



LEHIGH COUNTY AUTHORITY

LCA Main Office:
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Wescosville, PA 18106
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Agendas & Minutes Posted:
www.lehighcountyauthority.org

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BOARD MEETING AGENDA – May 10, 2021 – 12:00 p.m.

Notice of COVID-19 Pandemic Meeting Format: Effective March 23, 2020 and until further notice, meetings of the LCA Board of Directors will be held virtually using the Zoom Meetings application, to avoid risk of infection during the national COVID-19 pandemic emergency. Public participation is welcomed via Zoom, and instructions for joining the meeting online or by phone are posted on the LCA website in the morning on the day of the meeting, prior to the start of each meeting. You may also issue comment to LCA via email to LCABoard@lehighcountyauthority.org in advance of any meeting or view the meeting at a later time by visiting the LCA website. Please visit <https://www.lehighcountyauthority.org/about/lca-board-meeting-videos/> for specific instructions to join the meeting.

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

- *April 26, 2021 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Suburban Water Bond Financing – Resolution No. 05-2021-1 (Approval) (blue) (digital Board packet, page 7-12)*
- *Real Estate Transaction: Reservoir 1/Lehigh Hills – Resolution No. 05-2021-2 (Approval) (yellow) (digital Board packet, page 13-22)*

WATER

- *Allentown Division – Water Filtration Plant: 2021 Indenture Upgrades – Construction Phase Authorization (Approval) (green) (digital Board packet, page 23-26)*
- *Suburban Division – Arcadia West Water Storage Tank Replacement – Construction Phase Authorization (Approval) (pink) (digital Board packet, page 27-31)*
- *Suburban Water Division Emergency Declaration – Water Main Relocation (Approval) (gray) (digital Board packet, page 32-33)*

WASTEWATER

- *Allentown Division – Kline's Island WWTP: 2021 Indenture Upgrades - Construction Phase Authorization (Approval) (salmon) (digital Board packet, page 34-38)*

6. Monthly Project Updates / Information Items (1st Board meeting per month) – **May 2021 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		
May 24, 2021	June 14, 2021	June 28, 2021

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

April 26, 2021

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:01 p.m. on Monday, April 26, 2021, Chairman Brian Nagle presiding. The meeting was held via video and audio advanced communication technology ("ACT"), using the Zoom internet application, including telephone option, due to the COVID-19 pandemic emergency. Each Board member and other attendees of the meeting were able to hear each other attendee and be heard by each other attendee. The public could also participate in the meeting via ACT, using the Zoom internet application, including telephone option. A Roll Call of Board members present was taken. Chairman Brian Nagle, Scott Bieber, Richard Bohner, Ted Lyons, Kevin Baker, Linda Rosenfeld, Jeff Morgan, and Amir Famili were present for the duration of the meeting.

Solicitor Michael Gaul of KingSpry was present along with Authority Staff, Liesel Gross, Ed Klein, John Parsons, Chris Moughan, Chuck Volk, Susan Sampson, Andrew Moore, Phil DePoe, Mark Bowen, Lisa Miller and Todd Marion.

Chairman Nagle stated that the Board received their electronic copy of the Board packet in advance and asked if anyone did not receive their hard copy of the packet. No Board members indicated they had not received their packet by mail.

REVIEW OF AGENDA

Liesel Gross stated there are no changes to the agenda and no items for Executive Session. There is, however, a brief item for Staff Comments.

APPROVAL OF MINUTES

April 12, 2021 Meeting Minutes

Richard Bohner noted a grammatical error. On a motion by Richard Bohner, seconded by Linda Rosenfeld, the Board approved the minutes of the April 12, 2021 Board meeting as corrected (8-0).

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

2022-2026 Capital Plan

Liesel Gross reviewed the memorandum which included an overview of the Final Draft Capital Plan (2022-2026) – All Divisions for Board consideration and approval and a summary of the public comments received during the 30-day public comment period. Ms. Gross clarified that approval of the plans does not indicate funding authorization for the Plan, which includes projects totaling approximately \$113 million over the next five years. Funding for these projects will come from operating revenues and reserves and approximately \$10 million from new borrowing. Future Board authorization will be sought to approve this funding during the annual budget process and future project-specific approvals and bond financing approvals.

Chuck Volk stated that two letters were received from the City of Allentown asking for clarification and some minor text revisions to some project descriptions included in the Plan. There are no

substantive changes to the Plan as the result of these requests. He noted that the schedule for the Water Filtration Plant filter upgrade project may be re-evaluated depending on available funding during the Plan period, due to the high priority of that project. Comments were received from the Lehigh Valley Planning Commission noting that the Plan is consistent with the region's comprehensive plan. No other public comments were received.

Ted Lyons asked if there are any outstanding issues regarding the City of Allentown's comments. Chuck Volk stated that their comments have been addressed and the most recent letter detailed some questions about the Little Lehigh Creek Intake Upgrade project, which has been addressed. Scott Bieber commented that the City seems concerned about the filter project schedule and asked if this has been addressed. Mr. Volk said a filter study was completed in 2020, which provided both short- and long-term recommendations for the filter upgrades. The short-term recommendations will be completed in 2021 and 2022, and design work for the long-term recommended upgrades will begin thereafter. As noted previously, this work may move up in the schedule if funding is available due to the high priority of this work.

Scott Bieber commented that in his opinion, the Authority's water rates in the Suburban Division are too low, and he would rather see a more significant rate increase now rather than borrowing \$10 million for the capital projects. He stated he will vote no on the approval of the Plan because of this. Chairman Nagle stated that the Authority is planning on increasing rates approximately 6.75% per year which will have an impact on customers and the Authority's ability to fund projects from operating revenues in the future. Liesel Gross noted the compounding impact of these annual rate increases over the next five years will be significant but may be tempered by growth that will occur during this time period. The Authority is striving for a balanced approach, allowing rates to increase gradually as customer growth occurs, which will also support the Capital Plan. Ed Klein added that a much larger rate increase would be needed in a single year if the Authority eliminates all borrowing, and the proposed plan seeks to create the balance that Ms. Gross explained earlier. Scott Bieber said that he agrees and would not want to see a large increase in a single year but encouraged the Board to think about doubling the proposed rate increases to eliminate borrowing.

Jennifer McKenna, City of Allentown Office of Compliance, thanked Chuck Volk for his responsiveness to the City's comments on the Capital Plans. She noted she was glad to receive the Authority's response to the City's letters, and that a more comprehensive pump testing and exercising protocol will be reviewed as part of the design phase of the Little Lehigh Intake Upgrade project. The City's primary concern, as noted in their letters to the Authority, is the increased rate of water production at the Water Filtration Plant and ensuring the Authority has plans in place to provide uninterrupted service while the projects are being completed. Chairman Nagle asked where that water production increase is coming from. Liesel Gross replied that the Authority's purchase of water from the Allentown Division for the Suburban Division has increased over the past several years per the terms of the Water Purchase Agreement with the City.

On a motion by Linda Rosenfeld, seconded by Richard Bohner, the Board approved the 2022-2026 Capital Plan – All Divisions (7-1).

A roll call vote was taken with the following votes cast:

Brian Nagle – yes
Scott Bieber – no
Richard Bohner – yes
Ted Lyons – yes
Kevin Baker – yes

Linda Rosenfeld – yes

Jeff Morgan – yes

Amir Famili – yes

Suburban Division – Heidelberg Heights 2021 Sanitary Sewer Replacement Project

Chuck Volk explained that he is asking for rejection of the construction phase bids for the Heidelberg Heights 2021 Sanitary Sewer Replacement Project because the bid pricing far exceeds the budget and engineer's estimate. Also, Authority staff believe the bid is "unbalanced" due to the line-item cost for the permanent paving, which is more than three times the current average for related construction projects. It is expected that this project will be repackaged in the fall along with the 2022 phase of the project to achieve better pricing and economy of scale. Mr. Volk introduced the Authority's project manager, Jason Peters, who also commented on the increase of construction costs. Richard Bohner asked if Mr. Volk spoke with Joao Bradley regarding their high bid since they are doing a lot of work recently with the Authority. Mr. Volk said he did not. There was some Board discussion regarding the bid costs for this project.

On a motion by Scott Bieber, seconded by Ted Lyons, the Board approved the rejection of the bids for the Suburban Division – Heidelberg Heights 2021 Sanitary Sewer Rehabilitation (Phase 4) Construction Phase (8-0).

MONTHLY FINANCIAL REVIEW

Liesel Gross noted that the financial presentation was emailed to the Board and posted on the Authority website. Ed Klein reviewed the March 2021 financial statement presentation, highlighting the variances between actual expenses and budgeted or forecasted expenses. Mr. Klein then reviewed the proposed Suburban Water Division bond refinancing, including the expected sources and uses of the funds. The reason for the refinancing is due to the current low interest rates that will provide the Authority with significant debt service savings, without extending the repayment period for the debt to be refinanced. He noted the bond refinancing is expected to save the Authority \$3.9 million in future debt service costs. A Resolution will be presented to the Board for consideration at the May 10, 2021 meeting.

MONTHLY SYSTEM OPERATIONS OVERVIEW

John Parsons reviewed the March 2021 Monthly Systems Overview report, highlighting the preparations that were undertaken for an internal inspection of the Park Pump Station Force Main. Trial runs were conducted in March to establish how long the Park Pump Station could be taken out of service before risking a sanitary sewer overflow (SSO). The trial run on March 23, 2021 resulted in two small SSOs. This trial run resulted in improved protocols and emergency response details being developed for a successful inspection, which was subsequently completed on April 10, 2021. A full engineering assessment report will be provided in approximately one month. Mr. Parsons also noted a bypass that occurred on March 27, 2021 at the Kline's Island Wastewater Treatment Plant that resulted in a very small amount of flow discharged due to fault in the climber screen and improper operator response to the situation. Subsequent to this event, the plant operations staff have been re-trained to ensure proper handling of this type of situation in the future. There was some additional Board discussion regarding the Park Pump Station Force Main condition assessment.

Scott Bieber asked about the flows at the Kline's Island Wastewater Treatment Plant, which appear to be about 3 million gallons per day higher than normal. Mr. Parsons said this is normal for this time of the year with additional rainfall and an increase in industrial customers' wash-down processes.

Jennifer McKenna asked if the Monthly System Operations Report would be corrected to indicate the cause of the March 27, 2021 bypass. Ms. Gross noted that the report is accurate as presented, noting that the climber screen was the primary mechanical cause of the bypass and that Mr. Parsons correctly reported to the Board that the operator's response was a contributing factor and additional training had been provided as a corrective action. Ms. McKenna noted that she feels the report to the Board is not consistent with what was reported to DEP. John Parsons stated that the issues were reported accurately to both DEP and the Board.

STAFF COMMENTS

Liesel Gross reported that the Authority resumed its process for customer service terminations due to non-payment last week. At the same time, the Authority began accepting grant applications for the Customer Hardship Fund in April.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

Richard Bohner asked if the property damage claims related to the 2020 transmission line breaks have been concluded. Liesel Gross reported that any issues related to these claims are considered to be a legal issue and are being handled through the Authority's insurance company.

Scott Bieber asked for an update to the Trexlertown sewer capacity study. Liesel Gross said the study is near complete but there are other alternatives being examined. Additional information will be provided to the Board over the next couple of months.

EXECUTIVE SESSION

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 1:12 p.m.

Richard Bohner
Secretary

RESOLUTION No. 05-2021-1

(Duly adopted May 10, 2021)

AUTHORIZING THE ISSUANCE OF A WATER REVENUE BONDS, SERIES OF 2021, IN AN AMOUNT NOT TO EXCEED \$23,500,000 (THE "BONDS" OR "2021 BONDS"), FOR THE PURPOSE OF THE 2021 SUBURBAN WATER SYSTEM REFUNDING PROJECT (THE "PROJECT"); AND SETTING FORTH SOURCES OF PAYMENT AND TERMS OF THE BONDS; AUTHORIZING THE EXECUTION AND DELIVERY OF A SUPPLEMENTAL TRUST INDENTURE TO THE BANK OF NEW YORK ("TRUSTEE"), AND SECURING SAID BONDS BY A PLEDGE OF CERTAIN REVENUES OF THE AUTHORITY AS SECURITY FOR PAYMENT OF THE BONDS; AUTHORIZING EXECUTION AND DELIVERY OF THE BONDS FOR AUTHENTICATION; AUTHORIZING THE APPROPRIATE OFFICIALS OF THE AUTHORITY TO ACCEPT AND ENTER INTO A BOND PURCHASE AGREEMENT AND RELATED DOCUMENTATION REQUIRED ON BEHALF OF THE AUTHORITY; PROVIDING FOR THE SALE OF THE BONDS PURSUANT TO SAID BOND PURCHASE AGREEMENT; MAKING CERTAIN COVENANTS WITH RESPECT TO THE BONDS; AND AUTHORIZING OTHER NECESSARY ACTION.

WITNESSETH:

WHEREAS, the Lehigh County Authority (the "Authority") is a body corporate and politic organized by the Board of the County Commissioners of Lehigh County, Pennsylvania (hereinafter called the "County") under the Municipality Authorities Act (the Act of June 19, 2001, as amended and supplemented), of the Commonwealth of Pennsylvania (hereinafter called the "Act"), as evidenced by its Certificate of Incorporation dated September 21, 1966; and

WHEREAS, pursuant to such incorporation, as amended, the Authority owns and operates, among other things, a suburban water system (the "Water System") in the Lehigh Valley; and

WHEREAS, the Authority previously issued \$14,700,000 aggregate principal amount of its Adjustable/Fixed Rate Water Revenue Bonds, 1984 Series (the "1984 Bonds") pursuant to a Trust Indenture (the "Original Indenture"), dated as of November 1, 1984, between the Authority and First Valley Bank now by successor The Bank of New York Mellon (the "Trustee") in regard to the Authority's Water System revenues ("Water Revenues"); and

WHEREAS, the Authority, under the Original Indenture, pledged the Authority's Water Revenues as security for the Authority's 1984 Bonds and future additional bonds issued under the Original Indenture and supplements thereto, on a parity lien basis; and

WHEREAS, the Original Indenture and supplements thereto related solely to the Authority's suburban operations; and

WHEREAS, the Water Revenues pledged under the Original Indenture and supplements thereto do not relate to the Authority's City of Allentown operations but solely and exclusively to its suburban operations; and

WHEREAS, the Authority and the Trustee, or its predecessor in interest, previously entered into a series of the First through the Twelfth Supplemental Indentures in connection with the Authority's issuance of additional bonds under the Original Indenture; and

WHEREAS, the Authority, for the purpose of interest rate savings, has determined that it is in the Authority's best interest to refund the Authority's Water Revenue Bonds, Series A of 2010 (Federally Taxable Issuer Subsidy - Build America Bonds) (the "2010A Bonds"), and the Authority's Water Revenue Bond, Series A of 2015 (the "2015A Bond"), and its Pennworks Loan Series of 2007 (the "2007 Pennworks loan") (the "Project"); and

WHEREAS, the Authority and Trustee are considering entering into additional supplemental indentures, including but not limited to a supplemental indenture related to this Project; and

WHEREAS, after consultation with Concord Public Financial Advisors, Inc. ("Financial Advisor"), the Authority believes that it is in the best interest of the Authority to seek competitive bids regarding the pricing of Bonds and upon recommendation of the Financial Advisor to award the Bonds to a qualified underwriting firm ("Underwriter") or to a commercial bank ("Commercial Bank"), which has submitted the lowest overall borrowing cost; and

WHEREAS, the Authority desires to authorize the issuance of the 2021 Bonds and the undertaking of the Project, and desires to authorize the appropriate Officials to execute on behalf of the Authority a bond purchase agreement (the "Bond Purchase Agreement") or a Commercial Bank term sheet ("Term Sheet"), an official statement if deemed necessary ("Official Statement") and any related documentation as required (the "Related Documentation"), between the Authority and Underwriter and to execute and to approve the form and substance of a supplemental indenture to bear such designation as deemed appropriate by the parties (the Original Indenture as supplemented by all prior supplemental indentures, being referred to collectively as the "Indenture"); and such other documents as shall be necessary or appropriate.

NOW, THEREFORE, BE IT RESOLVED by the Board of the Lehigh County Authority as follows:

1. Authorization of the Water Revenue Bonds, Series of 2021 and the Project:

a. The Authority hereby authorizes the issuance of its Water Revenue Bonds, Series of 2021 or such other series designation as may be agreed upon by the parties, in an amount not to exceed \$23,500,000 (the "2021 Bonds") for the purpose of financing the Project, paying the cost of issuance associated with the Project and to the extent required the transfer of any monies associated with the Project to established funds under the Indenture. The 2021 Bonds shall be an obligation of the Authority and shall bear interest payable at such times and at such rates and mature as shall be specified in the Bond Purchase Agreement or Term Sheet, the Official Statement, a supplemental indenture dated the date of closing ("Thirteenth Supplemental Indenture") or such other designation deemed appropriate by the parties and the 2021 Bonds. The 2021 Bonds shall bear interest from its original date on the principal balance outstanding from time to time until the Authority's obligation with respect to the payment of the principal thereof shall have been discharged, payable as specified in the Bond Purchase Agreement or Term Sheet and Official Statement.

b. The Chief Executive Officer or the Chief Financial Officer of the Authority are hereby authorized, empowered and directed to take all such further action and execute the Thirteenth Supplemental Indenture and such additional documents and certificates as they may deem necessary and proper to carry out the purposes of this Resolution as well as to undertake and implement the Project as defined in the Preamble hereof with the advice of the Authority Solicitor and Bond Counsel, subject to such changes and modifications, if any, as may be approved by the Chief Executive Officer or the Chief Financial Officer of the Authority, the execution of the Thirteenth Supplemental Indenture to be conclusive evidence of such approval, and if required, the Authority Solicitor or Human Resources Manager are hereby authorized to cause the corporate seal of the Authority to be affixed thereto and to attest the same. The Chief Executive Officer and the Chief Financial Officer of the Authority are further authorized and directed to acknowledge the same on behalf of the Authority and to deliver the Thirteenth Supplemental Indenture to the Trustee. Persons serving in all of the above-named positions shall be deemed "Officials" for purposes of this Resolution.

c. The 2021 Bonds shall be a direct obligation of the Authority and shall be secured by and payable from the Pledged Revenues (as defined in the Indenture). The Authority has no power of taxation. The Bonds are not guaranteed by the Commonwealth of Pennsylvania, the County of Lehigh or any other political subdivision.

d. The 2021 Bonds shall be subject to prepayment of principal and to such other terms and conditions as are set forth in the Thirteenth Supplemental Indenture and the 2021 Bonds set forth therein and in the Bond Purchase Agreement and Official Statement.

e. All of the costs of issuance shall be paid by funds made available by the Authority.

2. Authorization of Thirteenth Supplemental Indenture.

a. The 2021 Bonds shall be secured by and issued under the Indenture and the Thirteenth Supplemental Indenture.

b. The Thirteenth Supplemental Indenture shall be in form and substance as shall be approved by the appropriate Officials of the Authority, with the advice of counsel to the Authority, which approval shall be conclusively evidenced by the execution thereof. The appropriate Officials of the Authority are hereby authorized and directed to execute and acknowledge the Thirteenth Supplemental Indenture.

3. Execution of 2021 Bonds - Delivery to the Trustee.

The 2021 Bonds shall be executed by the manual signature of the appropriate Official of the Authority and by the actual impression of the Authority seal thereon, all attested by the manual signature of the Solicitor or Human Resources Manager of the Authority. The 2021 Bonds shall thereupon be delivered to the Trustee for delivery to the Underwriter at Settlement.

4. Authorization and Execution of Assignment. The 2021 Bonds are secured by the Assignment. The Assignment shall be in form and substance as shall be approved by the appropriate Officials of the Authority, with the advice of counsel to the Authority, which approval shall be conclusively evidenced by the execution thereof. The appropriate Officials of the Authority are hereby authorized and directed to execute, acknowledge and deliver the Assignment.

5. Award and Sale of 2021 Bonds - Authentication and Delivery of 2021 Bonds - Application of Proceeds.

a. The Authority hereby authorizes the appropriate Officials to enter into the Bond Purchase Agreement, Official Statement and Related Documentation as required and as approved by counsel, on behalf of the Authority providing for the Authority to sell the 2021 Bonds to the Underwriter or Commercial Bank, for a

purchase price specified therein and determining the final terms and conditions of the 2021 Bonds. The Authority hereby accepts the Underwriter's or Commercial Bank's terms and conditions as specified in the Bond Purchase Agreement or Term Sheet, Official Statement and the Related Documentation, and the appropriate officers and/or officials of the Authority are hereby authorized and directed, after executing the Bond Purchase Agreement or Term Sheet and the Related Documentation, to deliver them to the Underwriter or Commercial Bank. The Authority hereby authorizes the transaction if a net present value savings of 5% of refunded principal is realized on the refinance of the 2010A Bonds, and if there is a net present value savings on the refinance of the 2015A Bond and the 2007 Pennworks loan.

b. The Trustee is hereby requested to deliver the 2021 Bonds upon the instructions of the appropriate Officials of the Authority to the Underwriter or Commercial Bank upon receipt of the purchase price thereof. Upon receipt of the purchase price for the 2021 Bonds, the Trustee shall deposit the same in the 2021 Bond Settlement Account as authorized by the Thirteenth Supplemental Indenture, and if requested to do so shall pay the costs and expenses of the financing as finally ascertained and set forth in the Closing Statement signed by the appropriate Officials of the Authority.

6. Federal Tax Code Covenants.

The Authority covenants with the registered owners of the 2021 Bonds that no part of the proceeds of such 2021 Bonds shall at any time be applied or spent for any purpose where such application or expenditure would cause, or be used directly or indirectly to acquire securities or obligations the acquisition of which would cause, the 2021 Bonds to be an "arbitrage bond" or "private activity bond" as defined in Section 103 and Section 148 of the Internal Revenue Code of 1986, as amended and supplemented (the "Code"), or under any similar statutory provision or any rule or regulation promulgated thereunder, with the effect that interest on the 2021 Bond would no longer be exempt from federal income taxes.

7. Appointment of Professionals. The Authority appoints Concord Public Financial Advisors, Inc., its Financial Advisor, and King, Spry, Herman, Freund & Faul, LLC ("King Spry") Bond Counsel, in regard to the Authority's issuance and sale of the Bonds.

8. Further Authorization to Officials. The appropriate Officials of the Authority, or any other appropriate officers of the Authority, are hereby authorized and directed to deliver the certificates required under the Bond Purchase Agreement or Term Sheet and the Thirteenth Supplemental Indenture in connection with the issuance of the 2021 Bonds, and to execute and deliver such further documents and to take such further action as may be necessary or expedient in order to carry out the

terms of the Thirteenth Supplemental Indenture and the intent and purpose of this Resolution.

9. Severability. In the event any provision, section, sentence, clause or part of this Resolution shall be held to be invalid, such invalidity shall not affect or impair any remaining provision, section, sentence, clause or part of this Resolution, it being the intent of the Authority that such remainder shall be and shall remain in full force and effect.

10. Repealer. All prior resolutions or parts thereof inconsistent herewith, are hereby repealed, but only so far as they are inconsistent.

11. Effective Date. This Resolution shall become effective immediately.

On motion of _____, seconded by _____, this resolution was adopted the 10th day of May, 2021.

Tally of Votes: Yeas _____ Nays _____

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I, Michael A. Gaul, of the law firm of King, Spry, Herman, Freund & Faul LLC, Solicitor to the Lehigh County Authority, do hereby certify that the foregoing is a true, correct and complete copy of a resolution which was duly adopted by the Authority at a public meeting of the Authority held on the 10th day of May, 2021, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting and which Resolution No. 05-2021-1 is now in full force and effect on the date of this certification.

Michael A. Gaul, Esquire
King, Spry, Herman, Freund & Faul LLC
Lehigh County Authority Solicitor

Date

Attest:

Lisa J. Miller
Executive Administrative Support Specialist

Date

RESOLUTION NO. 05-2021-2

(Duly adopted May 10, 2021)

AUTHORIZING THE EXECUTION AND DELIVERY OF AN AGREEMENT FOR THE EXCHANGE OF PROPERTY IN UPPER MACUNGIE TOWNSHIP, LEHIGH COUNTY WITH JAINDL LAND COMPANY; APPROVING THE FORM AND AUTHORIZING AND DIRECTING THE EXECUTION OF THE AGREEMENT OF SALE; AUTHORIZING THE EXECUTION OF THE NECESSARY TRANSACTIONAL DOCUMENTS IN ORDER TO IMPLEMENT THE TRANSACTION; AUTHORIZING AND DIRECTING THE PROPER OFFICERS OF THE AUTHORITY TO DO ALL THINGS NECESSARY TO CARRY OUT THIS RESOLUTION; AND RESCINDING ALL INCONSISTENT RESOLUTIONS.

WHEREAS, the Lehigh County Authority (the "Authority") is a body corporate and politic organized by the Board of County Commissioners of the County of Lehigh, Pennsylvania (the "County") under the provisions of the Pennsylvania Municipality Authorities Act, 53 Pa. C.S. §5601 et seq., as amended (the "Act"); and

WHEREAS, the Authority owns certain lots or parcels of land situate in Upper Macungie Township, Lehigh County, Pennsylvania; and

WHEREAS, Jaindl Land Company owns certain lots or parcels of land situate in Upper Macungie Township, Lehigh County, Pennsylvania; and

WHEREAS, the Authority and Jaindl Land Company have negotiated an exchange of property, as described in the proposed Agreement attached to this Resolution as Exhibit "A" (the "Agreement"), in order to better serve the interests of the Authority, and the more orderly development of the Jaindl Land Company's development known as Lehigh Hills; and

WHEREAS, the Authority has determined that the exchange of the property as set forth in the Agreement is in the best interests of the Authority and represents a fair and reasonable consideration for the transfer of the Authority's property to Jaindl Land Company; and

WHEREAS, the Authority desires and intends to take all necessary and proper actions to execute the Agreement providing for the land transfer and all documents properly document and implement the transfer; and

NOW, THEREFORE, the Board of the Lehigh County Authority hereby resolves as follows:

SECTION 1. For the purpose of improving the Authority facilities both at present and in the future, the Authority hereby authorizes the Authority's Chief Executive Officer or Chief Financial Officer ("Authority Officials") to execute and deliver the Agreement, substantially in

the form attached hereto, authorizing the exchange of property in the Lehigh Hills subdivision with Jaindl Land Company, with such modifications as deemed necessary or desirable by the Authority Official signing the Agreement, in consultation with the Authority Solicitor.

SECTION 2. The Authority has determined that the exchange of property with Jaindl Land Company represents a fair and reasonable exchange pursuant to the terms of the Agreement which includes that all costs relating to the recording of the required Deeds shall be paid by Jaindl Land Company.

SECTION 3. The Authority Officials, as well as other proper Authority officers, are individually and collectively, hereby authorized, empowered and directed on behalf of the Authority to execute any and all papers and documents, to pay all expenses incurred by the Authority in connection with this Resolution, and to do and cause to be done any and all acts and things necessary or proper for the execution or carrying out of this Resolution.

SECTION 4. All resolutions or parts of resolutions inconsistent with this Resolution shall be, and the same are, hereby rescinded, cancelled and annulled, but only insofar as inconsistent.

On motion of _____, seconded by _____, this resolution was adopted the 10th day of May 2021.

Tally of Votes: Yeas _____ Nays _____



I, Michael A. Gaul, of the law firm of King, Spry, Herman, Freund & Faul, LLC, Solicitor to the Lehigh County Authority, do hereby certify that the foregoing is a true, correct and complete copy of a resolution which was duly adopted by the Authority Board at a public meeting of the Authority Board held on May 10, 2021, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting and which resolution No. 05-2021-2 is now in full force and effect on the date of this certification.

Michael A. Gaul, Esquire Date
King, Spry, Herman, Freund & Faul, LLC
Lehigh County Authority Solicitor

Attest:

Lisa J. Miller Date
Executive Administrative Support Specialist

EXHIBIT "A" TO RESOLUTION

(attached hereto)

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 2021, by and between LEHIGH COUNTY AUTHORITY, a Municipal Authority created under the Municipal Authorities Act of 1945, having its principal office at 1053 Spruce Road, Allentown, Lehigh County, Pennsylvania 18106, hereinafter referred to as "LCA" and JAINDL LAND COMPANY, a Pennsylvania Corporation, with an address of 3150 Coffeetown Road, Orefield, Lehigh County, Pennsylvania 18069, hereinafter referred to as "Jaindl".

WITNESSETH

1. Jaindl hereby agrees to sell and convey to LCA, who hereby agrees to purchase:

ALL THOSE CERTAIN lots or parcels of land situate in Upper Macungie Township, Lehigh County, Pennsylvania, more particularly bounded and described on Exhibit "A" attached hereto and made a part hereof.

2. LCA hereby agrees and convey to Jaindl, who hereby agrees to purchase:

ALL THOSE CERTAIN lots or parcels of land situate in Upper Macungie Township, Lehigh County, Pennsylvania, more particularly bounded and described on Exhibit "B" attached hereto and made a part hereof.

3. The consideration for the sale of the parcels from Jaindl to LCA shall be the transfer of the parcels from LCA to Jaindl.

4. The Jaindl to LCA parcels and the LCA to Jaindl parcels shall be conveyed free and clear of all liens, encumbrances and easements, EXCEPTING, HOWEVER, the following: existing building restrictions, if any ordinances, if any easements of roads, if any, privileges or rights of public service companies, if any or easements or restrictions visible upon the ground, or of record. The title to the parcels shall be good and marketable, and such as will be insured by a reputable title insurance company at the regular rates.

5. Closing shall be on or before _____, 2021 at the offices of King, Spry, Herman, Freund & Faul, LLC, One West Broad Street, Suite 700, Bethlehem, Pennsylvania.

6. Conveyance of the parcels shall be by fee simple Deed of special warranty.

7. Taxes, water, sewer and any other municipal charges, if any, shall be apportioned pro rata as of the date of settlement.

8. All real estate transfer taxes imposed by any governmental body shall be paid by Jaindl.

9. In the event that LCA installs a second reservoir in this development Jaindl agrees to

reimburse LCA for the fair and reasonable cost of the installation of required buffer trees. This commitment shall survive settlement.

10. This Agreement shall not be altered, amended, changed, or modified except in writing executed by the parties.

11. This Agreement contains the entire agreement between LCA and Jaindl and there are no other terms, obligations, covenants, representations, statements, or conditions, oral or otherwise, of any kind relating to the sale and exchange of the parcels described in this Agreement.

INTENDING TO BE LEGALLY BOUND HEREBY, the parties hereto have hereunto set their hands and seals the day and year first above written.

LEHIGH COUNTY AUTHORITY

By: _____
Name: _____
Title: _____

JAINDL LAND COMPANY

By: _____
Name: _____
Title: _____

Exhibit "A"

THE PIDCOCK COMPANY

CIVIL ENGINEERING AND LAND PLANNING
ARCHITECTURE
LAND SURVEYING

Oxford Drive at Fish Hatchery Road
2451 Parkwood Drive Allentown, Pennsylvania 18103-9608
Telephone: 610-791-2252
Telefacsimile: 610-791-1256
E-mail: info@pidcockcompany.com
Website: www.pidcockcompany.com

Established 1924
J. Scott Pidcock, P.E., R.A.

Duane E. Anderson, P.E., LEED AP
Brian A. Dillman, P.E.
Ronald J. Gowdy, P.E.
Brian E. Harman, P.E., FTDE
James A. Rothdeutsch, P.E., LEED AP
John R. Russak, Jr., P.E.
Brent C. Tucker, P.E.

Douglas E. Huberbosch, P.E.
William G. Knepe, P.L.S.
Jeffrey R. Mayron
John M. McRoberts, P.E.
Brent D. Stricker, P.E.
Todd L. Sonntag, R.A., LEED AP
Anthony P. Tallorita, P.E.
Ryan R. Trautman, P.E.

G. Edwin Pidcock, P.E., P.L.S. 1924-1967
John S. Pidcock, P.E., P.L.S. 1954-1999
Ralph M. Pidcock, P.L.S. 1992-2000 (Retired)

April 25, 2019

Description of lands to be conveyed to Lehigh County Authority shown as Parcel 1, Parcel 3 and Parcel 5 on a plan titled, "Lehigh Hills Lot 5 Subdivision - Phase 2, Subdivision Plan 3 (Sheet 009 of 107), Located In Upper Macungie Township, Lehigh County, Pennsylvania", dated July 5, 2011, last revised March 12, 2019, bearing File No. S-11237, as prepared by The Pidcock Company, Allentown, Pennsylvania:

Parcel 1

Beginning at a point on the northwesterly property line of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said point being the most southeasterly corner of Lot 79 as shown on the aforementioned Subdivision Plan;

Thence (1) through lands of Jandl Land Company (recorded as Doc. Id. 7165000), along the easterly side of Lot 79, N 6°10'49" W, a distance of 45.76 feet to a point;

Thence (2) continuing through lands of Jandl Land Company along the southerly right-of-way line for Street F, N 83°52'54" E, a distance of 41.04 feet to a point in line of lands of Lehigh County Authority;

Thence (3) along lands of Lehigh County Authority, S 35°44'12" W, a distance of 61.43 feet to the point or place of beginning.

Containing 939 Square Feet.

THE PIDCOCK COMPANY - 2 -

Parcel 3

Beginning at a point on the northeasterly property line of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said point being on the southerly right-of-way line of Street F as shown on the aforementioned Subdivision Plan;

Thence (1) through lands of Jaiindl Land Company (recorded as Doc. Id. 7165000), along the southerly right-of-way of Street F, N 83°52'54" E, a distance of 108.08 feet to a point, said point being the northwesterly corner of Lot 80;

Thence (2) continuing through lands of Jaiindl Land Company, along the westerly line of Lot 80 S 6°07'06" E, a distance of 96.82 feet to a point in line of lands of Lehigh County Authority;

Thence (3) along lands of Lehigh County Authority, N 54°15'48" W, a distance of 145.11 feet to the point or place of beginning.

Containing 5,233 Square Feet.

Parcel 5

Beginning at a point on the southeasterly property line of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said point being on the westerly line of Lot 80 as shown on the aforementioned Subdivision Plan;

Thence (1) through lands of Jaiindl Land Company (recorded as Doc. Id. 7165000), along Lot 80 and partially along Lot 71, S 6°07'06" E, a distance of 171.05 feet to a point;

Thence (2) continuing along Lot 71 and partially along Lot 72, S 83°18'21" W, a distance of 154.64 feet to a point in line of lands of Lehigh County Authority;

Thence (3) along lands of Lehigh County Authority, N 35°44'12" E, a distance of 231.75 feet to the point or place of beginning.

Containing 13,226 Square Feet.



Exhibit "B"

THE PIDCOCK COMPANY

CIVIL ENGINEERING AND LAND PLANNING
ARCHITECTURE
LAND SURVEYING

Oxford Drive at Fish Hatchery Road
2451 Parkwood Drive Allentown, Pennsylvania 18103-9608
Telephone: 610-791-2252
Telefacsimile: 610-791-1256
E-mail: info@pidcockcompany.com
Website: www.pidcockcompany.com

Established 1924
J. Scott Pidcock, P.E., R.A.

Bruce E. Anderson, P.E., LPED AP
Brian A. Dillmer, P.E.
Ronald J. Garwick, P.E.
Brian E. Hazman, P.E., FICD
James A. Rothenschuh, P.E., LPED AP
John R. Rusack, Jr., P.E.
Brent C. Tucker, P.E.

Douglas E. Hobarthusch, P.E.
William G. Stmetz, P.L.S.
Jeffrey R. Maykus
John M. McRoberts, P.E.
Brent D. Shryver, P.E.
Todd L. Emery, R.A., LPED AP
Anthony F. Tselaridis, P.E.
Ryan R. Trauman, P.E.

G. Edwin Pidcock, P.E., F.L.S. 1924-1967
John S. Pidcock, P.E., F.L.S. 1959-1999
Ralph M. Pidcock, P.L.S. 1952-2000 (Retired)

April 25, 2019

Description of lands to be conveyed to Jaindl Land Company being shown as Parcel 2, Parcel 4 and Parcel 6 as shown on a plan titled, "Lehigh Hills Lot 5 Subdivision - Phase 2, Subdivision Plan 3 (Sheet 009 of 107), Located In Upper Macungie Township, Lehigh County, Pennsylvania", dated July 5, 2011, last revised March 12, 2019, bearing File No. S-11237, as prepared by The Pidcock Company, Allentown, Pennsylvania:

Parcel 2

Beginning at a copperweld (found) at the most northerly corner of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said corner being common with lands of Jaindl Land Company (recorded as Doc. Id. 7165000);

Thence (1) along the northeasterly line of Lehigh County Authority and S 54°15'48" E, a distance of 49.98 feet to a point on the northerly side of Lot 247 as shown on the aforementioned Subdivision Plan;

Thence (2) through lands of Lehigh County Authority along the northerly side of Lot 247, S 83°52'54" W, a distance of 67.10 feet to a point on the northwesterly property line of Lehigh County Authority;

Thence (3) along the northwesterly line of Lehigh County Authority, N 35°44'12" E, a distance of 44.77 feet to the point or place of beginning.

Containing 1,119 Square Feet.

THE PIDCOCK COMPANY -2-

Parcel 4

Beginning at an iron pin (found) at the most easterly corner of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said corner being common with lands of Jandl Land Company (recorded as Doc. Id. 7165000);

Thence (1) along the southeasterly line of lands of Lehigh County Authority, S 35°44'12" W, a distance of 61.29 feet to a point on the easterly side of Lot 247 as shown on the aforementioned Subdivision Plan;

Thence (2) through lands of Lehigh County Authority along the easterly side of Lot 247, N 6°07'06" W, a distance of 82.29 feet to a point on the northeasterly line of lands of Lehigh County Authority;

Thence (3) along the northeasterly line of lands of Lehigh County Authority, S 54°15'48" E, a distance of 54.91 feet to the point or place of beginning.

Containing 1,683 Square Feet.

Parcel 6

Beginning at a copperweld (found) at the most westerly corner of lands of Lehigh County Authority (recorded as DBV. 1141, Page 240), said corner being common with lands of Jandl Land Company (recorded as Doc. Id. 7165000);

Thence (1) along the northwesterly line of lands of Lehigh County Authority, N 35°44'12" E, a distance of 31.49 feet to the most southwesterly corner of Lot 247 as shown on the aforementioned Subdivision Plan;

Thence through lands of Lehigh County Authority, along the southerly side of Lot 247 the two following courses:

(2) S 56°39'14" E, a distance of 134.02 feet to a point, and

(3) S 85°18'28" E, a distance of 135.50 feet to a point on the southeasterly line of lands of Lehigh County Authority;

THE PIDCOCK COMPANY - 3 -

Thence (4) along the southeasterly line of Lehigh County Authority, S 35°44'12" W, a distance of 106.96 feet to a copperweld (found);

Thence (5) along the southwesterly line of Lehigh County Authority, N 54°15'48" W, a distance of 250.00 feet to the point or place of beginning.

Containing 12,953 Square Feet.



MEMORANDUM

Date: May 10, 2021

To: Lehigh County Authority Board of Directors
From: Charles Volk, Chief Capital Works Officer
Subject: Allentown Division – WFP 2021 Indenture Upgrades Project - Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$398,075
2 ⁽¹⁾	Professional Services Authorization – D’Huy Engineering, Inc.	\$11,000
3 ⁽¹⁾	General Construction Contract tAward – Quinn Construction	\$372,575

(1) Included in the Capital Project Authorization.

PROJECT BACKGROUND:

As a condition of the financing of LCA’s up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer’s Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. Plant staff have worked to address minor deficiencies at the Water Filtration Plant and various remote station and reservoir locations within the tight budget constraints since the inception of the annual Report, and this represents the first large capital project to address deficiencies identified at the WFP in the annual Indenture Report.

PROJECT SCOPE

This project consists of addressing primarily structural deficiencies at the Water Filtration Plant, with work located at the intake structure, filter tanks, administration building, railing mounts, miscellaneous concrete walls and walkways around the facility. Work includes concrete crack, spall, crazing, delamination and deterioration repairs.

FINANCIAL:

This Project will be funded by the LCA Allentown Division.

PROJECT STATUS:

D’Huy Engineering completed design in February 2021, the project was advertised for bid in mid-March 2021, a pre-bid meeting at the plant site was held on April 1, 2021, and bids were opened on April 22, 2021.

THIS APPROVAL – CONSTRUCTION PHASE:

The contract time for construction phase is 90 days from Notice to Proceed to substantial completion. Assuming construction phase authorization of the 5/10/21 board meeting, construction is anticipated to conclude by late Summer 2021.

BIDDING SUMMARY:

Bids were opened on 4/22/21. The project consists of one General Construction Contract. Two bids were received. Bid results are summarized below:

GENEAL CONSTRUCTION CONTRACT

Bidder	Base Bid
Quinn Construction	\$372,575
MAR-ALLEN Concrete Products, Inc.	\$394,557

The 2021 budget amount allocated for this project is \$300,000 under the WFP General Improvements (annual projects). The bid form is structured according to unit costs for various types of concrete repair work to be performed as directed; as such we are not committed to spending the total base bid amount. The installed quantities will be tracked to stay within budget.

The low bidder for the General Contract is Quinn Construction (Quinn) based in Essington, PA. Although the contractor has not previously completed work for LCA, Quinn has significant experience in concrete repair work and has completed numerous similar projects at the DELCORA Wastewater Treatment Plant in Chester, PA. We have checked their references and experience and the firm appears qualified for this work. Based upon the review of the bids, we recommend award of the Quinn, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES:

D’Huy Engineering has been our design consultant on this project and will provide construction engineering services for the project. Their work will include:

1. Conduct pre-construction conference; issue meeting minutes.
2. Prepare for and conduct two job conference meetings.
3. Review and approve contractor’s submittals.
4. Respond to Contractor requests for information (RFIs).
5. Review applications for payment and draft any necessary change orders.
6. Conduct site visits to review progress and issues raised during construction.
7. Conduct substantial and final completion inspections.
8. Prepare punch list, final project close-out and certify final payment to contractors.

PROJECT SCHEDULE:

Based on construction phase authorization on 5/10/21, the project should be completed in late Summer 2021.

FUTURE AUTHORIZATIONS: 2022 WFP Indenture Upgrade Project

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-A	BUDGET FUND:	Allentown Div\Water\Capital
PROJECT TITLE:	Allentown Division – WTP Indenture Upgrades Construction Phase	PROJECT TYPE:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment No. 1
THIS AUTHORIZATION:	\$398,075		
TO DATE (W/ ABOVE)	\$409,575		

DESCRIPTION AND BENEFITS:

This project consists of addressing deficiencies identified in the annual Indenture Report, and consists primarily of concrete repairs at the Water Filtration Plant, with work located at the intake structure, filter tanks, administration building, railing mounts, and miscellaneous concrete walls and walkways around the facility. Work consists of one contract and includes concrete crack, spall, crazing, delamination and deterioration repairs.

AUTHORIZATION STATUS:

Prior Authorizations	
<i>Design Phase – D’Huy Engineering</i>	<i>\$11,500</i>
Requested This Authorization – Construction Phase	
Construction Contract:	
Quinn Construction	\$372,575
Construction Phase Engineering Services:	
D’ Huy Engineering	\$11,000
Staff	\$7,500
Other – Permits, etc.	\$2,000
Contingencies	\$5,000
Total This Authorization	\$398,075

REVIEW AND APPROVALS:

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



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

Professional: D;HUY ENGINEERING, INC.
One East Broad St., Suite 310
Bethlehem, PA 18018

Date: May 10, 2021

Requested By: Charles Volk, P.E.

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – Water Filtration Plant Indenture Upgrades, Construction Phase

D’Huy Engineering, Inc. will perform construction administration and engineering support for the WFP Indenture Upgrade Project. Professional services will include the following:

Professional Services ⁽¹⁾
1. Pre-construction meeting coordination, attendance and follow-up
2. Prepare for and attend job conferences
3. Review and approve contractor submittals
4. Respond to Requests for Information (RFI) from contractor
5. Process payment applications
6. Process change orders as required
7. Provide part-time construction observation
8. Substantial completion inspection & punchlist preparation
9. Contract closeout administration

(1) Reference the cover Memo for additional information.

Cost Estimate (not to be exceeded without further authorization): \$11,000

Time Table and Completion Deadline: As required to meet deadlines as set forth in the construction contract.

(For Authority Use Only)

Authorization Completion:

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

MEMORANDUM

Date: April 30, 2021

To: Authority Board
From: Amy Kunkel, Chuck Volk
Subject: Suburban Division – Arcadia West Water
Storage Tank Replacement - Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$1,176,670.00
2	Construction Contract - General: DN Tanks ⁽¹⁾	\$1,027,670.00
3	Professional Services – Construction Phase Engineering and Inspection – Entech Engineering ⁽¹⁾	\$69,000.00

(1) Included in the Capital Project Authorization.

PROJECT OVERVIEW:

The Arcadia West Water System is a small “developer built” system located in Weisenberg Township that was acquired by LCA in 2003 and serves approximately 24 commercial/industrial customers and the Weisenberg Elementary School. Water storage for the system consists of a 280,300 gallon bolted steel tank. The tank was originally built in 1999 by the Arcadia Development Corporation. In addition to providing water for domestic usage, the tank also provides fire protection to the industrial customers through high service booster pumps.

An evaluation of the tank was performed by Suez in 2018, which noted corrosion of the tank on both interior and exterior surfaces and provided recommendations for improvements for regulatory compliance, which included recommendations for a new coating system. The inspection also noted two leaks under the tank floor. In addition, two holes in the tank walls have been repaired in the last few years. Seasonal leaks have developed at bolt hole locations and there is concern that continued tightening of the bolts by LCA personnel will result in stripping of the bolts. In 2019 LCA contracted with Entech Engineering to perform a condition assessment and prepare an engineering feasibility study to evaluate options for the repair or replacement of the tank, while maintaining service and fire protection to customers. The report evaluated the following options: repairing and recoating the existing tank, construction of a new welded steel tank, and construction

(1)
(1)

of a new concrete tank. The option recommended by Entech and ultimately selected by LCA was to replace the tank with a new concrete tank built adjacent to the existing tank.

The new tank is proposed to be built adjacent to the existing tank, and will include foundation construction, water main connections, minor electrical and instrumentation alterations, and related site work. The existing tank and foundation will be demolished and removed once the new tank is constructed and operational. As the existing tank forms one exterior wall of the existing pump station building, a new block wall will be constructed once the old tank is demolished.

FUNDING:

This Project will be funded by the LCA Suburban Division

BUDGET AMENDMENT

Not required for this approval

PROJECT STATUS:

Pending Board approval of the Construction Phase.

THIS APPROVAL-CONSTRUCTION PHASE

BIDDING SUMMARY

This project consists of one contract. The project was advertised for bid on March 29, 2021. A pre-bid meeting was held on-site on April 8, 2021. Bids were received via PennBid on April 22, 2021, the results of which are as follows:

General Construction	
Bidder	Bid Amount
DN Tanks, LLC	\$1,027,670
Preload, LLC	\$1,443,750

Both DN Tanks and Preload are nationally known pre-cast, wire-wound concrete tank manufacturers and installers. Since site work is a minimal part of this project relative to overall cost, both companies elected to bid the project as the General Contractor, and that is the reason that there were only two bids submitted. DN Tanks has constructed thousands of concrete tanks throughout this country and the world and is well qualified for this installation. Reservoir 5 and the Pretreatment Plant Flow Equalization Basin were both constructed by Natgun Corporation, which merged with DKY, Inc. to form DN Tanks. The bid documents are in order and the company appears well qualified to perform the work.

The construction cost for the project is \$1,027,670 and the Engineer's construction cost estimate was \$957,605. Both bidders reported difficulty in finding local site contractors to provide pricing, and that impacted the bid prices.

PROFESSIONAL SERVICES:

Construction engineering and part-time inspection services are to be performed by Entech Engineering. They recently provided these services for the Wynnewood and Sand Spring Wastewater Treatment Plants.

PROJECT SCHEDULE:

Based on contract award following the May 10, 2021 Board meeting, it is anticipated that the project will be completed by Spring 2022.

FUTURE AUTHORIZATIONS:

None

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	SD-W-20-2	BUDGET FUND:	Suburban Div\Water\Capital
PROJECT TITLE:	Arcadia West Water Storage Tank Replacement	PROJECT TYPE:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
THIS AUTHORIZATION:	\$1,176,670		
TO DATE (W/ ABOVE)	\$1,314,770		

DESCRIPTION AND BENEFITS:

This Project is for the replacement of the Arcadia West bolted steel water storage tank with a new concrete tank of the same volume built adjacent to the existing tank. Construction includes demolition and removal of the original tank, site work and related mechanical and electrical work. Entech Engineering will be used for the construction engineering and inspection services. This authorization takes us through construction phase.

Reference the attached Memorandum for additional information.

Previous Authorizations	
Design Phase	\$138,100

REQUESTED THIS AUTHORIZATION	
Construction Phase	
Staff	\$30,000
Professional Services	
Construction Engineering and Inspection – Entech Engineering	\$69,000
Construction – DN Tanks	\$1,027,670
Contingency	\$50,000
Total This Authorization	\$1,176,670

Future Authorization	
None	

<i>Total Estimated Project</i>	<i>\$1,314,770</i>
--------------------------------	--------------------

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
(610)398-2503 * FAX (610)398-8413

PROFESSIONAL SERVICES AUTHORIZATION

Professional: Entech Engineering, Inc.
201 Penn Street
PO Box 32
Reading, PA 19603

Date: April 30, 2020

Requested By: Amy Kunkel

Approvals

Department Head: _____

Chief Executive

Officer: _____

Suburban Division- Arcadia West Water Storage Tank Replacement

Previous Authorizations- Design Phase: \$68,100

This Authorization – Construction Phase: \$69,000

Entech Engineering, Inc will provide construction engineering and part-time inspection related services for the aforementioned project.

Professional Services
1. Attend Pre-Construction Meeting and Prepare/distribute Minutes
2. Attend Progress Meetings
3. Respond to design related RFIs
4. Log, review and process shop drawing submittals
5. Provide part-time inspection services
6. Review Contractor applications for payment, recommend applications for payment
7. Attend Substantial and Final Completion Inspections, compile punch list for contractor work completion
8. Compile and review as-built drawings from Contractor

Cost Estimate (not to be exceeded without further authorization): **\$ 137,100**

Time Table and Completion Deadline: As required to meet design timeline requirements

(For Authority Use Only)

Authorization Completion:

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



Lehigh County Authority

MEMORANDUM

Date: April 29, 2021

To: John Parsons, Chief Operating Officer
Liesel Gross, Chief Executive Officer
Edward Kline, Chief Financial Officer
Patricia Walck, Purchasing Manager

From: Gerald Charvala, Suburban Operation Manager
LCA Suburban Operations Division

Re: Emergency Work at Meadowyck Townhouse Complex, Central Lehigh Division

Date of emergency: April 23, 2021

Description: We have a leak on the 8" water main that goes through this complex. The issue is that the main is 15-17' deep along this stretch, is on a steep slope and runs about 4ft away from the building's foundation as well as the fact that this area has a sinkhole prone geology as well. To excavate to this depth, we would be undermining the foundation of the building with no way to stabilize the building itself therefore compromising its integrity. The front steps to the building would also have to be removed to access this area. We have had a leak(s) in this area before but never next to the building, so we were successful in making the repair, as it was out in the open field away from all buildings and pools. We suspect that when the contractor brought that area up to grade (11-17') to construct the building, pool deck and in ground pools, they used material that has corrosive properties in it because of the leaks that have been developing in that area.

Actions: Therefore, considering the past and ongoing issues with this section of main, the hazards of depth, slopes and proximity to buildings and structures. We believe it would be in the best interest of LCA to install a new main in a better location, which will be out of the influence of these issues. We will be laying around 500' of 8" DI, two wet taps (to alleviate outages), 8X4 tee and 4" valve for the Club house 1.5" service line. This work is scheduled to start Thursday April 29,2021 and be completed by Wednesday May 5 ,2021. Please see attached map for the proposed location.

Emergency Cost:

Scheurmann Excavating, Inc. \$98,885.60

Other Materials: Core and Main \$1306.73.

A retroactive emergency declaration will be asked of the LCA Board of Directors at the next scheduled meeting on May 10, 2021.

MEMORANDUM

Date: May 10, 2021

To: Lehigh County Authority Board of Directors
From: Charles Volk, Chief Capital Works Officer
Subject: Allentown Division – KIWWTP: 2021 Indenture Upgrades Project - Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$538,778
2 ⁽¹⁾	Professional Services Authorization – D’Huy Engineering, Inc.	\$15,000
3 ⁽¹⁾	Contract No. 1 (General) Award – Blooming Glen Contractors.	\$386,923
4 ⁽¹⁾	Contract No. 2 (Painting) Award – AFN USA, Inc.	\$71,855

(1) Included in the Capital Project Authorization.

PROJECT BACKGROUND:

As a condition of the financing of LCA’s up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer’s Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. Plant staff have worked to address minor deficiencies within the tight budget constraints since the inception of the annual Report, and this represents the first large capital project to address deficiencies identified at KIWWTP in the annual Indenture Report.

PROJECT SCOPE

This project consists of addressing primarily structural deficiencies at KIWWTP, with work located at the Administration Building, Main Pump Station, Auxiliary Pump Station, Primary Sludge Pump Station, Effluent Pump Station, and Plastic Media Trickling Filters. Work includes roof coping and flashing repairs, masonry repointing and injection grouting, door and window lintel replacement, concrete crack repair and resurfacing, and primary clarifier effluent pipe painting.

FINANCIAL:

This Project will be funded by the LCA Allentown Division.

PROJECT STATUS:

D’Huy Engineering completed design in February 2021, the project was advertised for bid in mid-March 2021, a pre-bid meeting at the plant site was held on March 25, 2021, and bids were opened on April 19, 2021.

THIS APPROVAL – CONSTRUCTION PHASE:

The contract time for construction phase is 90 days from Notice to Proceed to substantial completion. Assuming construction phase authorization of the 5/10/21 board meeting, construction is anticipated to conclude by late Summer 2021.

BIDDING SUMMARY:

Bids were opened on 4/19/21. The project consists of a General Construction Contract (No 1) and a Painting Contract (No. 2). The bid results are summarized below:

CONTRACT NO. 1:

Bidder	Base Bid Results
Blooming Glen Contractors	\$386,923
JEV Construction	\$424,750
Michael Ronca & Sons	\$521,000

CONTRACT NO. 2:

Bidder	Base Bid Results
AFN USA, LLC	\$71,855
No other bids	

The total of the base bids for both contracts is \$458,778. The 2021 budget amount allocated for this project is \$500,000 under the KIIWWTP General Improvements (annual projects).

The low bidder for the General Contract is Blooming Glen Contractors (Blooming Glen) based in Skippack, PA. The contractor has significant experience in water and wastewater facility construction projects in eastern PA. Blooming Glen was the General Contractor for the Park Pump Station Upgrade and the Kohler Pump Station, and is currently in the final stages of construction on the Buss Acres Well Station Upgrade. Blooming Glen has also provided support services at KIIWWTP, and recently assisted with the Park Pump Station force main investigation. The contractor is well qualified for this work. The documents submitted with the bid are complete and in accordance with the bidding requirements. Based upon the review of the bids, we recommend award of the General Contract to Blooming Glen, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

The low bidder for the Painting Contract is AFN USA, Inc. (AFN), based in Hellertown, PA. AFN has significant similar project experience with water and wastewater facility mechanical and structure coatings and concrete repairs, and completed several painting projects at LCA facilities, including the 2020 WFP Low Lift Pump Area Painting Project. AFN is well qualified for this work. The documents submitted with the bid are satisfactory. Based upon the review of the bids, we recommend award of the Painting Contract to AFN, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES:

D'Huy Engineering has been our design consultant on this project and will provide construction engineering services for the project. Their work will include:

1. Conduct pre-construction conference; issue meeting minutes.
2. Prepare for and conduct job conference meetings.
3. Review and approve contractor's submittals.
4. Respond to Contractor requests for information (RFIs).
5. Review applications for payment and draft any necessary change orders.
6. Conduct site visits to review progress and issues raised during construction.
7. Conduct substantial and final completion inspections.
8. Prepare punch list, final project close-out and certify final payment to contractors.

PROJECT SCHEDULE:

Based on construction phase authorization on 5/10/21, the project should be completed in late Summer 2021.

FUTURE AUTHORIZATIONS: 2022 Indenture Upgrade Project

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-A	BUDGET FUND:	Allentown Div\WW\Capital
PROJECT TITLE:	Allentown Division – KIWWTP Indenture Upgrades Construction Phase		PROJECT TYPE:
		<input checked="" type="checkbox"/>	Construction
		<input type="checkbox"/>	Engineering Study
THIS AUTHORIZATION:	\$538,778	<input type="checkbox"/>	Equipment Purchase
TO DATE (W/ ABOVE)	\$552,278	<input type="checkbox"/>	Amendment No. 1

DESCRIPTION AND BENEFITS:

This project consists of addressing deficiencies identified in the annual Indenture Report, and consists primarily of structural repairs at KIWWTP, with work located at the Administration Building, Main Pump Station, Auxiliary Pump Station, Primary Sludge Pump Station, Effluent Pump Station, and Plastic Media Trickling Filters. Work includes roof coping and flashing repairs, masonry repointing and injection grouting, door and window lintel replacement, concrete crack repair and resurfacing, and primary clarifier effluent pipe painting. The project consists of a General Contract and a Painting Contract.

AUTHORIZATION STATUS:

Prior Authorizations	
<i>Design Phase – D’Huy Engineering</i>	<i>\$13,500</i>
Requested This Authorization – Construction Phase	
Construction Contracts:	
General Contract: Blooming Glen Contractors	\$386,923
Painting Contract: AFN USA, Inc.	\$71,855
Construction Phase Engineering Services:	
D’ Huy Engineering	\$15,000
Staff	\$10,000
Other – Permits, etc.	5,000
Contingencies	\$40,000
Total This Authorization	\$538,778

REVIEW AND APPROVALS:

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



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

Professional: D;HUY ENGINEERING, INC.
One East Broad St., Suite 310
Bethlehem, PA 18018

Date: May 10, 2021

Requested By: Charles Volk, P.E.

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – KIWWTP Indenture Upgrades, Construction Phase

D’Huy Engineering, Inc. will perform construction administration and engineering support for the KIWWTP Indenture Upgrade Project. Professional services will include the following:

Professional Services ⁽¹⁾
1. Pre-construction meeting coordination, attendance and follow-up
2. Prepare for and attend job progress meetings
3. Review and approve contractor submittals
4. Respond to Requests for Information (RFI) from contractor
5. Process payment applications
6. Process change orders as required
7. Provide part time construction inspection
8. Perform substantial completion inspection & punchlist preparation
9. Contract closeout administration

(1) Reference the cover Memo for additional information.

Cost Estimate (not to be exceeded without further authorization): \$15,000

Time Table and Completion Deadline: As required to meet deadlines as set forth in the construction contract.



(For Authority Use Only)

Authorization Completion:

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

FINANCE & ADMINISTRATION

ACTION ITEM

1. Suburban Water Bond Refinancing – Resolution 05-2021-1 – May 10, 2021

At the May 10, 2021 meeting, the LCA Board will be asked to approve a “parameters resolution” to authorize refinancing of a portion of the Suburban Division Water Bonds so long as the refinancing falls within the parameters established in the resolution.

2. Real Estate Transaction: Reservoir 1 / Lehigh Hills – Resolution 05-2021-2 – May 10, 2021

The developer of the Lehigh Hills development in Upper Macungie Township (Jaindl Land Company) has approached LCA to discuss a lot line reconfiguration on LCA’s existing Reservoir No. 1 site to accommodate the layout of the development. The lot line adjustment results in the exchange of two small parcels or similar size and value. LCA’s primary concern relates to retaining adequate property to allow for additional water storage facilities to be constructed in this area. Plans were submitted to LCA which depicted the lot line reconfiguration, along with siting for a future reservoir and landscape screening. Upper Macungie Township has reviewed the plan and issued a letter indicating that a future reservoir would be permitted by right and that all setbacks outlined in the plan comply with current zoning. Therefore, an agreement of sale for the lot line reconfiguration was drawn up by the developer’s engineer and a title search was conducted by LCA’s solicitor. Resolution 05-2021-2 has been prepared for the Board’s consideration at the May 10, 2021 meeting to complete this real estate transaction.

DISCUSSION ITEMS

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
26-Apr-21			Gross	Date of	Date	Net Rate
Fund	Bank	Location	Amount	Purchase	Due	%
Cons Wtr (2)	Finwise Bank	Sandy, UT	245,000.00	2/26/21	2/27/23	0.100
Cons Wtr (2)	Cinfed FCU	Cincinnati, OH	249,000.00	3/4/21	3/6/23	0.150
WW Capac	Parkway Bank and Trust Company	Harwood Heights, IL	245,000.00	3/30/21	3/30/23	0.150
WW Capac	Webbank	Salt Lake City, Ut	248,000.00	4/30/21	5/1/23	0.200

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

Developments

Water system construction is occurring in the following developments:

- 8323/8449 Congdon Hill Drive, 2 industrial lots with warehouses, LMT
- 8615/8783 Congdon Hill Drive, 2 industrial lots with warehouses, LMT
- Fields at Indian Creek, Phases 4 & 5, 86 residential units (sfd), water and sewer, UMiIT & Emmaus
- Kohler Tract, 123 residential lots (sfa), water and sewer, UMiIT
- Hidden Meadows, Phase 2, 86 townhouse units (sfa), UMT
- Lehigh Hills, Lot 5 Phase 2, 240 residential units (sfd.), UMT
- Lehigh Hills Townhouses, 24 townhouse units (sfa), UMT
- Shepherds Corner, 1 commercial lot, LMT

Water system plans are being reviewed for the following developments:

- 749 Route 100, 1 industrial lot with warehouse, UMT
- 1047 Cetronia Road, 8-unit apartment building, UMT
- 5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT
- 5420 Crackersport Road, 1 commercial lot, UMT
- ABE Doors & Windows Redevelopment, 1 commercial lot, LMT
- ATAS International, 1 industrial lot, UMT
- Estates at Maple Ridge, 30 residential units (sfd), UMiIT
- Laurel Field, Phase 5, 25 townhouses, UMT
- Madison Village at Penn's View, 66 manufactured homes, 1 lot, water and sewer, LynnT
- Mertztown Residential Subdivision, 264 sf units & 136 townhouse units, LMT
- Mosser Road Subdivision, 10 sf units, UMT - New
- Mountain View Estates, 27 residential units (sfd), LMT
- Parkland Crossing (formerly 1224 Weilers Rd Twins), 144 townhouse units, UMT
- Ridings at Parkland – Phase 2, 38 residential units (sfd), NWT
- Schoeneck Road, Lot 1, 1 lot warehouse, LMT
- Sheetz – Cetronia Road, 1 commercial lot, UMT
- The Annex at Fields at Indian Creek, 22 S.F. residential units, Emmaus Borough
- Towneplace Suites by Marriott, 91-room hotel, UMT
- West Hills Business Center-Bldg H – 1 Commercial Lot, Weisenberg T

Sewage Facilities Planning Modules Reviewed in Prior Month:

- The Annex at the Fields at Indian Creek, Emmaus, 4,683 gpd.
- 1204 Voortman Avenue Minor Subdivision, Salisbury, 494 gpd.
- Flex Building - Hausman Road, SWT, 1,000 gpd.
- Whitehall Parkway Pavilion, Whitehall, 600 gpd.
- 932 Hamilton Apartments, Allentown, 23,914 gpd.
- Hotel Hamilton, SWT, 7,508 gpd.

WATER

ACTION ITEM

1. **Allentown Division – Water Filtration Plant: 2021 Indenture Upgrades – Construction Phase Authorization – May 10, 2021**

As a condition of the financing of LCA's up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer's Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. This project consists of addressing structural deficiencies at the Water Filtration Plant, with work located at various concrete structures in exterior areas. D'Huy Engineering completed design in February 2021, the project was advertised for bid in late March 2021, and bids were opened on April 22, 2021. Award of bids and construction phase authorization is to be requested at the May 10, 2021 LCA Board meeting.

2. **Suburban Division – Arcadia West Water Storage Tank Replacement - Construction Phase Authorization – May 10, 2021**

The Arcadia West water storage tank has had several leaks in recent years and the coating system has reached the end of its useful life. A condition assessment study was done in 2019 which determined that the most cost-effective solution is to replace the aging tank with a new concrete tank. This project is for the replacement of the existing steel tank with a new tank of the same size, demolition of the existing tank, and miscellaneous yard piping and site work. Entech Engineering completed design in March 2021, the project was advertised for bid in late March 2021, and bids were opened on April 22, 2021. Award of bids and construction phase authorization is to be requested at the May 10, 2021 LCA Board meeting.

3. **Suburban Water Division Emergency Declaration – Water Main Relocation – May 10, 2021**

A water main break in the Meadowyck townhouse development in Lower Macungie Township occurred on April 23, 2021. However, due to the extreme depth of the water line (15-17 feet deep) and close proximity to a nearby building foundation, the most appropriate solution is to immediately relocate the water main to a more suitable location and ensure proper materials and backfilling to prevent recurrence. Due to the active leak at the site, this water main location was completed on an emergency basis and a retroactive emergency declaration will be requested at the May 10, 2021 LCA Board meeting.

DISCUSSION ITEMS

INFORMATION ITEMS

1. **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 from 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 to the constant speed pump. Board approval was granted at the 8/12/19 Meeting for the design phase of this project, and the design was substantially completed in 2020. The design engineer also completed an "Arc-Flash" study in 2020 to identify related

electrical deficiencies at the WTP. Final design engineering work resumed in September 2020 following execution of the amended Lease Agreement with the City. Capital Works met with a representative of PennVEST on 9/18/20 to discuss an upcoming application submission and final design completion schedule. Final design was completed in November 2020. Capital Works' submitted the funding application and supporting documentation to PennVEST by the 11/4/20 application submission deadline for the 1/20/21 PennVEST meeting. The application for funding was approved at the 1/20/21 PennVEST meeting, and the construction bids were opened on 3/8/21. The board authorized award of construction phase contracts at the 3/22/21 board meeting. The PennVEST settlement paperwork will be drawn up for submission to PennVEST in May, and notice to proceed for the construction contracts is pending loan settlement. **(No Change)**

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

The project features 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 (Jasper Ridge). 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 and a preconstruction meeting was held on 6/25/19. The NPDES permit was issued on 3/9/20 and a pre-mobilization teleconference was held on 3/19/20. As of April 2021, construction is more than 96% complete. The contractors are addressing the remaining punch list items. The station went on-line on 11/19/20. **(No Change)**

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

The project will include setting up a surface water flow-monitoring network for the Little Lehigh Creek. The work is in response to the Watershed Monitoring Plan that was developed and reported to LCA by AI Guiseppe (SSM, Inc.) in 2017. In 2018, USGS selected the Delaware River Basin to pilot the National Next Generation Integrated Water Observing System (NGWOS). The Little Lehigh Watershed was picked as a targeted area of the NGWOS Project and additional surface water and ground water monitoring stations will be developed. USGS and LCA met on 11/19/2019 to discuss the proposed monitoring stations and the program in general. A follow up meeting was held on 12/16/2019. USGS and LCA have now found all three GW monitoring wells, LE860, LE 861 and LE862, who's usage had all been discontinued decades ago and their locations were presently unknown. USGS is now checking the viability of using them again. USGS has now completed the installation of (4) new surface water (SW) Gauging Stations in the Little Lehigh Watershed and all are collecting data. Two additional SW stations need to be relocated because of the intermittent streams they were originally planned to monitor. Additional ground water (GW) flow monitoring stations are in the planning stages. All six (6) Fybr sites are currently collecting flow data and the calibration process is expected to last several months. Four (4) out of eight (8) planned weather stations are currently operational and are recording data. **(No Change)**

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

The project consists of the consolidation and replacement of two well stations with a single new pump station and a new water storage tank to replace two antiquated hydropneumatic pump stations. The new station will be a variable frequency drive controlled double pumping system with full SCADA control. The design will include radon reduction elements and also accommodate the future installation of additional radon removal equipment, to be implemented upon DEP's mandate of a regulatory limit. The project is in construction phase. The Notice to Proceed was issued to the contractors on 9/24/19. Construction began in February 2020 and is approximately 90% complete. Equipment delivery delays from the pre-cast building manufacturer

have slowed the progress of this project. Substantial completion is anticipated to be in June 2021, with start-up operations scheduled for May and June 2021. **(No Change)**

5. **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 2019 with the remaining to be replaced in 2020 under separate authorization. The new units have a 20-year battery life and are compatible with the new meter reading software purchased in 2017. This project will replace 100% of the remaining old style radio units over a two-year period. Construction phase services for the first round of 10,000 units was approved at the 5/13/19 Board meeting. Construction began in July 2019 and a change order was issued to the contractor for the installation of the remaining transceiver units that were originally scheduled for replacement in 2020, in order to expedite the completion of the work under the program and take advantage of favorable contract unit pricing. The project is in final closeout. **(No Change)**

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

This Project focuses on the development of an additional well for the Madison Park North (MPN) system per DEP guidelines to have a backup source of water supply. An agreement is in place with an adjoining property owner to MPN to drill a test well on their property. The "step drawdown test" was performed on 3/26/19 and indicated that the test well is a viable backup source to Well 1. A Pre-Drilling and Aquifer Test Plan was approved by DEP in late September of 2019. Authorization was granted at the June 22 Board meeting for aquifer testing of the proposed well as per the combined Pre-Drilling and Aquifer Test Plan. Well testing was performed in August in coordination with LCA's engineer. Testing was halted upon discovery of a water bearing zone blocked by casing pipe grouting. A second test well location has been identified on the same property and well drilling has been completed with positive results. Test Well 2 is more productive than the existing source for the system (Well 1). A sustained aquifer test of Well 2 was performed in March; however, an unpredicted heavy rainfall event invalidated the test. Another aquifer test will be completed as soon as hydrogeologic conditions are favorable, with DEP permitting to follow. **(No Change)**

7. **Allentown Division – 36" DI Water Main Condition Assessment**

Water distribution system consultant Gannett Fleming, Inc is working with Pure Technologies to develop a condition assessment project focusing on the 36" ductile iron transmission line that feeds the north end of Allentown and Huckleberry Ridge Reservoir. This line has had two recent major failures and it would be beneficial to determine if there is a root cause for these failures that can be corrected to prevent further damage and water loss. The work was performed on December 14-15, 2020. A full report will be available ASAP. **(No Change)**

8. **Suburban Division – Fixed Base Meter Reading Stations**

The project focuses on securing land development and zoning approvals to construct eight fixed base water meter reading stations located throughout the Suburban Division water service area. The land development and zoning approvals will allow for the future construction of the stations as part a program to transition to a centralized advanced metering infrastructure system which will provide more consistent, timely and accurate billing to the customers. Approval of a consulting engineer to provide the site development engineering services will be requested at a future Board meeting. **(No Change)**

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

The project is for the annual replacement of aged and/or failing cast iron water mains in multiple locations throughout the City, in accordance with the new amended lease requirements (one mile per year), based on the design engineer's risk prioritization protocol. The design engineer (Gannett Fleming) halted work on Cycle 5 in 2019 following City Compliance office acceptance

of the Cycle 5 main replacement prioritization, pending available funding. LCA restarted Cycle 5 design phase for construction in 2021 of a water main replacement project. As of November 2020, LCA began the process of negotiations for cost sharing agreement with the City for road surface restoration. In December 2020 LCA formally submitted the substantially complete plans and specifications to the City for approval, and City comments were reviewed on January 19, 2021. The project was advertised for bid on March 1, 2021, pre-bid meeting was held on March 17, 2021, and bids opened on March 31, 2021. The Board authorized bid award and approval for the construction phase of this project at the April 12, 2021 LCA Board meeting. It is anticipated that construction will begin mid to late May 2021.

WASTEWATER

ACTION ITEM

1. **Allentown Division – Kline's Island WWTP: 2021 Indenture Upgrades – Construction Phase Authorization – May 10, 2021**

As a condition of the financing of LCA's up-front concession payment to the City, LCA entered into a Trust Indenture with the Manufacturers and Traders Trust Company that requires the preparation of an annual Consulting Engineer's Report (Report). The Report, which is prepared each year by Arcadis, documents the condition of the water and wastewater facilities (KIWWTP and WFP) based on physical inspections by the engineer, identifies repairs and upgrades required, and reflects progress made in addressing deficiencies. This project consists of addressing structural deficiencies at KIWWTP, with work located at the Main Pump Station, Auxiliary Pump Station, Effluent Pump Station, and Plastic Media Trickling Filters. Work includes masonry repointing and restoration, door and window lintel replacement, concrete crack repair and resurfacing, and pipe painting. D'Huy Engineering completed design in February 2021, the project was advertised for bid in mid-March 2021, and bids were opened on April 19, 2021. Award of bids and construction phase authorization is to be requested at the May 10, 2021 LCA Board meeting.

2. **Allentown Division – Kline's Island WWTP: Solids Process Boiler and HVAC System Upgrade Project – Design Phase Authorization – May 24, 2021**

The solids process boiler system is more than 25 years old and provides critical heat to the anaerobic digesters and solids dewatering and processing buildings. The equipment has reached the end of its service life, and replacement of the equipment is identified as a near-term (0 – 5 years) project priority in the KIWWTP Master Plan. This project includes replacement of the boilers and associated solids processing HVAC equipment. A preliminary engineering Basis of Design Report was prepared by GHD Engineering and submitted to the City Office of Compliance in January 2021. The City granted approval of the report in a letter dated 3/22/21 and the project is classified as a Major Capital Improvement. Approval of design phase engineering is to be requested at the May 24, 2021 LCA 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 – Kline's Island WWTP: Max Monthly Flow Capacity Evaluation**

DEP has noted that the KIWWTP has been performing at a high level and meeting its permitted effluent quality limits during a period of prolonged wet weather since early 2018. This study will provide the basis for confirming the plant's maximum monthly average that can be sustained during prolonged periods of wet weather – while remaining in full compliance with effluent quality requirements of the plant's permit. Approval of the study was granted at the 8/26/19 Board Meeting. The study was completed in mid-October 2019 and a Part II Permit was sent to DEP on

10/18/19. The permit was resubmitted in late January 2021 (without formal action yet taken by DEP on the Interim Act 537 Plan - submitted in September 2020). This project is considered an AO expense under terms of the Lease and is City funded. **(No Change)**

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

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

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

Following several months of discussion with the Pennsylvania Department of Environmental Protection (PA-DEP), all municipalities flowing into the Kline's Island Wastewater Treatment Plant have agreed to complete an Interim Act 537 Plan ("Interim Plan") by September 2020. This Interim Plan will primarily consist of projecting new connections to the regional sewer system from 2021 through 2025 and outlining steps to be taken during this timeframe to prepare a full Regional (Long-Term) Act 537 Plan ("Regional Plan"). This two-step planning process has been developed to allow all municipalities to work cooperatively toward a Regional Plan to meet future sewer capacity needs of the region, and to provide proper regulatory oversight and control of new connections to the system while the Interim Plan is in force from 2021 to 2025. To begin the process of compiling the Interim Plan, a consulting engineer has been preliminarily retained, and approval of their full Professional Service proposal was granted at the February 10, 2020 Board meeting. Costs associated with the development of the Interim Plan will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. As of late August 2020, the Interim 537 Draft is 100% completed and was delivered to sixteen planning commissions on 3/16/2020. Planning commission meetings occurred with public advertisement opening on 6/10/20 and closing on 7/10/20. Municipal resolution adoptions occurred in August and the Plan was delivered to DEP on 9/4/20. In late January 2021, DEP requested an additional 60 days to review the Interim Act 537. As of late April 2021, no formal response has been received. The KISS Region is proceeding on schedule with its commitments as outlined in the Plan.

5. **Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Sewage Billing Meter QA/QC Data Analytics and 2021 Flow Metering Preparation**

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare modeling and identify the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering will include a mix of temporary meters and the existing sewage billing meters. Data delivery and storage procedures, quality assurance, and flow analytics were implemented in 2020 for these sewage billing meters. Without this meter development program, the data cannot be used from these billing meters. A consulting engineer's professional service proposal was granted at the April 27, 2020 Board meeting. Costs associated with the development of the QA/QC data analytics and the 2021 flow metering preparation will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use

of the Administrative Order Fee. As of late April 2021, the flow metering program will utilize 22 existing sewer billing meters.

6. **Regional Act 537 Plan Alternatives Analysis: Pretreatment Plant Upgrade Option**

To begin the process of developing the long-term Regional Act 537 Plan, the evaluation of the LCA Pretreatment Plant Alternatives was identified as an immediate need to assist with completing the full alternatives analysis to be completed within the next five years. The alternative to upgrade the Pretreatment Plant to full treatment was previously evaluated in the 2011-2016 timeframe. Additional study is required to fully evaluate the facility's capacity to treat current and future dry-day, wet-weather, and peak flows. To complete this evaluation, LCA staff has received proposals for two engineering firms that will serve in Program Manager and Technical Lead roles. The Program Manager will oversee all alternatives being evaluated at both the Pretreatment Plant and Kline's Island Wastewater Treatment Plant in Allentown as the Act 537 Plan is being developed. The Technical Lead will provide specific engineering and treatment plant modeling services to support evaluation of the Pretreatment Plant alternatives. Board approval for these professional services authorizations was granted at the 8/24/2020 meeting. Final reports are expected by June 2021. **(No change)**

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

Future flow metering work is anticipated over the next several years for both the Western Lehigh service area as well as the entire regional Kline's Island Sewer System. In 2020, the Western Lehigh group will conduct flow metering for a period of eight months to gather additional data on inflow and infiltration and the impact of prior rehabilitation work. It is anticipated that more extensive flow metering will be required in 2021 and 2022 to develop a Regional Plan. Approval of a Professional Services Authorization and three-year contract with Flow Assessment Services was granted at the February 10, 2020 Board meeting. On February 10, 2020, the Board approved a Professional Services Authorization for Arcadis to provide quality assurance and data analysis services for the 2020 flow monitoring program. As of late April 2021, data collection is 100% completed and the Rain Derived I&I (RDII) analysis is underway with each individual Signatory.

8. **Suburban Division – Western Lehigh Service Area: 2020 Sewer Modeling**

The Western Lehigh Sewer Partnership (WLSP) hydraulic model has been calibrated using 2019 flow meter and rainfall data and is available to support long-term Act 537 planning for the Western Lehigh Interceptor (WLI). Five separate modeling tasks will be performed in order to facilitate broader Kline's Island Sewer System (KISS) planning need discussions. The results of this 2020 modeling will help to inform further future modeling decisions and alternative analyses that will occur during the full KISS model calibration period in 2022. A consulting engineer has been retained and full authorization was granted at the 5/11/2020 Board meeting. A presentation was presented to the Board at the 8/10/20 Board Meeting. Various modeling alternatives are still ongoing and the full model results will be available by the second quarter of 2021. The project is funded by the LCA Suburban Division. **(No change)**

9. **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. LCA will conduct a limited manned inspection (tentatively Q2 of 2021) 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. Three, one-day trial runs (on a Saturday) were completed in Q4 of 2020 to verify the amount of time available to keep Park Pump Station offline. Full scale evaluations were done on April 10, 2021. Details are being assembled by Arcadis and a full report will be available ASAP.

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 with respect to corroded structural steel tanks and outdated mechanical equipment and is to be replaced with this project. The new facility shall meet the effluent limits criteria established in the 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 was substantially completed in October 2020, with testing, start-up and training tasks completed. Construction is approximately 99% complete as of November 2020. Outstanding work consists of final restoration. **(No Change)**

11. Suburban Division - Lynn Township Corrective Action Plan

Excessive inflow and infiltration (I&I) and high wet-weather flows into the Lynn Township sewer system has been ongoing and increasingly challenging to address. As noted in LCA's monthly operations reports, treatment plant bypasses and sanitary sewer overflows have occurred in this system and must be addressed. On 6/4/19 a meeting was held with DEP, Lynn Township and LCA representatives as a result of a hydraulic overload at the wastewater treatment plant, based on 2018 Chapter 94 Report monthly plant flows. At the meeting, DEP directed LCA to submit an amendment to the pre-existing Corrective Action Plan (originally submitted by Lynn Township Sewer Authority) to include an updated system condition assessment and an outline of steps to be taken to mitigate I/I flows and maintain NPDES permit compliance. The Corrective Action Plan (CAP) includes structural and non-structural initiatives and involves coordination with the host municipality. The framework for the CAP was shared with the Board in February 2019. A meeting was held at Lynn Township with DEP in June 2019 to discuss the Lynn Township CAP and Township sewer planning/growth issues, and DEP directed LCA to submit a CAP Amendment by the end of summer 2019. The CAP Amendment contained an updated sewer system condition assessment and a corrective plan to further mitigate I/I flows. Updated CCTV work of the entire system was substantially completed in August 2019, and the inspection data was summarized in the CAP Amendment and is being used to scope a capital repair project. The Lynn Township Board of Supervisors adopted a sewer system rules and regulations ordinance on 9/12/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. A meeting with DEP and Lynn Township representatives was held on 1/15/20 to discuss the CAP Amendment and plan moving forward. DEP sent a letter to LCA dated 6/8/20 granting 55 EDUs of sewer allocation relief for new connections to the system. **(No Change)**

12. Suburban Division - Heidelberg Heights Corrective Action Plan

On 2/11/19, DEP submitted a notice of violation to LCA regarding bypasses and permit exceedances at the Heidelberg Heights wastewater treatment plant. As discussed with the LCA Board during several meetings in 2018, this small satellite system has been challenged by high groundwater levels and significant infiltration and inflow (I&I) of clear water into the sewer system during rain events. LCA staff met with DEP officials on March 6, 2019 to discuss the problems and, as a result, LCA prepared a comprehensive Corrective Action Plan (CAP) and submitted DEP on 5/5/19. A draft of the plan was attached for Board review at the 4/22/19 Board meeting. The final CAP was submitted to DEP on 4/29/19. The Heidelberg Heights Board of Supervisors approved the advertisement for adoption of a sewer system rules and regulations ordinance on 9/19/19, which gives LCA the authority to inspect private laterals and facilities for illegal connections and perform follow-up enforcement. The ordinance was adopted by the township the in October 2019. A Consent Order & Agreement (CO&A) was drafted by DEP and sent to LCA in May 2020, which incorporates the projects and schedule outlined in LCA's proposed CAP. The final CAP was adopted by resolution by the LCA board at the 6/22/20 meeting. The annual CAP report was submitted to DEP per Contact Order and Agreement requirements in late March 2021. **(No Change)**

13. Suburban Division – Sand Spring WWTP Upgrade Project Construction

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

The plant, while meeting effluent limits, has reached the end of its useful life. The plant is constructed of in-ground steel tanks that are in poor condition, with areas of corrosion and loss of structural integrity. The mechanical and electrical systems are also at the end of their service life and in need of replacement. The proposed project includes replacement of the existing treatment facility in entirety with new technology and concrete tanks appropriate for the wastewater flows and loading characteristics. The new facility shall meet the effluent limits criteria established in the respective DEP and DRBC permits, including new or additional limits that may be imposed during the permitting process. Design phase was authorized in February 2017 and final design was delayed due to DEP Part 2 Water Quality Management and NPDES permitting issues. DEP approval of the Water Quality Management Permit was received in late December 2018, the design was finalized in late Spring 2019, and the project was advertised for bid in July 2019. Bids were opened on 8/13/19 and construction phase authorization was approved at the 8/26/19 Board meeting. A pre-construction meeting was held on 11/1/19 following execution of contract documents. Conditional Use approval and land development waiver were granted by North Whitehall Township in Spring 2020. Construction mobilization for site work occurred in late winter 2020 and construction is proceeding. Substantial completion and start-up of the new facility will occur in late April and early May 2021. **(No Change)**

14. Suburban Division - Trexlertown Area Capacity Solution Alternative

As part of the Western Lehigh service area's Sewer Capacity Assurance & Rehabilitation Program (SCARP), a conveyance capacity "bottleneck" was identified in the Trexlertown area of the Western Lehigh Interceptor, and this area was assigned a high priority due to occurrence of sanitary sewer overflows and basement backups in the vicinity. A parallel interceptor was originally conceived to run approximately from Cetronia Rd to Spring Creek Rd. The concept was modified to focus on providing storage capacity in the system for this area, due to concerns about downstream hydraulic impacts. This project is an interim solution to address local impacts of the system bottleneck and will become part of the future long-term solution to alleviate

regional conveyance capacity challenges. A pre-design feasibility study is being performed to evaluate various engineering alternatives, including an “in-line” parallel storage tank, conventional concrete tank (flow equalization basin), or other options. Award of the pre-design feasibility study to HDR was authorized at the 10/21/2019 Board meeting. A final report was received in March 2021 and is being reviewed. Presentation of the feasibility study findings will follow interim Act 537 plan DEP approval.

15. Suburban Division – Lynn Township Manhole Rehabilitation Project

This project involves the rehabilitation of manholes in the Lynn Township service area found to be structurally deficient &/or leaking. The project includes frame and cover replacement, interior pipe connection grouting, exterior concrete work and sealing of manholes, and sealing around manhole frames located within roadway surfaces that are found experiencing infiltration through the frame and cover. The purpose of the project is to eliminate inflow and infiltration into manholes in the system. The project scope includes approximately 185 manholes will be rehabilitated in 2020. The project was advertised for bid in early June 2020, bids were opened on 6/26/20, and construction phase authorization was approved at the 7/13/20 LCA board meeting. Construction will be completed by early 2021. **(No Change)**

16. Suburban Division - Heidelberg Heights 2020 Sanitary Sewer Replacement Project

In accordance with the adopted, executed Corrective Action Plan mandated by DEP, LCA is required to complete annual I/I mitigation projects to eliminate hydraulic overloads and bypass events at the Heidelberg Heights wastewater treatment plant. The Order requires that all original vitrified clay sewer main and lateral pipe be replaced within the next 5 years. This project was originally advertised for bid in March 2020 and bids were opened on 3/24/20. The low bid price exceeded this capital project construction budget for 2020, and the LCA board authorized rejection of bids at the 4/13/20 board meeting. The project scope was modified to reduce cost and the project was re-advertised for bid in June 2020, bids were opened on 7/13/20, and board authorization of construction phase was approved at the 7/27/20 LCA board meeting. As of April 21, 2021 construction is substantially completed with final paving restoration to begin in a few weeks.

17. Suburban Division – Western Lehigh Manhole Rehabilitation Project – Phase 2

This project involves the rehabilitation of key manholes in the Western Lehigh Interceptor service area. The project includes flood-proofing, interior pipe connection grouting, exterior concrete work and sealing of manholes, particularly those manholes in close proximity to the floodway, which experience floodwater inundation. The purpose of the project is to eliminate floodwater inflow into the system. The project scope for Phase 1 included 50 manholes that were rehabilitated in 2020 as part of a phased manhole rehabilitation program. The project was advertised for bid in April 2020, bids were be opened on 5/12/20, and construction phase authorization was approved at the 6/8/20 board meeting. The Phase 1 project construction was completed in early 2021. Phase 2 of the WLI Manhole Rehabilitation Project, which includes manholes moving downstream in the WLI drainage basin, is in design phase at this time and is anticipated to be bid in late Spring 2021. **(No Change)**

18. Allentown Division – Kline’s Island WWTP: Sodium Hypochlorite System Installation Project – Construction Phase

This project involves the replacement of the existing gaseous chlorination system at the Kline’s Island Wastewater Treatment Plant (KIWWTP). The use of gaseous chlorine for effluent disinfection, while reliable, is outdated and creates significant public health and employee safety risks. In addition, the existing equipment has reached the end of its useful life. The 2018 KIWWTP Master Plan recommended abandoning gaseous chlorine and switching to (liquid) sodium hypochlorite. The design commenced in March of 2019 and was completed in early

2020. The project was advertised for bid in February 2020 and bids were opened on 4/14/20. Construction phase was authorized at the 6/8/2020 Board meeting and the contractor mobilized in late summer 2020. The project is anticipated to be completed in early Summer of 2021. The project is funded by the LCA Allentown Division. **(No Change)**

19. **Suburban Division – Western Lehigh Service Area: Revenue Planning Tool**

As part of the long-term Act 537 planning process, a revenue planning tool is required to help predict the impact of proposed system modifications in the Western Lehigh Service Area. This tool will simulate financial impacts based on current and future flows and loads and utilizing the terms of existing inter-municipal agreements. For the alternatives being evaluated by LCA's engineering consultants for potential upgrade of the Pretreatment Plant to full treatment, the revenue planning tool will simulate changes in future flows and loads and general financial analyses to assist with decision-making regarding these alternatives. Prior phases of this work were completed in 2019 and 2020 to review the assumptions and parameters required to develop the financial model. Authorization for Phase 2 (development of the actual revenue planning tool) was approved at the 12/14/2020 Board Meeting. Final tool delivery is expected in June 2021.

20. **Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning: 2021 Model Expansion and Calibration**

The prior KISS sewer model from 2014 included only the City of Allentown and LCA/Western Lehigh municipalities. The primary goal of this work is to expand the sanitary sewer model into the surrounding Signatories (Coplay, Whitehall, North Whitehall, Hanover, South Whitehall, Salisbury, and Emmaus). Calibration of this expanded model to current flow characteristics will aid in the identification and evaluation of regional alternatives for solutions to both treatment and conveyance through the year 2050 Act 537 planning horizon (the LCA/Western Leigh portion of this model calibration work was completed in 2019 and 2020). The end result of this proposed work will provide one comprehensive, calibrated sewer model for the entire KISS system using 2021 temporary meter flow data and rainfall data. On February 22, 2021, Board approval was granted for this next phase of Act 537 planning efforts. **(No Change)**

21. **Allentown Division – Sanitary Sewer Collection System: Rain Derived Inflow and Infiltration (RDII) Analysis**

The main goal of this work is to conduct an RDII analysis of storm events during the flow monitoring period to determine the nature and extent of infiltration and inflow (I&I) leakage, and to use hydrograph interpretation to help the City focus their rehabilitation work (both secondary Sanitary Sewer Evaluation Survey (SSES) investigations and rehabilitation efforts) toward the sources contributing the leakage. It will also be determined where the flow meters should be installed for the next monitoring period and where SSES future work should be completed. Data from approximately 43 temporary flow meters and five rain gauges from the 2021 flow metering program will be used for this analysis. The analysis itself will begin in late 2021 and will be concluded by March of 2022. On February 22, 2021, Board approval was granted for this project. **(No Change)**

22. **Kline's Island Sewer System – Act 537 Planning: 2021 Flow Data QA/QC**

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a sewage flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare sewer modeling and identify the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering program will include a mix of temporary meters (~63), existing sewage billing meters (~24), and various permanent, non-billing Signatory meters (~11). Flow metering services will be provided by Flow Assessment Services, as previously authorized in 2020. To ensure the data collected from the nine-month monitoring period are accurate and to ensure the validity of the

resulting hydraulic model, a rigorous quality assurance and quality control program must be implemented. Approval of a consulting engineer's proposal for this work was granted at the January 25, 2021 Board meeting. Costs associated with these services will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. The 2021 flow characterization study will be completed by October or November of 2021. **(No Change)**

23. Suburban Division – Park Pump Station Phase 2 Upgrade

The Park Pump Station Phase 1 Upgrade was completed in early 2020, and consisted of new pumps, new pump control center with variable frequency drives, new automatic transfer switch, new wet well level control system, upgraded HVAC system, roof replacement, new pump removal access hatch, new pump hoist system, and associated mechanical and instrumentation equipment. The existing 40-year old generator does not have the capacity to handle the full loads of the upgraded station at 100% design flow and is at the end of its useful life. The Phase 2 Upgrade project consists of replacement of the original station backup generator system. The designer of record for the Phase 1 Upgrade was Whitman, Requardt & Associates, LLP (WRA). As WRA is already very familiar with the power systems and controls at the station, Capital Works requested a design phase proposal from the firm for the Phase 2 project. Authorization of design phase was granted at the March 22, 2021 Board meeting. Design is anticipated to be completed by the end of 2021. **(No Change)**

24. Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (Year 2)

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 completed in 2020 and the last project finishing in 2024. Board approval for the construction phase was granted at the March 22, 2021 Meeting. Construction is expected to begin in May 2021 and will be completed by November 2021. This project is considered an AO expense under terms of the Lease and is City funded.

25. Suburban Division – Heidelberg Heights 2021 Sanitary Sewer Replacement Project

In accordance with the adopted Consent Order and Agreement (CO&A) executed by LCA and DEP, LCA is required to complete annual inflow and infiltration mitigation projects to eliminate hydraulic overloads and bypass events at the Heidelberg Heights wastewater treatment plant. The CO&A requires that all original vitrified clay sewer main and lateral pipe be replaced within the next 5 years. This year's sewer replacement project was advertised for bid on March 9, 2021 and bids were opened on March 31, 2021. Only two bids were received which significantly exceeded the engineer's estimate. The Board approved rejection of bids at the 4/26/21 Board meeting. The project will be expanded in scope re-bid in Q3 of 2021.