Division. **(No Change)**

6. **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. Design work will be finalized by Summer 2019 **(No Change)**.

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. LCA and Arcadis are currently waiting for a "normal flow" dry weather period to use the PTP Flow Equalization Basin (FEB) at the pretreatment plant to hold back flow in order to perform a temporary shut-down of the Park Pump Station to perform the force main inspection. **(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 is anticipated to be completed by late 2019. **(No Change)**

9. **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 Fall 2019. **(No Change)**

10. **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)**

11. Suburban Division – SCARP

On December 21, 2018, LCA and all of the municipalities named in the AO received a detailed letter from DEP requesting additional information about the Regional Flow Management Strategy (RFMS) including more specifics related to schedules for system characterization, sewer flow metering and monitoring, and other details related to each municipality's operations and maintenance program and inflow and infiltration source removal program. LCA led the effort to develop a full response to DEP, which was submitted on March 8, 2019. On April 25, 2019, DEP submitted a letter asking for some additional information and maps. The information was forwarded to DEP. DEP recently requested some additional information on the interceptor work and bypassing from LCA and we provided it.

12. 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. Through December 28, 2018, the entire Iron Run Trunk Line (IRTL) has been televised from outside the Pretreatment Plant (PTP) down to the confluence with the Briensville Line, which is south of Hamilton Boulevard. This area is referred to as Phase 1 and the total distance televised in this reach was 7,115', and includes 93 manholes. In this section, LCA has identified 18 defects within that reach, the majority of which are joint leaks, along with heavy sediment in several areas. Phase 1 is completed. Phase 2 is approximately 90% completed. Phase 3, which includes the mile-long bypass is approximately 50% completed as far as CCTV work. Grouting and other repairs still need to be finished. Phases 2-3 are to be completed by mid-late September. Phases 4-6 have all been CCTV'd now with the exception of a few problematic sections, and takes the recon work all the way to Park Pump Station which was the original goal when the entire project was scoped. The remaining work for 2019 is under development.

13. 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 is in progress, and will be used to scope a capital repair project. **(No Change)**

14. 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. **(No Change)**

15. 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. **(No Change)**

16. 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 will be held following execution of contract documents.