



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

Agendas & Minutes Posted:
www.lehighcountyauthority.org

LEHIGH COUNTY AUTHORITY

Published: February 20, 2023

BOARD MEETING AGENDA – February 27, 2023 – 12:00 p.m.

In-Person or Virtual Meeting Attendance Options Available: Meetings of the LCA Board of Directors will be held at LCA's Main Office as well as online using the Zoom Meetings application, which includes a telephone option. Public participation is welcomed both in-person or virtually. 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 if you are attending virtually. If attending in-person at LCA's Main Office, please follow all safety and sanitation protocols posted.

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

- Additions to Agenda (vote required if action will be taken)

3. Approval of Minutes

- *February 13, 2023 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Board of Directors – Election of Officers*

WATER

WASTEWATER

- *Suburban Division – Western Lehigh Interceptor Municipalities Test & Seal Lateral Grouting (Approval) (yellow) (digital Board packet, pages 6-15)*
- *City of Allentown – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (City Year 4) (Approval) (green) (digital Board packet, pages 16-24)*
- *Allentown Division – Sanitary Sewer Collection System: I&I Source Reduction Program Plan (LCA Year 1) (Approval) (blue) (digital Board packet, pages 25-30)*

6. Monthly Project Updates / Information Items (1st Board meeting per month)

7. Monthly Financial Review (2nd Board meeting per month) (digital Board packet, pages 31-42) – **December 2022 (January 2023 report will be presented at the March 13 meeting)**

8. Monthly System Operations Overview (2nd Board meeting per month) (digital Board packet, pages 43-44) – **January 2023 report attached**
9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments
12. Board Member Comments
13. Executive Sessions
14. Adjournment

UPCOMING BOARD MEETINGS		
March 13, 2023	March 27, 2023	April 10, 2023

PUBLIC PARTICIPATION POLICY

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

REGULAR MEETING MINUTES

February 13, 2023

Notice of Preparation of Authority Meeting Minutes: Authority staff who are in attendance at each Authority Board meeting prepare a draft of the Minutes, which are subsequently distributed to all Board members for review. Board members may offer corrections prior to a vote of the full Board of Directors to approve the Minutes.

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:01 p.m. on Monday, February 13, 2023, Chairman Brian Nagle presiding. The meeting was hybrid via in-person and video and audio advanced communication technology ("ACT"), using the Zoom internet application, including telephone option. 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 in-person or via ACT, using the Zoom internet application, including telephone option. A Roll Call of Board members present was taken. Brian Nagle, Norma Cusick, Kevin Baker, Linda Rosenfeld, Jeff Morgan, Amir Famili, and Sean Ziller were present for Roll Call, and remained for the duration of the meeting.

Solicitor Michael Gaul of KingSpry was present along with Authority Staff, Liesel Gross, Ed Klein, Chris Moughan, Chuck Volk, Andrew Moore, Phil DePoe, Susan Sampson, Albert Capuzzi, and Lisa Miller.

Chairman Nagle announced that the Board received their electronic and hard copies of the Board packet in advance and asked if anyone did not receive their copy of the packet. A copy of the packet is also available online.

Chairman Nagle introduced the newest Authority Board member, Sean Ziller. Mr. Ziller gave a brief overview of his background in municipal work and government consulting.

Ted Lyons entered the meeting at 12:04 p.m.

REVIEW OF AGENDA

Liesel Gross announced that there are no changes or additions to the agenda; however, there will be an Executive Session at the end of the regular session to discuss a personnel matter.

APPROVAL OF MINUTES

January 23, 2023 Meeting Minutes

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the minutes of the January 23, 2023, Board meeting as presented (8-0).

PUBLIC COMMENTS

None.

Allentown Division – Kline's Island WWTP: Primary Digester No. 2 Cleaning and Rehabilitation Project

Chuck Volk gave an overview of the project to empty and clean Digester No. 2 at Kline's Island. The digester tanks are cleaned on a five-year cycle, with a different tank being cleaned each year of the cycle. Mr. Volk reviewed the discrepancy in the bid results and noted that this year's low bid of \$564 per dry ton compares favorably to last year's project cost of \$600 per dry.

Some Board discussion followed regarding the inspection of the digester tank interior during the cleaning process and the coordination of mechanical repairs after the completion of the cleaning project.

On a motion by Norma Cusick, seconded by Sean Ziller, the Board approved the Capital Project Authorization for the Kline's Island WWTP Primary Digester No. 2 Cleaning Project, Construction Phase, in the amount of \$243,120.00 which includes the General Contract Award to Mobile Solids Solutions in the amount of \$212,120.00 and the Professional Services Authorization to GHD, Inc. in the amount of \$13,500.00 (8-0).

Amir Famili asked if the recent fires at the potassium sodium permanganate plant have affected the Authority's ability to be able to get a supply of this chemical to the treatment facilities. Andrew Moore said that the Authority does not use a lot of this chemical and has not had any issues with supply.

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

Brian Nagle – yes
Norma Cusick – yes
Ted Lyons – yes
Kevin Baker – yes
Linda Rosenfeld – yes
Jeff Morgan – yes
Amir Famili – yes
Sean Ziller – yes

MONTHLY PROJECT UPDATES / INFORMATION ITEMS

Liesel Gross reviewed the report including highlighting items that would be on the agenda for the next Board meeting, and two new projects that were added to the list since last month.

Jeff Morgan asked when the next Act 537 update will be on the agenda. Phil DePoe said that the Authority is currently completing the preliminary screening of alternatives phase and an update will be provided at the second meeting in March.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

BOARD MEMBER COMMENTS

Linda Rosenfeld thanked Chris Moughan for having Mosser Street patched and filled making it a little easier to drive over.

EXECUTIVE SESSION

An Executive Session will be held at the end of the regular meeting to discuss a personnel matter.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 12:20 p.m.

Norma Cusick
Assistant Secretary



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

MEMORANDUM

Date: February 27, 2023

To: Lehigh County Authority Board of Directors

From: Chuck Volk, P.E., CCWO & Jason Peters, Capital Works
Linear Asset Project Manager

Subject: Western Lehigh Interceptor Municipalities Test and Seal
Sewer Rehabilitation Project - Construction Phase

MOTIONS /APPROVALS REQUESTED:

No.	Item	Amount
1	<u>Capital Project Authorization – Construction Phase</u>	\$1,607,578
2	<u>Contract Award (construction):</u>	\$1,315,078
*	General Construction – Standard Pipe Services, LLC	
3	<u>Professional Services Authorization:</u>	\$235,000
*	<u>Construction Engineering & Inspection – Arcadis</u>	

() Included in the Capital Project Authorization*

PROJECT BACKGROUND:

In accordance with the Regional Flow Management Strategy (RFMS) and on-going Act 537 planning and programming, LCA and the LCA Signatories have been required to reduce infiltration and inflow (I & I) into the Western Lehigh Interceptor system and eliminate SSOs. Most recently DEP required that each KISS municipality provide a Source Reduction Plan (SRP) for the years 2024-2033 and reduce I & I flows. Using data from the 2021 KISS Flow Characterization Study and 2022 nighttime weiring operation, Upper Macungie, Lower Macungie and LCA/Upper Milford Township opted to address documented I & I problem areas with a project to test and seal sewer service lateral connections and main line joints. LCA is going to administer and manage this project on behalf of Upper Macungie and Lower Macungie Townships (we own the Upper Milford sewer system). Upper and Lower Macungie Township will reimburse LCA for construction and engineering costs for work performed in their municipality.

PROJECT OVERVIEW:

Similar work will be performed in each township, however, the quantity of work to be performed will be according to budget figures established with the system owners prior to design phase, which are \$1,000,000 for Upper Macungie, \$200,000 for Lower Macungie, and \$200,000 for

Upper Milford (budget cost figures include engineering services). The project consists of the following major items of work:

- Pre-construction sewer cleaning and CCTV inspection of sewer main
- Pre-construction sewer cleaning and CCTV inspection of lateral connections
- Testing of main line joints and lateral connection joints
- Root removal
- Grouting of main line joints
- Grouting of lateral connection joints
- Removal of protruding lateral connections
- Manhole injection grouting and lining
- Post-construction cleaning and CCTV inspection
- Warranty cleaning and CCTV inspection

The work to be performed as part of this project should have a positive impact on reducing infiltration and inflow within the targeted neighborhoods of each municipality.

FINANCIAL:

The Project will be funded by the LCA Suburban Division. Upper and Lower Macungie's proportionate share of project costs will be assessed at the conclusion of construction.

PROJECT STATUS

Design was completed in late 2022, the project was advertised for bid on January 16, 2023, a mandatory virtual pre-bid meeting was held on January 27, 2023 and bids were opened on February 10, 2023. The bids were reviewed by Capital Works staff and Arcadis.

THIS APPROVAL: Construction Phase

BIDS

Two contractors submitted a bid for this project; results are summarized in the following table:

Bid Results	
Construction Phase	
Contractor	Total Bid Amount
Standard Pipe Service, LLC	\$1,315,078
Mobile Dredging and Video Pipe, Inc.	\$3,585,925

The low bidder for the project is Standard Pipe Service, LLC (SPS), located in Newark, DE. SPS successfully completed several sewer rehabilitation projects for LCA, including Lynn Township sewer system CCTV inspection and rehabilitation, WLI manhole ends seal repairs (upstream of the PTP), and several phases of the WLI emergency test and seal project (2019). SPS has also performed on-call CCTV investigation and grouting work for LCA operations. Reference checks for SPS have identified no performance issues. Therefore, Capital Works recommends awarding the 2023 WLI Test and Seal Project to SPS, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

MATERIAL PROCUREMENT: N/A

PROFESSIONAL SERVICES :

Arcadis will perform full-time on-site construction inspection and construction engineering. Arcadis will provide the following construction phase services (see attached PSA):

- Provide full-time inspection services
- Prepare daily inspection reports
- Daily job quantities tracking
- Payment application review certification
- Document performance of the Work (including review and verify pre and post-construction CCTV data)
- Attend progress meetings
- Perform Substantial Completion inspection and provide certification of completion
- Prepare and verify punchlist completion
- Contract closeout administration
- Warranty review and certification

SCHEDULE

Assuming approval at the February 27, 2023 LCA Board meeting, the work is anticipated to begin in April and will be substantially completed by the end of the year.

FUTURE AUTHORIZATIONS

None at this time.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	<u>SD-S-3</u>	BUDGET FUND:	<u>Suburban Div\Wastewater\Capital</u>
PROJECT TITLE:	<u>Suburban Division – Western Lehigh Interceptor Manhole Rehabilitation Project (Phase 3)</u>	PROJECT TYPE:	
		<input checked="" type="checkbox"/>	Construction
		<input type="checkbox"/>	Engineering Study
THIS AUTHORIZATION:	<u>\$1,607,578</u>	<input type="checkbox"/>	Equipment Purchase
TO DATE (W/ ABOVE)	<u>\$1,647,378</u>	<input type="checkbox"/>	Amendment

DESCRIPTION AND BENEFITS:

Western Lehigh Interceptor Municipalities Test & Seal Sewer Rehabilitation Project

This project is being implemented as part of the DEP Act 537 requirement that the KISS municipalities develop and implement a Source Reduction Plan for I & I. The work is to be performed in Upper Macungie, Lower Macungie and Upper Milford Townships and is to involve the following major scope items:

- Pre and post-construction cleaning, joint testing and CCTV inspection
- Grouting of main line joints
- Grouting of service lateral connections
- Manhole injection grouting and lining
- Warranty cleaning and warranty CCTV inspection

LCA is administering this project on behalf of Upper and Lower Macungie Township.

Previous Authorizations	
Design Phase (Arcadis)	\$39,800

REQUESTED THIS AUTHORIZATION	
Construction Phase	
Construction Contract –Standard Pipe Services, LLC.	\$1,315,078
Construction Inspection and Engineering Services – Arcadis	\$235,000
Staff	\$7,500
Contingency	\$50,000
Total This Authorization	\$1,607,578

Future Authorization	
	TBD

REVIEW AND APPROVALS:

<u>Project Manager</u>	<u>Date</u>	<u>Chief Executive Officer</u>	<u>Date</u>
<u>Chief Capital Works Officer</u>	<u>Date</u>	<u>Chairman</u>	<u>Date</u>



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

Professional:

Arcadis U.S., Inc.
Att: Jim Shelton, P.E.
1128 Walnut St, 4th Fl
Philadelphia, PA 19107

Date: 2/27/2023

Requested By: Charles Volk

Approvals

Department Head: _____

Chief Executive

Officer: _____

2023 Western Lehigh Municipalities Test and Seal Sewer Rehabilitation Project - Construction Phase Engineering

Arcadis will provide construction management, engineering support, contract administration, and construction observation services for the testing and chemical grouting (sealing) work for targeted service areas in Upper Macungie, Lower Macungie and Upper Milford Township, in accordance with their proposal dated 2/14/23.

The scope of work includes:

- Prepare preconstruction meeting agenda, conduct the meeting, and prepare and distribute meeting minutes.
- Review schedules and submittals for compliance with the contract documents.
- Provide full time construction inspection and part time construction engineer oversight during grouting operations for construction duration of 6 months.
- Prepare daily inspection reports and daily update to trackers for construction sequence and pay item quantities.
- Prepare monthly progress meeting agendas, attend/conduct the meetings, and prepare and distribute meeting minutes.
- Review change order proposals from the contractor and make recommendations to LCA.
- Work with Contractor to determine weekly anticipated work and assign appropriate resources to document the work.
- Review monthly payment applications submitted by the contractor and prepare recommendations to LCA.
- Review Pre and Post-Construction CCTV conducted by the Contractor, recommend remedial actions (at pre-construction) or deductions for out-of-specification defects (at post-construction), and prepare punch list.
- Participate in the preparation of the final punch list and certificate of completion (issued for Substantial Completion).
- Collect and document important material preparation and installation data pertinent to the long-term performance of the completed work.
- Review and make recommendations on Work Change Directives.
- Provide Sequence Tracker, Lateral Tracker, and Manhole Tracker databases to each partner for incorporation into their GIS as part of record documents for the project.

Cost Estimate (not to be exceeded without further authorization): Proposed consulting service described in the Proposal dated February 14, 2023 is on a time and materials basis estimated not to exceed \$235,000 in accordance with the agreement between LCA and Arcadis U.S., Inc.

Time Table and Completion Deadline:

Work to be completed in conjunction with the Test and Seal Contract.

(For Authority Use Only)

Authorization Completion:

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

Capital Project S-08-05, Signatory I & I Investigation/Remediation Program

Mr. Charles Volk
Capital Works Manager
Lehigh County Authority
1053 Spruce Road
Allentown, PA 18106-0348

Arcadis U.S., Inc.
1600 Market Street
Suite 1810
Philadelphia
Pennsylvania 19103
Tel 215 625 0850
www.arcadis.com

Subject:
2023 Capital Grouting Sewer Rehabilitation
Construction Engineering Scope and Budget Proposal

WATER

Dear Mr. Volk:

Arcadis U.S., Inc. (Arcadis) is pleased to offer our continued services as experts in trenchless rehabilitation, especially packer injection grouting techniques, to Lehigh County Authority (LCA) and the Western Lehigh Sewer Partnership (WLSP) for the 2023 Capital Grouting projects in Upper Macungie, Lower Macungie, and Upper Milford to provide infiltration and inflow (I&I) sealing of these key leakage points in the suburban sewers using capital grouting techniques. This scope and budget cover construction engineering, administration, and inspection services for this project.

As both third party construction resident engineer/inspectors and as the actual contractor for Construction Manager at Risk projects, the Arcadis staff proposed for this project have undergone extensive training and have overseen and directed hundreds of miles of packer injection grouting, cured-in-place mainline and lateral liners, and manhole rehabilitation projects. It is rare that a consulting firm can make the claim of being uniquely qualified and have that be completely the case, but for this project, it is truth. Regarding packer injection grouting, which is the primary technology of this project, Arcadis' Buried Infrastructure team has no equal. Arcadis' master technical specification for test and seal work formed the basis for National Association of Sewer Service Companies (NASSCO) Capital Grouting specification published in 2021 and our inspector training program is being used to frame

Date:
February 14, 2023

Contact:
Jim Shelton

Phone:
302.723.1450

Email:
James.Shelton@
arcadis.com

This proposal and its contents shall not be duplicated, used, or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.

the upcoming ITCP-Grouting Certification program. Our knowledge of the technology application will safeguard LCA's interests.

This scope and budget covers work from project pre-construction meeting through substantial completion. (It does not cover the contract required warranty inspections or warranty evaluations two years after Substantial Completion).

OBJECTIVES

The objective of this work is to work with the successful contractor, LCA, and the WLSP to ensure the construction plans and specifications for sewer rehabilitation using capital grouting techniques in 2023 grouting projects provide highly effective inflow and infiltration reduction for at least 25 years while adding at least 25 years to the life of the pipes rehabilitated.

ASSUMPTIONS

This project has approximately 7.5 miles of mains, 59 maintenance holes, and 648 laterals. An evaluation of production rates anticipates that 3 grouting rigs abetted by sufficient cleaning and CCTV inspection trucks/crews can complete this work in 6 months. Contract time from Notice to Proceed to Substantial Completion is 260 calendar days. This scope assumes 1.5 month for preconstruction activities, 6 months of construction engineering and inspection, and 1.5 months of time for the contractor to prepare and submit final documents and deliverables.

This scope also anticipates the construction inspector will continue the public outreach and Partner outreach program initiated during design to ensure homeowner concerns are properly addressed.

SCOPE OF WORK

Successful use of trenchless rehabilitation methods, especially capital grouting, require rigorous evaluation of the contractor's submittals and oversight by knowledgeable, experienced personnel to ensure the work is properly constructed given the field conditions at the time of installation. We will staff the construction oversight of this work with only staff experienced in the capital grouting techniques being used. As a licensed contractor who has built several large grouting projects, we understand this type of construction far better than typical consulting inspectors and usually far better than contractors performing the work, to the point that we usually train the contractor's field staff in the proper installation of capital grouting methods. We have recently worked with the contractor for this project (SPS) and know that their grout crews will require both significant coaching and sharp attention. The value to LCA and the Partners in having Arcadis conduct these services is the peace of mind that comes from knowing a team of engineers knowledgeable and experienced in the design and construction of these technologies, especially with those aspects that prevent construction and post- construction failures, is overseeing the work.

As part of our scope of work, Arcadis will provide construction engineering and contract administration services for the duration of the contract. Arcadis will:

- Review schedules and shop submittals (of which 10 have been assumed) for compliance with the contract documents.
- Provide half-time senior Construction Engineer oversight during week of grouting to ensure basic capital grouting techniques are understood by the Contractor.
- Provide full-time Construction Engineer during grouting operations. For the purposes of this proposal, we have assumed contractor will work with 2 to 4 crews (our trained Construction Engineers can handle up to 5 crews working on the same project) four days per week for 6 months, and that our construction oversight will require site presence for 7-8 hours per day.
- Provide regular senior inspector field oversight. For purposes of this proposal, we have assumed Jim Shelton will be on-site one day per month and that Emily Sadowsky will be on-site one day every three weeks.
- Provide senior oversight remotely daily to construction inspector and Contractor's crews to successfully guide the work.
- Review Pre-construction mainline inspections conducted by the Contractor that are electronically transferred to Arcadis by the Contractor, recommend alternative rehabilitation techniques to LCA and the appropriate Partner and their Consulting Engineer should grouting not be the clear choice for rehabilitation, and communicate desired rehabilitation techniques to Contractor.
- Prepare inspectors daily reports (IDRs), update Sequence Tracker, update Manhole Tracker, update Lateral Tracker, update Pay Item Progress Tracker, and update Issues Tracker daily.
 - Because this work is being billed to three different Partners, Arcadis will track the work as three separate construction projects for the purposes of pay basis. This will not be evident to the Contractor but will make billing simple for LCA.
- Prepare agendas, report progress, chair meetings, and issue minutes for progress meetings every 6 weeks.
- Review monthly pay estimates submitted by the contractor and prepare recommendations to LCA.
- Review Post Construction inspections conducted by the Contractor, recommend remedial action or deductions for out-of-specification defects, and prepare punch list.
- Participate in the preparation of the certificate of completion (issued for Substantial Completion).
- Provide each individual Partner with all inspections and grouting reports, videos, and databases for incorporation into their GIS or CMMS as part of the Record Plan for the project.
- Provide final Sequence Tracker, Lateral Tracker, and Manhole Tracker databases to each individual Partner for incorporation into their GIS or CMMS as part of the Record Plan for the project.

- Provide any GIS corrections via paper map markups to each individual Partner and LCA.

LCA will:

- Attend preconstruction and progress meetings.
- Respond to request for information in a timely fashion.

Budget

We have broken this work into two tasks. We anticipate the below hours by grade for these tasks:

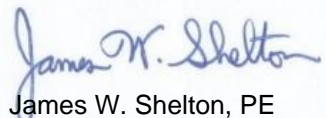
Task	Hours	Shelton	Dill	Sadowsky	Gantt	Expenses	Total Cost
Construction Admin	244	18	8	63	168	\$ 328	\$ 42,000
Construction Management	1,210	31	8	130	1,027	\$ 11,991	\$ 193,000
Totals	1,454	49	16	193	1,195	\$12,318	\$235,000

We propose to complete these services on a time and materials basis in accordance with the Agreement between LCA and Malcolm Pirnie, Inc., and the current Summary of Standard Charges for Lehigh County Authority. Arcadis will track the costs associated with this work and report them to LCA monthly throughout the project; we will not exceed the authorized budget without written professional services authorization from LCA. Payment for services will be based upon the actual labor and expenses incurred. Invoicing will be completed monthly. The invoice will include the defined contract tasks listing the day-by-day personnel performing the task with hourly rate and hours worked. The invoice will provide total billed for month. Support documents will be provided if there are any expenses incurred.

Please contact me with your authorization to proceed if this scope and budget are acceptable to you. If you have any questions, please do not hesitate to call me.

Sincerely,

Arcadis U.S., Inc.



James W. Shelton, PE
Vice President – Buried Infrastructure

Copies:

MEMORANDUM

Date: February 27, 2023

To: LCA Board of Directors
Liesel Gross, C.E.O.
From: Phil DePoe, Senior Planning Engineer
Subject: Allentown Division: I&I Source Reduction Improvements – Construction
Phase Year 4

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction: Vortex Services, LLC	\$885,756
1A*	Professional Services Authorization – Kleinfelder	\$132,720
1B*	Construction Contract - Vortex Services, LLC	\$723,036.90

**Included in the Capital Project Authorization*

PROJECT OVERVIEW:

The City's 2018 I&I Source Reduction Program identified specific improvements to be implemented each year of a five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 4 of the recently revised four-year plan, which includes heavy cleaning, grout sealing, and full cured-in-place-pipelining (CIPP). This is the remaining project of the 2018 Program, as the project in Year 5 has been absorbed into the prior projects. Beginning in 2024, future I&I project responsibility in the City shifts to LCA per the 2020 Lease Amendment.

FINANCIAL:

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

PROJECT STATUS:

Pending Board approval of this I&I Source Reduction Improvement Project - Construction Phase Year 4.

BIDDING SUMMARY – CONSTRUCTION CONTRACT:

This project requires a General Construction contract. The project was advertised for bid on January 20, 2023. A mandatory prebid meeting was held virtually on January 26, 2023. Bids were received on February 16, 2023.

The bidding results are as follows:

Contractor	Base Bid
Standard Pipe Services, LLC*	\$472,477.00*
Vortex Services, LLC	\$723,036.90
Mobile Dredging & Video Pipe, Inc.	\$857,016.22

**Requested their bid be withdrawn due to a mathematical error*

The base bid of this project is as follows:

- Heavy sewer main cleaning of 8" (549') and 21" (386')
- Joint testing of 8" (574), 21" (53), 24" (254)
- Joint grout sealing of 8" (574), 21" (53), 24" (254)
- CIPP Sectional of 8" (105'), 10" (15'), 21" (30')
- CIPP Full of 8" (1,453') and 21" (301')

The locations of this project are located in the northeast and southwest portions of the City and were previously identified as priority areas for rehabilitation.

Since LCA does not have any experience with the apparent low bidder, numerous references were checked. References confirmed their work was found to be satisfactory; therefore, we recommend awarding the General Construction contract to Vortex Services, LLC subject to receipt of the necessary Performance Bonds, insurance, and other required documentation.

PROFESSIONAL SERVICES – CONSTRUCTION PHASE:

The City has instructed LCA to utilize Kleinfelder for the construction administration phases of the project. Also, at the request of the City, Kleinfelder was asked to subcontract with Barry Isett & Associates (BIA) for the construction inspection services related to this project. BIA completed the construction inspection services of prior manhole rehabilitation projects in the City. BIA also completed the construction inspection services for Years 1-3 of the Program.

PROJECT SCHEDULE:

Assuming Board approval of the Construction Phase Year 4 at the February 27, 2023 meeting, Notice to Proceed will be issued by late March 2023 with an estimated completion date of late November 2023.

FUTURE AUTHORIZATIONS:

As mentioned in the Project Overview above, the responsibility of future City I&I projects shifts to LCA in 2024. This 2023 authorization is the last project of this four-year Program.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-11	BUDGET FUND:	Allentown Div\Wastewater\Capital
PROJECT TITLE:	Allentown Division: I&I Source Reduction Improvements - Construction Phase Year 4		PROJECT TYPE:
		<input checked="" type="checkbox"/>	Construction
		<input type="checkbox"/>	Engineering Study
		<input type="checkbox"/>	Equipment Purchase
THIS AUTHORIZATION:	\$885,756	<input checked="" type="checkbox"/>	Amendment
TO DATE (W/ ABOVE)	\$3,597,060		

DESCRIPTION AND BENEFITS:

The City's 2018 I&I Source Reduction Program identified specific improvements to be implemented each year of a five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 4 of the recently revised four-year plan, which includes heavy cleaning, grout sealing, and full cured-in-place-pipelining (CIPP). This is the last remaining project of the 2018 Program, as the project in Year 5 has been absorbed into the prior projects. Beginning in 2024, future I&I project responsibility in the City shifts to LCA per the 2020 Lease Amendment.

Prior Authorizations: Year 1 was authorized in March 2020 and was completed by July 2020. Year 2 was authorized in March 2021 and was completed by January 2022. Year 3 was authorized in March 2022 and was completed by January 2023.

This Authorization: Year 4 construction authorization. See attached Board Memo for further project details.

Authorization Status:

Requested This Authorization (Year 4)	
<i>Construction Phase</i>	
Staff	\$20,000
Construction Contractor	\$723,036.90
Engineering Consultant	\$132,720
Contingency	\$9,999.10
Total This Authorization	\$885,756

Prior Authorizations	\$2,711,304
Future Authorizations	\$0
Total Estimated Project (to date)	\$3,597,060

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
AMENDMENT NO. 9**

Professional: KLEINFELDER
150 College Road West, Suite 100
Princeton, NJ 08540

Date: February 27, 2023

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division: I&I Source Reduction Improvements – Construction Phase Year 4

The I&I Source Reduction Program identified specific improvements to be implemented each year of the five-year plan. As described in Kleinfelder's proposal dated May 1, 2019, the improvements to be implemented are the remaining I&I source reduction measures identified within the Primary and Secondary Basins, as well as additional areas identified by LCA and City staff during the ongoing CCTV program. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 4 of the recently revised four-year plan, which includes heavy cleaning, joint testing, joint grout sealing, and cured-in-place-pipe lining (CIPP). This proposal includes the following construction observation and contract administration services:

Professional Service ^(*)
1. Inspection and Observation Services
2. Submittal Review
3. Meetings
4. Change Order Assistance
5. Project Administration

() For Construction Phase Only.*

Please reference the cover Memo for additional information.

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

Bid Phase + Construction Phase Year 1 (Prior): \$93,700

Bid Phase + Construction Phase Year 2 (Prior): \$174,300

Bid Phase + Construction Phase Year 3 (Prior): \$175,200

Planning + Bid Phase Year 4 (Prior): \$26,500

Construction Phase Year 4 (This Amendment): \$132,720

Cost Estimate (not to be exceeded without further authorization): \$775,720

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

(For Authority Use Only)

Authorization Completion:

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



February 14, 2023

VIA EMAIL

Philip M. DePoe
Lehigh County Authority
P.O. Box 3348
1053 Spruce Street
Allentown, PA 18106

**RE: PROPOSAL FOR I&I SOURCE REDUCTION IMPROVEMENTS PROJECT – YEAR 4
CONSTRUCTION OBSERVATION AND CONTRACT ADMINISTRATION SERVICES**

Dear Mr. DePoe:

We have prepared this proposal for construction observation and contract administration services for the Lehigh County Authority (LCA) I&I Source Reduction Year 4 Project. Background information is presented below followed by the Scope of Work and Cost Proposal.

BACKGROUND

The City of Allentown's Source Reduction Plan is a key element of its Regional Flow Management Strategy which was accepted by the U.S. Environmental Protection Agency. The I&I Source Reduction Program identified specific improvements to be implemented each year of the original five-year plan. The improvements for Years 1, 2 and 3 of the I/I Source Reduction Program have been successfully implemented. The I&I source reduction measures identified within the Primary and Secondary Basins for Year 4 are to be implemented. Accordingly, Kleinfelder (KLF) recently completed the design documents for the pipes to be rehabilitated during Year 4, which includes heavy cleaning, joint testing and grout sealing, sectional cured-in-place-pipelining (CIPP) and full length CIPP. While the project was originally planned to be completed over five years, the project has progressed during the first three years of the project, to allow for pipes planned for later years to be completed earlier; therefore, Year 4 will be the last year of the project.

This proposal for Year 4 Construction Observation and Administration Services includes the following:

- Conduct full-time inspection and monitor the rehabilitation actions such as: heavy cleaning operation, initial and final CCTV, testing of joints and grout sealing of joints, testing and installation of CIPP full length and sectional liners. All rehabilitation construction activities shall be monitored for conformance with the drawings and specifications.
- Review contractor submittals containing technical information on the materials the contractor proposes to procure for the project.
- Respond to contractor requests for clarification or interpretation.
- Attend and lead project meetings.
- Review and evaluate the merits of potential change orders.
- Review, negotiate and recommend change orders.

- Assist and review procedures for testing and commissioning.
- Project management: review and make recommendations on payment applications, review and recommend substantial completion, and complete final project closeout.

SCOPE OF WORK

Kleinfelder's proposed Scope of Work consists of the following tasks.

- Task 1 – Inspection/Observation Services
- Task 2 – Submittal Review
- Task 3 – Meetings
- Task 4 – Change Order Assistance
- Task 5 – Project Administration

The scope of each task is described below.

Task 1 – Inspection/Observation Services

KLF will subcontract the project inspection task to Barry Isset and Associates (BIA). Mr. Louis Stalsitz of BIA is very familiar with LCA procedures and provided full-time construction observation services for Year 1 and Year 2. Mr. Shawn Merrill of BIA provided full-time construction observation services for Year 3. Mr. Louis Stalsitz will provide full-time observation services to monitor the contractor's compliance with the contract drawings and specifications for an estimated 600 hours during construction. In addition to inspecting and monitoring activities, KLF will:

- Review contractor payment requests.
- Participate in the resolution of issues involving unforeseen field conditions.
- Compile punchlists of remaining work items.
- Evaluate substantial and final completion and issue certificates of substantial or final completion as appropriate.

It is assumed that BIA will be on site during pipe segment cleaning, preliminary CCTV inspection, joint testing and joint grout sealing, installation of the full length and sectional CIPP, testing, and final CCTV review. KLF will assist during specific events such as initiation of bypassing, testing, and initiation of operation.

In performing inspection/monitoring services, KLF and BIA will not be responsible for the contractor's means, methods, or techniques, or for the contractor's safety procedures or practices.

A representative from KLF will be on site for the initial testing and commissioning of the system, and to instruct LCA staff on the operation and routine testing of the system. A commissioning report will be prepared and submitted to LCA to present the test data and provide testing/monitoring instructions.

Task 2 – Submittal Review

The objective of this task is to review shop drawings and other submittals as required to evaluate that the materials the contractor proposes to purchase conform to the contract documents.

KLF will maintain a log of all submittals indicating the date received, date transmitted to the reviewer, date returned to the contractor and the action code. Review of submittals will generally be limited to fourteen (14) working days after receipt. Submittal review will be performed in accordance with Section 01300 of the Specifications. Each submittal will be coded with one of the following action codes:

1. No exceptions taken.
2. Make corrections noted.
3. Amend and resubmit.
4. Rejected.
5. Noted – no action required.

For developing the level of effort required, the following number of initial and re-submittals have been assumed:

Specification Sections	Number of Initial Submittals	Number of Re-submittals
01005: Maintenance of Sanitary Sewer Operations	1	1
02130: Erosion, Sedimentation and Noise Controls	1	1
02670: Traffic Control	1	1
02760: Pipeline Cleaning and Internal Inspection	2	1
02761: Bypass Flow Handling	3	1
02763: Chemical Root Control of Sanitary Sewer System	1	
02767: CIPP-Full and Sectional (Cured-in-Place Pipelining)	3	1
02790: Joint Testing & Grout Sealing of Sewer Mains	2	1
Total Contract Submittals	14	7

The required effort to review submittals can vary depending upon a number of factors, such as the quality and thoroughness of the contractor's submittals, and the percentage of items that are by specified manufacturers versus "or equals."

Task 3 – Meetings

KLF will participate in and lead the following meetings which will be attended by KLF's Project Manager.

- Preconstruction conference
- Five (5) construction progress meetings

KLF will prepare an agenda for each meeting and will prepare and distribute minutes following each meeting.

Task 4 – Requests for Information and Change Order Assistance

KLF will review and provide written responses to contractor requests for information (RFIs), and will maintain a log of all RFIs, indicating the date received and the date of response. To estimate the corresponding level of effort, it has been assumed that a total of five (5) RFIs will require a written response. KLF will respond to contractor RFIs within five (5) working days following receipt.

KLF will review potential change orders (PCOs) and negotiate and recommend final change orders. When advised of a PCO by the contractor, KLF will review and evaluate the issues surrounding the PCO and advise LCA of its merit. For the purposes of establishing a level of effort, it is assumed that a total of three (3) PCOs will be evaluated.

When LCA authorizes a change order, KLF will negotiate the cost and schedule impacts (if any) of the change order and prepare a Supplemental Agreement for execution by LCA and the Contractor. It is assumed that one (1) change order will be authorized.

Task 5 – Project Administration

In this task, KLF will:

1. Provide general communication with LCA and the contractor throughout the duration of construction regarding such issues as progress, submittal status, construction challenges and their resolution.
2. Provide internal coordination between the team members and on-site representative regarding issues such as submittals, RFIs, and PCOs.
3. Perform the internal project administrative functions required to effectively manage the project.

It has been assumed that the effort required under this task will average five (5) hours per week for the duration of the construction contract.

COST PROPOSAL

KLF proposes to perform the Scope of Work described above on a time-charged-plus-expense basis. The estimated cost per task and resulting total cost are presented in the following table.

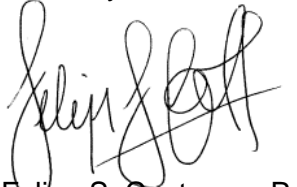
Task	Cost
1 – Inspection/Observation Services	\$79,280
2 – Submittal Review	\$11,930
3 – Meetings	\$11,640
4 – Requests for Information and Change Order Assistance	\$8,500
5 – Project Administration	\$21,370
Total	\$132,720

The total cost presented above will not be exceeded without prior approval of the LCA. The Scope of Work will be executed on a time-and-materials basis in accordance with our attached Client Professional Services Agreement and Kleinfelder's Standard Billing Rates. It is noted that the total

amount for construction inspection and contract administration services is less than the budget previously estimated.

We look forward to assisting you with this important project. If you have any questions, please contact me at (609) 454-4568 or via email at FSContreras@Kleinfelder.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Felipe S. Contreras', with a stylized flourish at the end.

Felipe S. Contreras, P.E.
Vice President

Enclosures

MEMORANDUM

Date: February 17, 2023

To: LCA Board of Directors
Liesel Gross, C.E.O.
From: Albert J. Capuzzi, Director of Engineering & Asset Management
Subject: Allentown Division: I&I Source Reduction Improvements – LCA Program,
Year 1 (2024)

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization - Design & Construction Phase Engineering Services	\$275,103
1A*	Professional Services Authorization – Kleinfelder	\$255,103

**Included in the Capital Project Authorization*

BACKGROUND:

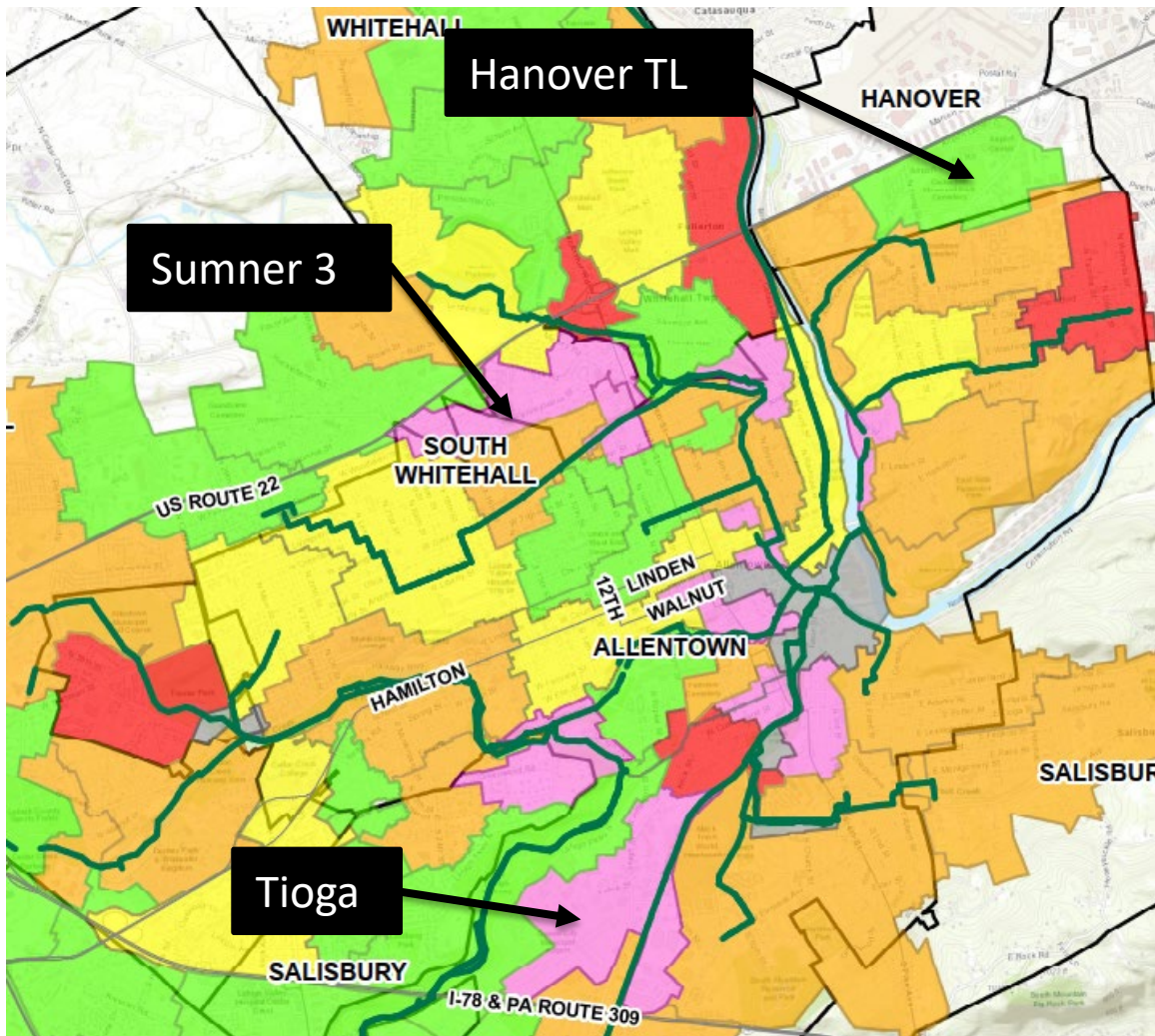
After submission of the Regional Flow Management Strategy to the Environmental Protection Agency in 2018, the City initiated the Infiltration and Inflow (I&I) Source Reduction Program. This program, now in its fourth and final year, is nearing completion. Based on recommendations from Arcadis, a Kline’s Island Sewer System (KISS) Flow Characterization Study was completed in 2021 and the Rainfall Derived I&I (RDII) analysis was completed in completed in 2022. Based on these studies, the City has developed a new 10-year I&I Source Reduction Program. The intent is for LCA to begin implementing the construction of the new 10-year program in 2024. The total construction cost for the 10-year program is estimated to be approximately \$50 million. The goal of the work is the cost-effective reduction of I&I to reduce both dry-day and wet-weather flows in the KISS. Under the terms of the lease agreement with the City, LCA is responsible for the City’s I&I Source Reduction Program beginning in 2024. LCA will contract for and pay for the work and recover the costs through rate increases. The program is to be developed on a collaborative basis, with the City having final determination of the scope of projects to be completed.

Project Overview:

**Allentown Division: I&I Source Reduction Improvements – LCA Program Year 1 (2024) –
Design & Construction Phase Engineering Services**

This authorization is for design and construction phase engineering services for Year 1. The Year 1 project under this new program will be designed in 2023 and constructed in 2024. Year 1 work will include heavy cleaning, joint testing, joint grout sealing, and cured-in-place-pipe lining (CIPP) in specific sewer basins in the City system that have been identified as having high rates of rainfall derived I&I.

In this Year 1 project, the highest priority sewer basins in the City sewer collection system will be addressed – these basins are designated as Tioga, Sumner3, and Hanover within the City’s program documents. The locations are shown in the figure below. These three sewer basins were ranked highest based on results of the 2021 Flow Characterization Study and the 2022 RDII analysis. High priority sewer basins are those which have a high rate of rainfall derived I&I, contributing significant baseline or peak flows to the system during wet-weather events.



FINANCIAL:

Under the terms of the lease agreement, as amended in 2020, LCA will provide funding for this new I&I Source Reduction Program from its Allentown Division revenues or reserves. After the first \$650,000 is spent each year, additional project costs beyond that amount will be recaptured through LCA sewer rates through a Capital Cost Recovery Charge.

PROJECT STATUS:

Pending Board approval of this I&I Source Reduction Improvement Project – Design & Construction Phase Engineering Services – LCA Program, Year 1 (2024).

THIS APPROVAL - DESIGN AND CONSTRUCTION PHASE:

Lehigh County Authority (LCA) intends to retain the services of an engineering consulting firm to provide design and construction related engineering services. The following table summarizes the professional services to be performed:

Professional Services	
1.	Review existing documentation, CCTV data, RDII reports, and estimated cost data
2.	Draft concept design and conduct pre-construction monitoring
3.	Finalize rehabilitation methods for each segment included in the project scope
4.	Develop engineer's cost estimate
5.	Prepare construction bid documents & contract documents
6.	Provide bidding services
7.	Provide construction phase services, including field oversight of: <ul style="list-style-type: none"> a. Pre-construction CCTV & cleaning b. Lateral grouting c. Main line grouting d. CIPP installation

CONSULTANT SELECTION PROCESS:

On January 27, 2023, a Request for Proposals (RFP) was issued to the following engineering firms: AECOM, ARCADIS, Jacobs, Kleinfelder, and WRA. Proposals from four of the engineering firms were received on February 15, 2023 as shown below:

Consultant	Cost
<i>Kleinfelder (recommended for authorization)</i>	<i>\$255,103</i>
ARCADIS	\$267,000
AECOM	\$313,090
WRA	\$488,862
Jacobs	No Proposal

The costs do not include pre- or post-construction flow monitoring, which will be authorized separately. Presentations were given by firms on February 15 and 16, 2023. Based upon staff review of all aspects of both the Technical and Cost Proposals submitted by the firms, LCA recommends award of the Design and Construction Phase engineering services to Kleinfelder. Kleinfelder will perform the services outlined in their proposal dated February 15, 2023.

KLEINFELDER - COMPANY INFORMATION:

Kleinfelder has worked collaboratively with the LCA and the City of Allentown to address wet weather issues for many years, beginning with work needed to address the 2007 and 2009 U.S. Environmental Protection Agency Administrative Orders to eliminate sanitary sewer overflows (SSOs). Kleinfelder supported the City's efforts to develop the I&I Source Reduction Plan that was included in the Regional Flow Management Strategy submitted in 2018, and they continue to provide support on overall Act 537 plan development. Kleinfelder has provided design and engineering services for the City's I&I program since 2019, and both LCA and City staff have found their work to be professional, accurate and timely.

PROJECT SCHEDULE:

Assuming Board approval at the February 27, 2023 meeting, Notice to Proceed will be issued by early March 2023 with an estimated completion date of design of October 1 and Construction completion by early 2024.

Future Authorizations. LCA will separately authorize a pre- and post-construction monitoring contract and performance review contract.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-26	BUDGET FUND:	Allentown Div\Wastewater\Capital
PROJECT TITLE:	Allentown Division: I&I Source Reduction Improvements – LCA Program, Year 1 (2024)	PROJECT TYPE:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
THIS AUTHORIZATION:	\$275,103		
TO DATE (W/ ABOVE)	\$275,103		

DESCRIPTION AND BENEFITS:

Allentown Division: I&I Source Reduction Improvements – LCA Program, Year 1 (2024) – Design & Construction Phase Engineering Services: The City of Allentown developed a 10-year Inflow and Infiltration (I&I) Source Reduction Program that identified specific improvements to be implemented each year, starting in 2024. This authorization is for design and construction phase engineering services for the Year 1 project that will include heavy cleaning, joint testing, joint grout sealing, and cured-in-place-pipe lining (CIPP) in specific sewer basins in the City system that have been identified as having high rates of rainfall derived I&I.

Prior Authorizations:

This Authorization: See attached Board Memo for further project details.

Authorization Status:

Requested This Authorization	
Staff	\$10,000
Engineering Consultant	\$255,103
Contingency	10,000
Total This Authorization	\$275,103

Prior Authorizations	\$0
Future Authorizations	\$0
Total Estimated Project (to date)	

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: KLEINFELDER
150 College Road West, Suite 100
Princeton, NJ 08540

Date: February 17, 2023

Requested By: Albert J. Capuzzi

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division: I&I Source Reduction Improvements – Design & Construction Phase Year 1 of 10

The City's I&I Source Reduction Program has identified specific improvements to be implemented each year of their new ten-year plan, starting in 2024. The goal of the work is the cost-effective reduction of both inflow and infiltration. Under the terms of the lease agreement with the City, Lehigh County Authority (LCA) is operating and managing the City's infiltration and inflow (I&I) source reduction program (SRP) for their sanitary sewer collection. This authorization is for design and construction phase engineering services for Year 1. The Year 1 project under this new program will be designed in 2023 and constructed in 2024. Year 1 work will include heavy cleaning, joint testing, joint grout sealing, and cured-in-place-pipe lining (CIPP) in specific sewer basins in the City system. These have been identified as having high rates of rainfall derived I&I. This proposal includes the following services:

Professional Services
1. Review existing documentation, CCTV data, RDII reports, and estimated cost data
2. Draft concept design and conduct pre-construction monitoring
3. Finalize rehabilitation methods for each segment included in the project scope
4. Develop engineer's cost estimate
5. Prepare construction bid documents & contract documents
6. Provide bidding services
7. Provide construction phase services, including field oversight of: <ul style="list-style-type: none">a. Pre-construction CCTV & cleaningb. Lateral groutingc. Main line groutingd. CIPP installation

Design, Bid Phase + Construction Phase Year 1): \$255,103

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

(For Authority Use Only)

Authorization Completion:

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

**LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS
DECEMBER 2022**

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUMMARY
For the Period Ended December 31, 2022

	Month					Consolidated Financial Statements					FULL YEAR				
	Year To Date					Year To Date					Year To Date				
	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Budget	Prior Year	Bud Var	PY Var
Income Statement															
Suburban Water	357,680	(378,614)	2,876,026	736,294	(2,518,346)	3,924,273	3,270,636	5,117,380	653,637	(1,193,107)	3,924,273	2,094,223	5,117,380	1,830,050	(1,193,107)
Suburban Wastewater	(593,138)	(565,040)	(2,113,031)	(28,097)	1,519,893	777,831	427,899	(2,108,609)	349,932	2,886,440	777,831	1,788,879	(2,108,609)	(1,011,049)	2,886,440
City Division	(4,428,537)	(4,209,335)	(6,272,028)	(219,203)	1,843,491	4,383,013	4,129,693	(352,187)	253,321	4,735,200	4,383,013	2,194,319	(352,187)	2,188,694	4,735,200
Total LCA	(4,663,995)	(5,152,989)	(5,509,033)	488,994	845,038	9,085,117	7,828,228	2,656,584	1,256,889	6,428,533	9,085,117	6,077,421	2,656,584	3,007,696	6,428,533
Cash Flow Statement															
Suburban Water	292,994	987,978	(518,737)	(694,984)	811,731	480,110	969,368	(2,611,952)	(489,257)	3,092,062	480,110	402,292	(2,611,952)	77,818	3,092,062
Suburban Wastewater	(597,587)	(96,765)	(2,000,129)	(500,822)	1,402,542	1,359,980	1,503,563	(1,119,169)	(143,583)	2,479,149	1,359,980	4,353,353	(1,119,169)	(2,993,373)	2,479,149
City Division	(6,398,414)	(4,860,027)	(5,136,658)	(1,538,387)	(1,261,756)	2,809,215	4,032,312	8,999,991	(1,223,097)	(6,190,776)	2,809,215	5,439,552	8,999,991	(2,630,338)	(6,190,776)
Total LCA	(6,703,007)	(3,968,814)	(7,655,524)	(2,734,193)	952,517	4,649,305	6,505,243	5,268,870	(1,855,938)	(619,564)	4,649,305	10,195,198	5,268,870	(5,545,892)	(619,565)
Debt Service Coverage Ratio															
Suburban Water	2.76	(0.18)	28.88	2.94	(26.13)	2.61	2.39	6.13	0.22	(3.53)	2.61	2.03	6.13	0.57	(3.53)
Suburban Wastewater	(0.97)	(0.32)	6.07	(0.65)	(7.04)	10.20	9.71	6.71	0.50	3.49	10.20	10.82	6.71	(0.61)	3.49
City Division	(2.10)	(1.45)	(0.88)	(0.66)	(1.23)	1.93	1.96	1.81	(0.03)	0.12	1.93	1.67	1.81	0.26	0.12

LEHIGH COUNTY AUTHORITY
CONSOLIDATED FINANCIAL STATEMENTS
For the Period Ended December 31, 2022

	Consolidated Financial Statements															
	Month				Year To Date				Q4 FULL YEAR FORECAST				Full Year Budget			
	Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA
STATEMENTS OF ACTIVITIES																
Operating Revenues:																
User Charges	1,629,673	1,135,495	3,630,325	6,395,493	15,748,393	15,030,893	45,874,339	76,653,624	15,203,356	15,004,896	46,405,273	76,613,525	15,321,204	20,282,051	46,388,630	81,991,885
Connection & System Charges	61,111	18,069	1,265,945	1,345,124	619,067	3,650,195	5,327,119	9,596,382	736,018	3,647,878	4,807,081	9,190,976	933,476	875,254	4,488,054	6,296,784
Other Miscellaneous Revenues	3,798	4,431	44,484	52,712	605,956	1,586	174,812	782,353	600,279	435	131,500	732,214	33,078	2,247	67,475	102,800
Total Operating Revenues	1,694,581	1,157,995	4,940,753	7,793,329	16,973,416	18,682,673	51,376,270	87,032,359	16,539,653	18,653,209	51,343,854	86,536,716	16,287,758	21,159,552	50,944,159	88,391,469
Operating Expenses:																
Personnel	346,394	137,796	1,030,840	1,515,029	3,377,883	1,382,837	11,209,176	15,969,896	3,576,534	1,570,089	12,353,130	17,499,752	3,135,717	1,557,088	12,623,714	17,316,519
Shared Services - General & Administrative	43,576	17,164	142,508	203,247	549,501	224,850	1,605,755	2,380,105	621,959	218,485	1,830,863	2,671,307	777,905	230,022	1,872,369	2,880,296
Utilities	24,682	20,445	210,030	255,157	481,998	271,864	1,802,290	2,556,153	484,991	268,755	1,697,926	2,451,672	520,914	355,937	2,037,742	2,914,594
Materials and Supplies	127,857	75,676	348,727	552,260	864,220	339,718	2,227,858	3,431,795	700,908	283,459	2,175,432	3,159,799	816,837	496,550	2,334,092	3,647,479
Miscellaneous Services	459,580	562,884	361,188	1,383,652	3,527,237	6,488,175	1,700,268	11,715,680	3,648,042	6,788,287	1,985,580	12,421,909	4,728,534	6,804,359	2,184,774	13,717,667
Treatment and Transportation	-	451,221	-	451,221	-	2,784,578	11,594	2,796,172	-	2,566,397	5,625	2,572,022	-	3,844,405	13,800	3,858,205
Depreciation and Amortization	265,616	519,204	534,200	1,319,020	3,036,932	6,198,042	6,287,536	15,522,510	3,021,215	6,190,121	6,286,719	15,498,055	3,063,453	5,996,555	6,178,570	15,238,577
Major Maintenance Expenses	8	1,342	121,825	123,174	9,587	25,172	880,206	914,965	9,183	23,851	4,258,744	4,291,778	-	-	4,206,200	4,206,200
Other Miscellaneous	-	-	5,427,960	5,427,960	250	-	5,441,323	5,441,573	33,176	23,954	13,363	70,493	-	-	-	-
Total Operating Expenses	1,267,712	1,785,732	8,177,277	11,230,721	11,847,608	17,715,235	31,166,006	60,728,849	12,096,007	17,933,399	30,607,382	60,636,788	13,043,359	19,284,917	31,451,261	63,779,537
Net Operating Profit	426,869	(627,737)	(3,236,524)	(3,437,391)	5,125,807	967,438	20,210,264	26,303,510	4,443,646	719,810	20,736,471	25,899,927	3,244,399	1,874,636	19,492,897	24,611,931
Non-Operating Income (Expense)																
Interest Income	17,485	21,929	211,896	251,310	103,451	130,373	914,680	1,148,504	57,734	77,492	821,981	957,207	50,125	87,943	176,419	314,487
Interest (Expense)	(95,296)	(17,299)	(1,403,910)	(1,516,505)	(1,192,895)	(185,934)	(16,741,931)	(18,120,760)	(1,176,142)	(196,062)	(17,428,760)	(18,800,964)	(1,200,301)	(173,721)	(17,474,997)	(18,849,019)
Other Miscellaneous	8,622	29,969	-	38,591	(112,091)	(134,047)	-	(246,137)	(54,601)	(173,340)	-	(227,942)	-	22	-	22
Net Non-Operating Income (Expense)	(69,190)	34,599	(1,192,014)	(1,226,604)	(1,201,535)	(189,608)	(15,827,251)	(17,218,393)	(1,173,010)	(291,911)	(16,606,779)	(18,071,700)	(1,150,176)	(85,756)	(17,298,578)	(18,534,510)
Net Income (Loss)	357,680	(593,138)	(4,428,537)	(4,663,995)	3,924,273	777,831	4,383,013	9,085,117	3,270,636	427,899	4,129,693	7,828,228	2,094,223	1,788,879	2,194,319	6,077,421
CASH FLOW STATEMENT																
Cash Flows From Operating Activities																
Operating Revenues	1,694,581	1,157,995	4,940,753	7,793,329	16,973,416	18,682,673	51,376,270	87,032,359	16,539,653	18,653,209	51,343,854	86,536,716	16,287,758	21,159,552	50,944,159	88,391,469
Operating Expenses (ex D&A)	(1,002,096)	(1,266,528)	(7,643,077)	(9,911,701)	(8,810,676)	(11,517,193)	(24,878,470)	(45,206,339)	(9,074,792)	(11,743,278)	(24,320,663)	(45,138,733)	(9,979,907)	(13,288,362)	(25,272,691)	(48,540,960)
Non-Cash Working Capital Changes	2,252,769	(56,811)	1,444,161	3,640,119	1,487,034	(49,770)	(3,391,427)	(1,954,163)	(778,259)	192,897	(1,287,960)	(1,873,321)	(417,694)	(0)	2,197,478	1,779,783
Net Cash Provided by (Used in) Operating Activities	2,945,254	(165,344)	(1,258,162)	1,521,748	9,649,774	7,115,710	23,106,374	39,871,857	6,686,602	7,102,828	25,735,231	39,524,661	5,890,157	7,871,190	27,868,945	41,630,292
Cash Flows From Financing Activities																
Capital Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds New Borrowing	-	-	-	-	-	-	-	-	2,500,000	-	-	2,500,000	3,075,000	-	1,200,000	4,275,000
Interest Payments	(999)	(13,039)	(5,914,856)	(5,928,894)	(1,200,136)	(141,271)	(11,670,361)	(13,011,768)	(1,200,136)	(139,399)	(11,548,048)	(12,887,584)	(1,200,301)	(173,721)	(12,799,531)	(14,173,553)
Principal Payments	(6,244)	(47,396)	(1,735,649)	(1,789,289)	(1,925,231)	(562,430)	(1,735,649)	(4,223,310)	(1,925,232)	(562,514)	(2,660,831)	(5,148,577)	(1,925,189)	(562,081)	(2,660,831)	(5,148,101)
Net Cash Provided by (Used in) Financing Activities	(7,243)	(60,435)	(7,650,505)	(7,718,182)	(3,125,367)	(703,701)	(13,406,010)	(17,235,078)	(625,368)	(701,914)	(14,208,879)	(15,536,160)	(50,490)	(735,802)	(14,260,362)	(15,046,654)
Cash Flows from Capital and Related Activities																
Non-Operating Income (Expenses)	8,622	29,969	-	38,591	(112,091)	(134,047)	(1,286,651)	(1,532,788)	(54,601)	(173,340)	(1,286,651)	(1,514,593)	-	22	(1,286,650)	(1,286,628)
Capital Expenditures, net	(2,671,124)	(423,707)	2,298,357	(796,474)	(6,041,656)	(3,056,355)	(6,519,178)	(15,617,189)	(5,100,999)	(2,809,503)	(7,029,370)	(14,939,871)	(5,487,500)	(2,870,000)	(7,058,800)	(15,416,300)
Net Cash Provided By (Used In) Capital and Related Activities	(2,662,502)	(393,738)	2,298,357	(757,883)	(6,153,747)	(3,190,402)	(7,805,829)	(17,149,978)	(5,155,600)	(2,982,843)	(8,316,021)	(16,454,464)	(5,487,500)	(2,869,978)	(8,345,450)	(16,702,928)
Cash Flows From Investing Activities																
Investments Converting To Cash	-	-	-	-	(984,000)	2,906,000	-	1,922,000	1,239,000	2,906,000	-	4,145,000	-	-	-	-
Purchased Investments	-	-	-	-	990,000	(4,898,000)	-	(3,908,000)	(1,233,000)	(4,898,000)	-	(6,131,000)	-	-	-	-
Interest Income	17,485	21,929	211,896	251,310	103,451	130,373	914,680	1,148,504	57,734	77,492	821,981	957,207	50,125	87,943	176,419	314,487
Net Cash Provided By (Used In) Investing Activities	17,485	21,929	211,896	251,310	109,451	(1,861,627)	914,680	(837,496)	63,734	(1,914,508)	821,981	(1,028,793)	50,125	87,943	176,419	314,487
FUND NET CASH FLOWS	292,994	(597,587)	(6,398,414)	(6,703,007)	480,110	1,359,980	2,809,215	4,649,305	969,368	1,503,563	4,032,312	6,505,243	402,292	4,353,353	5,439,552	10,195,198
DEBT SERVICE RATIO																
Debt Service Ratio (Indenture Based)																
Total Operating Revenues	1,629,673	1,135,495	3,630,325	6,395,493	15,748,393	15,030,893	45,874,339	76,653,624	15,203,356	15,004,896	46,405,273	76,613,525	15,321,204	20,282,051	46,388,630	81,991,885
Total Operating Expenses (Cash Based)	(1,002,096)	(1,266,528)	(7,643,077)	(9,911,701)	(8,810,676)	(11,517,193)	(24,878,470)	(45,206,339)	(9,074,792)	(11,743,278)	(24,320,663)	(45,138,733)	(9,979,907)	(13,288,362)	(25,272,691)	(48,540,960)
Interest Income	17,485	21,929	211,896	251,310	103,451	130,373	914,680	1,148,504	57,734	77,492	821,981	957,207	50,125	87,943	176,419	314,487
Annual Lease Payment (City)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-Operating Revenues (Expenses)	73,530	52,469	1,310,429	1,436,428	1,112,932	3,517,734	5,501,931	10,132,598	1,281,696	3,474,972	4,938,581	9,695,249	966,554	877,523	4,555,529	6,399,606
Cash Available For Debt Service	718,591	(56,635)	(2,490,427)	(1,828,470)	8,154,100	7,161,807	27,412,481	42,728,387	7,467,994	6,814,082	27,845,172	42,127,248	6,357,976	7,959,156	25,847,886	40,165,018
Interest Paid	100,011	11,617	962,337	1,073,965	1,200,136	139,399	11,548,048	12,887,584	1,200,136	139,399	11,548,048	12,887,584	1,200,301	173,721	12,799,531	14,173,5

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES	Suburban - Water														
	Month					Year To Date					Full Year				
	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Budget	Prior Year	Bud Var	PY Var
Operating Revenues:															
User Charges	1,629,673	1,102,717	1,079,508	526,955	550,165	15,748,393	15,203,356	12,457,867	545,036	3,290,526	15,748,393	15,321,204	12,457,867	427,189	3,290,526
Connection & System Charges	61,111	80,000	89,691	(18,889)	(28,580)	619,067	736,018	1,559,023	(116,951)	(939,956)	619,067	933,476	1,559,023	(314,409)	(939,956)
Other Miscellaneous Revenues	3,798	919	78,152	2,879	(74,354)	605,956	600,279	132,181	5,677	473,775	605,956	33,078	132,181	572,878	473,775
Total Operating Revenues	1,694,581	1,183,636	1,247,351	510,945	447,230	16,973,416	16,539,653	14,149,071	433,762	2,824,345	16,973,416	16,287,758	14,149,071	685,658	2,824,345
Operating Expenses:															
Personnel	346,394	649,820	(50,786)	303,427	(397,179)	3,377,883	3,576,534	2,711,313	198,651	(666,570)	3,377,883	3,135,717	2,711,313	(242,165)	(666,570)
Shared Services - General & Administrative	43,576	55,622	36,320	12,046	(7,256)	549,501	621,959	509,895	72,458	(39,606)	549,501	777,905	509,895	228,404	(39,606)
Utilities	24,682	11,679	20,243	(13,003)	(4,439)	481,998	484,991	423,327	2,992	(58,671)	481,998	520,914	423,327	38,916	(58,671)
Materials and Supplies	127,857	42,446	113,818	(85,411)	(14,039)	864,220	700,908	472,436	(163,312)	(391,784)	864,220	816,837	472,436	(47,383)	(391,784)
Miscellaneous Services	459,580	493,940	497,297	34,360	37,717	3,527,237	3,648,042	3,444,479	120,805	(82,758)	3,527,237	4,728,534	3,444,479	1,201,297	(82,758)
Treatment and Transportation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation and Amortization	265,616	247,054	985,313	(18,561)	719,697	3,036,932	3,021,215	3,373,864	(15,717)	336,932	3,036,932	3,063,453	3,373,864	26,520	336,932
Major Maintenance Expenses	8	749	(5,984)	741	(5,991)	9,587	9,183	-	(404)	(9,587)	9,587	-	-	(9,587)	(9,587)
Other Miscellaneous	-	32,926	255,343	32,926	255,343	250	33,176	255,343	32,926	255,093	250	-	255,343	(250)	255,093
Total Operating Expenses	1,267,712	1,534,238	1,851,564	266,526	583,852	11,847,608	12,096,007	11,190,657	248,399	(656,951)	11,847,608	13,043,359	11,190,657	1,195,751	(656,951)
Net Operating Profit	426,869	(350,601)	(604,213)	777,471	1,031,082	5,125,807	4,443,646	2,958,414	682,161	2,167,393	5,125,807	3,244,399	2,958,414	1,881,409	2,167,393
Non-Operating Income (Expense)															
Interest Income	17,485	(5,781)	(9,438)	23,266	26,922	103,451	57,734	34,284	45,717	69,167	103,451	50,125	34,284	53,326	69,167
Interest (Expense)	(95,296)	(85,032)	88,688	(10,264)	(183,984)	(1,192,895)	(1,176,142)	(1,123,826)	(16,752)	(69,069)	(1,192,895)	(1,200,301)	(1,123,826)	7,406	(69,069)
Other Miscellaneous	8,622	62,801	3,400,988	(54,179)	(3,392,366)	(112,091)	(54,601)	3,248,508	(57,489)	(3,360,598)	(112,091)	-	3,248,508	(112,091)	(3,360,598)
Net Non-Operating Income (Expense)	(69,190)	(28,012)	3,480,239	(41,177)	(3,549,428)	(1,201,535)	(1,173,010)	2,158,966	(28,525)	(3,360,501)	(1,201,535)	(1,150,176)	2,158,966	(51,359)	(3,360,501)
Net Income (Loss)	357,680	(378,614)	2,876,026	736,294	(2,518,346)	3,924,273	3,270,636	5,117,380	653,637	(1,193,107)	3,924,273	2,094,223	5,117,380	1,830,050	(1,193,107)
CASH FLOW STATEMENT															
Cash Flows From Operating Activities															
Operating Revenues	1,694,581	1,183,636	1,247,351	510,945	447,230	16,973,416	16,539,653	14,149,071	433,762	2,824,345	16,973,416	16,287,758	14,149,071	685,658	2,824,345
Operating Expenses (ex D&A)	(1,002,096)	(1,287,183)	(866,251)	285,087	(135,846)	(8,810,676)	(9,074,792)	(7,816,793)	264,116	(993,883)	(8,810,676)	(9,979,907)	(7,816,793)	1,169,231	(993,883)
Non-Cash Working Capital Changes	2,252,769	-	229,581	2,252,769	2,023,188	1,487,034	(778,259)	(2,729,863)	2,265,293	4,216,896	1,487,034	(417,694)	(2,729,863)	1,904,728	4,216,896
Net Cash Provided by (Used in) Operating Activities	2,945,254	(103,547)	610,681	3,048,801	2,334,573	9,649,774	6,686,602	3,602,415	2,963,172	6,047,358	9,649,774	5,890,157	3,602,415	3,759,617	6,047,358
Cash Flows From Financing Activities															
Capital Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds New Borrowing	-	2,500,000	-	(2,500,000)	-	-	2,500,000	21,679,902	(2,500,000)	(21,679,902)	-	3,075,000	21,679,902	(3,075,000)	(21,679,902)
Interest Payments	(999)	(999)	(1,270)	-	271	(1,200,136)	(1,200,136)	(1,344,261)	0	144,125	(1,200,136)	(1,200,301)	(1,344,261)	165	144,125
Principal Payments	(6,244)	(6,244)	(19,979)	0	13,735	(1,925,231)	(1,925,232)	(21,902,961)	0	19,977,729	(1,925,231)	(1,925,189)	(21,902,961)	(42)	19,977,729
Net Cash Provided by (Used in) Financing Activities	(7,243)	2,492,757	(21,248)	(2,500,000)	14,006	(3,125,367)	(625,368)	(1,567,319)	(2,499,999)	(1,558,048)	(3,125,367)	(50,490)	(1,567,319)	(3,074,877)	(1,558,048)
Cash Flows from Capital and Related Activities															
Non-Operating Income (Expenses)	8,622	62,801	139,353	(54,179)	(130,731)	(112,091)	(54,601)	(13,127)	(57,489)	(98,963)	(112,091)	-	(13,127)	(112,091)	(98,963)
Capital Expenditures, net	(2,671,124)	(1,458,251)	(1,238,086)	(1,212,873)	(1,433,038)	(6,041,656)	(5,100,999)	(4,667,888)	(940,658)	(1,373,769)	(6,041,656)	(5,487,500)	(4,667,888)	(554,156)	(1,373,769)
Net Cash Provided By (Used In) Capital and Related Activities	(2,662,502)	(1,395,450)	(1,098,733)	(1,267,052)	(1,563,770)	(6,153,747)	(5,155,600)	(4,681,015)	(998,147)	(1,472,732)	(6,153,747)	(5,487,500)	(4,681,015)	(666,247)	(1,472,732)
Cash Flows From Investing Activities															
Investments Converting To Cash	-	-	-	-	-	(984,000)	1,239,000	493,682	(2,223,000)	(1,477,682)	(984,000)	-	493,682	(984,000)	(1,477,682)
Purchased Investments	-	-	-	-	-	990,000	(1,233,000)	(494,000)	2,223,000	1,484,000	990,000	-	(494,000)	990,000	1,484,000
Interest Income	17,485	(5,781)	(9,438)	23,266	26,922	103,451	57,734	34,284	45,717	69,167	103,451	50,125	34,284	53,326	69,167
Net Cash Provided By (Used In) Investing Activities	17,485	(5,781)	(9,438)	23,266	26,922	109,451	63,734	33,966	45,717	75,484	109,451	50,125	33,966	59,326	75,484
FUND NET CASH FLOWS	292,994	987,978	(518,737)	(694,984)	811,731	480,110	969,368	(2,611,952)	(489,257)	3,092,062	480,110	402,292	(2,611,952)	77,818	3,092,062
DEBT SERVICE RATIO															
Debt Service Ratio (Indenture Based)															
User Charges	1,629,673	1,102,717	1,079,508	526,955	550,165	15,748,393	15,203,356	12,457,867	545,036	3,290,526	15,748,393	15,321,204	12,457,867	427,189	3,290,526
Operating Expenses (Cash Based)	(1,002,096)	(1,287,183)	(866,251)	285,087	(135,846)	(8,810,676)	(9,074,792)	(7,816,793)	264,116	(993,883)	(8,810,676)	(9,979,907)	(7,816,793)	1,169,231	(993,883)
Interest Income	17,485	(5,781)	(9,438)	23,266	26,922	103,451	57,734	34,284	45,717	69,167	103,451	50,125	34,284	53,326	69,167
Annual Lease Payment (City)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Operating Revenues (Expenses)	73,530	143,719	3,568,831	(70,189)	(3,495,301)	1,112,932	1,281,696	4,939,712	(168,763)	(3,826,780)	1,112,932	966,554	4,939,712	146,378	(3,826,780)
Cash Available For Debt Service	718,591	(46,528)	3,772,651	765,119	(3,054,060)	8,154,100	7,467,994	9,615,070	686,106	(1,460,970)	8,154,100	6,357,976	9,615,070	1,796,124	(1,460,970)
Interest Paid	100,011	100,011	112,022	-	(12,010)	1,200,136	1,200,136	1,344,261	-	(144,124)	1,200,136	1,200,301	1,344,261	(165)	(144,124)
Debt Retirement (Principal Payments)	160,436	160,436	18,588	-	141,848	1,925,232	1,925,232	223,059	-	1,702,173	1,925,232	1,925,189	223,059	43	1,702,173
Total Debt Service	260,447	260,447	130,610	-	129,837	3,125,368	3,125,368	1,567,319	-	1,558,049	3,125,368	3,125,490	1,567,319	(122)	1,558,049
Debt Service Ratio	2.76	(0.18)	28.88	2.94	(26.13)	2.61	2.39	6.13	0.22	(3.53)	2.61	2.03	6.13	0.57	(3.53)

LEHIGH COUNTY AUTHORITY
VARIANCE ANALYSIS - MONTH
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES

Operating Revenues:

User Charges
Connection & System Charges
Other Miscellaneous Revenues

Total Operating Revenues

Operating Expenses:

Personnel
Shared Services - General & Administrative
Utilities
Materials and Supplies
Miscellaneous Services
Treatment and Transportation
Depreciation and Amortization
Major Maintenance Expenses
Other Miscellaneous

Total Operating Expenses

Net Operating Profit

Non-Operating Income (Expense)

Interest Income
Interest (Expense)
Other Miscellaneous

Net Non-Operating Income (Expense)

Net Income (Loss)

Suburban - Water			
Actual	Q4 FC	FC Var	Comments
1,629,673	1,102,717	526,955	Higher commercial and residential revenues
61,111	80,000	(18,889)	
3,798	919	2,879	
1,694,581	1,183,636	510,945	Higher user charges
346,394	649,820	303,427	Lower fringe benefit charges
43,576	55,622	12,046	
24,682	11,679	(13,003)	
127,857	42,446	(85,411)	
459,580	493,940	34,360	
-	-	-	
265,616	247,054	(18,561)	
8	749	741	
-	32,926	32,926	
1,267,712	1,534,238	266,526	Lower personnel costs
426,869	(350,601)	777,471	Higher operating revenues along with lower operating expenses
17,485	(5,781)	23,266	
(95,296)	(85,032)	(10,264)	
8,622	62,801	(54,179)	
(69,190)	(28,012)	(41,177)	
357,680	(378,614)	736,294	Higher net operating profit

CASH FLOW STATEMENT

Cash Flows From Operating Activities

Operating Revenues
Operating Expenses (ex D&A)
Non-Cash Working Capital Changes

Net Cash Provided by (Used in) Operating Activities

Cash Flows From Financing Activities

Capital Contributions
Proceeds New Borrowing
Interest Payments
Principal Payments

Net Cash Provided by (Used in) Financing Activities

Cash Flows from Capital and Related Activities

Non-Operating Income (Expenses)
Capital Expenditures, net

Net Cash Provided By (Used In) Capital and Related Activities

Cash Flows From Investing Activities

Investments Converting To Cash
Purchased Investments
Interest Income

Net Cash Provided By (Used In) Investing Activities

FUND NET CASH FLOWS

1,694,581	1,183,636	510,945	
(1,002,096)	(1,287,183)	285,087	
2,252,769	-	2,252,769	Favorable working capital movements
2,945,254	(103,547)	3,048,801	Higher net profit along with favorable working capital movements
-	-	-	
-	2,500,000	(2,500,000)	
(999)	(999)	-	
(6,244)	(6,244)	0	
(7,243)	2,492,757	(2,500,000)	Lower borrowing drawdowns
8,622	62,801	(54,179)	
(2,671,124)	(1,458,251)	(1,212,873)	
(2,662,502)	(1,395,450)	(1,267,052)	Higher capex
-	-	-	
-	-	-	
17,485	(5,781)	23,266	
17,485	(5,781)	23,266	
292,994	987,978	(694,984)	Higher cash from operating activities offset from lower borrowing draw downs and higher capex

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES	Suburban - Wastewater														
	Month					Year To Date					Full Year				
	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Budget	Prior Year	Bud Var	PY Var
Operating Revenues:															
User Charges	1,135,495	1,284,227	1,283,968	(148,732)	(148,472)	15,030,893	15,004,896	15,811,420	25,997	(780,527)	15,030,893	20,282,051	15,811,420	(5,251,159)	(780,527)
Connection & System Charges	18,069	35,244	(237,020)	(17,175)	255,089	3,650,195	3,647,878	757,040	2,317	2,893,155	3,650,195	875,254	757,040	2,774,941	2,893,155
Other Miscellaneous Revenues	4,431	60	105	4,371	4,326	1,586	435	45,690	1,151	(44,105)	1,586	2,247	45,690	(662)	(44,105)
Total Operating Revenues	1,157,995	1,319,531	1,047,052	(161,537)	110,943	18,682,673	18,653,209	16,614,150	29,465	2,068,523	18,682,673	21,159,552	16,614,150	(2,476,879)	2,068,523
Operating Expenses:															
Personnel	137,796	336,503	67,549	198,707	(70,247)	1,382,837	1,570,089	1,219,420	187,252	(163,417)	1,382,837	1,557,088	1,219,420	174,251	(163,417)
Shared Services - General & Administrative	17,164	13,785	20,595	(3,378)	3,431	224,850	218,485	217,980	(6,364)	(6,870)	224,850	230,022	217,980	5,173	(6,870)
Utilities	20,445	18,760	12,129	(1,685)	(8,317)	271,864	268,755	269,555	(3,109)	(2,309)	271,864	355,937	269,555	84,073	(2,309)
Materials and Supplies	75,676	24,337	67,773	(51,339)	(7,903)	339,718	283,459	231,857	(56,259)	(107,861)	339,718	496,550	231,857	156,832	(107,861)
Miscellaneous Services	562,884	659,652	508,434	96,768	(54,450)	6,488,175	6,788,287	6,405,017	300,112	(83,158)	6,488,175	6,804,359	6,405,017	316,184	(83,158)
Treatment and Transportation	451,221	245,000	451,258	(206,221)	36	2,784,578	2,566,397	3,899,502	(218,181)	1,114,924	2,784,578	3,844,405	3,899,502	1,059,827	1,114,924
Depreciation and Amortization	519,204	511,283	2,439,365	(7,921)	1,920,161	6,198,042	6,190,121	6,671,362	(7,921)	473,320	6,198,042	5,996,555	6,671,362	(201,487)	473,320
Major Maintenance Expenses	1,342	465	(74,466)	(877)	(75,808)	25,172	23,851	-	(1,320)	(25,172)	25,172	-	-	(25,172)	(25,172)
Other Miscellaneous	-	23,954	55,412	23,954	55,412	-	23,954	55,412	23,954	55,412	-	-	55,412	-	55,412
Total Operating Expenses	1,785,732	1,833,740	3,548,048	48,009	1,762,316	17,715,235	17,933,399	18,970,105	218,164	1,254,870	17,715,235	19,284,917	18,970,105	1,569,682	1,254,870
Net Operating Profit	(627,737)	(514,209)	(2,500,996)	(113,528)	1,873,259	967,438	719,810	(2,355,955)	247,628	3,323,393	967,438	1,874,636	(2,355,955)	(907,197)	3,323,393
Non-Operating Income (Expense)															
Interest Income	21,929	(5,879)	3,119	27,808	18,810	130,373	77,492	80,217	52,882	50,157	130,373	87,943	80,217	42,430	50,157
Interest (Expense)	(17,299)	(35,034)	(32,560)	17,735	15,261	(185,934)	(196,062)	(199,973)	10,128	14,039	(185,934)	(173,721)	(199,973)	(12,213)	14,039
Other Miscellaneous	29,969	(9,918)	417,406	39,888	(387,437)	(134,047)	(173,340)	367,102	39,294	(501,149)	(134,047)	22	367,102	(134,069)	(501,149)
Net Non-Operating Income (Expense)	34,599	(50,831)	387,965	85,431	(353,366)	(189,608)	(291,911)	247,346	102,303	(436,954)	(189,608)	(85,756)	247,346	(103,851)	(436,954)
Net Income (Loss)	(593,138)	(565,040)	(2,113,031)	(28,097)	1,519,893	777,831	427,899	(2,108,609)	349,932	2,886,440	777,831	1,788,879	(2,108,609)	(1,011,049)	2,886,440
CASH FLOW STATEMENT															
Cash Flows From Operating Activities															
Operating Revenues	1,157,995	1,319,531	1,047,052	(161,537)	110,943	18,682,673	18,653,209	16,614,150	29,465	2,068,523	18,682,673	21,159,552	16,614,150	(2,476,879)	2,068,523
Operating Expenses (ex D&A)	(1,266,528)	(1,322,457)	(1,108,683)	55,930	(157,845)	(11,517,193)	(11,743,278)	(12,298,743)	226,085	781,550	(11,517,193)	(13,288,362)	(12,298,743)	1,771,169	781,550
Non-Cash Working Capital Changes	(56,811)	190,000	(21,297)	(246,811)	(35,513)	(49,770)	192,897	363,097	(242,668)	(412,868)	(49,770)	(0)	363,098	(49,770)	(412,868)
Net Cash Provided by (Used in) Operating Activities	(165,344)	187,074	(82,928)	(352,418)	(82,415)	7,115,710	7,102,828	4,678,504	12,881	2,437,205	7,115,710	7,871,190	4,678,505	(755,481)	2,437,205
Cash Flows From Financing Activities															
Capital Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds New Borrowing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Payments	(13,039)	(11,169)	(15,455)	(1,870)	2,417	(141,271)	(139,399)	(160,037)	(1,871)	18,766	(141,271)	(173,721)	(160,037)	32,450	18,766
Principal Payments	(47,396)	(47,388)	(55,929)	(8)	8,533	(562,430)	(562,514)	(549,370)	84	(13,060)	(562,430)	(562,081)	(549,370)	(349)	(13,060)
Net Cash Provided by (Used in) Financing Activities	(60,435)	(58,557)	(71,384)	(1,878)	10,950	(703,701)	(701,914)	(709,407)	(1,788)	5,706	(703,701)	(735,802)	(709,407)	32,101	5,706
Cash Flows from Capital and Related Activities															
Non-Operating Income (Expenses)	29,969	(9,918)	(4,894)	39,888	34,863	(134,047)	(173,340)	(55,198)	39,294	(78,849)	(134,047)	22	(55,198)	(134,069)	(78,849)
Capital Expenditures, net	(423,707)	(209,485)	(1,345,042)	(214,222)	921,335	(3,056,355)	(2,809,503)	(4,250,286)	(246,852)	1,193,931	(3,056,355)	(2,870,000)	(4,250,286)	(186,355)	1,193,931
Net Cash Provided By (Used In) Capital and Related Activities	(393,738)	(219,403)	(1,349,936)	(174,335)	956,198	(3,190,402)	(2,982,843)	(4,305,484)	(207,559)	1,115,082	(3,190,402)	(2,869,978)	(4,305,484)	(320,424)	1,115,082
Cash Flows From Investing Activities															
Investments Converting To Cash	-	-	-	-	-	2,906,000	2,906,000	2,851,000	-	55,000	2,906,000	-	2,851,000	2,906,000	55,000
Purchased Investments	-	-	(499,000)	-	499,000	(4,898,000)	(4,898,000)	(3,714,000)	-	(1,184,000)	(4,898,000)	-	(3,714,000)	(4,898,000)	(1,184,000)
Interest Income	21,929	(5,879)	3,119	27,808	18,810	130,373	77,492	80,217	52,882	50,157	130,373	87,943	80,217	42,430	50,157
Net Cash Provided By (Used In) Investing Activities	21,929	(5,879)	(495,881)	27,808	517,810	(1,861,627)	(1,914,508)	(782,783)	52,882	(1,078,843)	(1,861,627)	87,943	(782,783)	(1,949,570)	(1,078,843)
FUND NET CASH FLOWS	(597,587)	(96,765)	(2,000,129)	(500,822)	1,402,542	1,359,980	1,503,563	(1,119,169)	(143,583)	2,479,149	1,359,980	4,353,353	(1,119,169)	(2,993,373)	2,479,149
DEBT SERVICE RATIO															
Debt Service Ratio (Indenture Based)															
User Charges	1,135,495	1,284,227	1,283,968	(148,732)	(148,472)	15,030,893	15,004,896	15,811,420	25,997	(780,527)	15,030,893	20,282,051	15,811,420	(5,251,159)	(780,527)
Operating Expenses (Cash Based)	(1,266,528)	(1,322,457)	(1,108,683)	55,930	(157,845)	(11,517,193)	(11,743,278)	(12,298,743)	226,085	781,550	(11,517,193)	(13,288,362)	(12,298,743)	1,771,169	781,550
Interest Income	21,929	(5,879)	3,119	27,808	18,810	130,373	77,492	80,217	52,882	50,157	130,373	87,943	80,217	42,430	50,157
Annual Lease Payment (City)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Operating Revenues (Expenses)	52,469	25,386	180,490	27,083	(128,022)	3,517,734	3,474,972	1,169,832	42,762	2,347,902	3,517,734	877,523	1,169,832	2,640,211	2,347,902
Cash Available For Debt Service	(56,635)	(18,723)	358,894	(37,911)	(415,529)	7,161,807	6,814,082	4,762,726	347,724	2,399,081	7,161,807	7,959,156	4,762,726	(797,349)	2,399,081
Interest Paid	11,773	11,773	13,336	-	(1,564)	141,271	139,399	160,037	1,871	(18,766)	141,271	173,721	160,037	(32,450)	(18,766)
Debt Retirement (Principal Payments)	46,869	46,840	45,781	29	1,088	562,430	562,514	549,370	(84)	13,060	562,430	562,081	549,370	349	13,060
Total Debt Service	58,642	58,613	59,117	29	(475)	703,701	701,914	709,407	1,788	(5,706)	703,701	735,802	709,407	(32,101)	(5,706)
Debt Service Ratio	(0.97)	(0.32)	6.07	(0.65)	(7.04)	10.18	9.71	6.71	0.47	3.46	10.18	10.82	6.71	(0.64)	3.46

LEHIGH COUNTY AUTHORITY
VARIANCE ANALYSIS - MONTH
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES

Operating Revenues:

User Charges
Connection & System Charges
Other Miscellaneous Revenues

Total Operating Revenues

Operating Expenses:

Personnel
Shared Services - General & Administrative
Utilities
Materials and Supplies
Miscellaneous Services
Treatment and Transportation
Depreciation and Amortization
Major Maintenance Expenses
Other Miscellaneous

Total Operating Expenses

Net Operating Profit

Non-Operating Income (Expense)

Interest Income
Interest (Expense)
Other Miscellaneous

Net Non-Operating Income (Expense)

Net Income (Loss)

CASH FLOW STATEMENT

Cash Flows From Operating Activities

Operating Revenues
Operating Expenses (ex D&A)
Non-Cash Working Capital Changes

Net Cash Provided by (Used in) Operating Activities

Cash Flows From Financing Activities

Capital Contributions
Proceeds New Borrowing
Interest Payments
Principal Payments

Net Cash Provided by (Used in) Financing Activities

Cash Flows from Capital and Related Activities

Non-Operating Income (Expenses)
Capital Expenditures, net

Net Cash Provided By (Used In) Capital and Related Activities

Cash Flows From Investing Activities

Investments Converting To Cash
Purchased Investments
Interest Income

Net Cash Provided By (Used In) Investing Activities

FUND NET CASH FLOWS

Suburban - Wastewater				
Actual	Q4 FC	FC Var	Comments	
1,135,495	1,284,227	(148,732)	Lower residential & commercial	
18,069	35,244	(17,175)		
4,431	60	4,371		
1,157,995	1,319,531	(161,537)	Lower user charges & lower system charges	
137,796	336,503	198,707		
17,164	13,785	(3,378)		
20,445	18,760	(1,685)		
75,676	24,337	(51,339)		
562,884	659,652	96,768		
451,221	245,000	(206,221)		
519,204	511,283	(7,921)		
1,342	465	(877)		
-	23,954	23,954		
1,785,732	1,833,740	48,009	Lower personnel and services offset by higher treatment & transportation costs	
(627,737)	(514,209)	(113,528)	Lower operating revenues with some offset by lower operating expenses	
21,929	(5,879)	27,808		
(17,299)	(35,034)	17,735		
29,969	(9,918)	39,888		
34,599	(50,831)	85,431		
(593,138)	(565,040)	(28,097)	Lower net operating profit offset partly by higher interest income, higher investment income, and lower interest expense	
1,157,995	1,319,531	(161,537)		
(1,266,528)	(1,322,457)	55,930		
(56,811)	190,000	(246,811)		
(165,344)	187,074	(352,418)	Lower net operating profit and unfavorable working capital movements	
-	-	-		
-	-	-		
(13,039)	(11,169)	(1,870)		
(47,396)	(47,388)	(8)		
(60,435)	(58,557)	(1,878)	Slightly higher interest payments	
29,969	(9,918)	39,888		
(423,707)	(209,485)	(214,222)		
(393,738)	(219,403)	(174,335)	Higher capex	
-	-	-		
-	-	-		
21,929	(5,879)	27,808		
21,929	(5,879)	27,808	Higher interest income	
(597,587)	(96,765)	(500,822)	Lower cash provided by operating activities along with higher capex partially aided by favorable investing activity	

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES	City Division														
	Month					Year To Date					Full Year				
	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Q4 FC	Prior Year	FC Var	PY Var	Actual	Budget	Prior Year	Bud Var	PY Var
Operating Revenues:															
User Charges	3,630,325	4,194,764	3,613,952	(564,440)	16,372	45,874,339	46,405,273	42,276,434	(530,934)	3,597,905	45,874,339	46,388,630	42,276,434	(514,291)	3,597,905
Connection & System Charges	1,265,945	713,170	160,124	552,775	1,105,820	5,327,119	4,807,081	3,511,290	520,038	1,815,829	5,327,119	4,488,054	3,511,290	839,066	1,815,829
Other Miscellaneous Revenues	44,484	5,000	7,630	39,484	36,854	174,812	131,500	113,357	43,312	61,455	174,812	67,475	113,357	107,337	61,455
Total Operating Revenues	4,940,753	4,912,934	3,781,706	27,819	1,159,047	51,376,270	51,343,854	45,901,081	32,416	5,475,189	51,376,270	50,944,159	45,901,081	432,111	5,475,189
Operating Expenses:															
Personnel	1,030,840	2,077,503	793,412	1,046,663	(237,428)	11,209,176	12,353,130	10,128,014	1,143,954	(1,081,162)	11,209,176	12,623,714	10,128,014	1,414,538	(1,081,162)
Shared Services - General & Administrative	142,508	332,020	143,070	189,512	562	1,605,755	1,830,863	1,529,997	225,108	(75,758)	1,605,755	1,872,369	1,529,997	266,614	(75,758)
Utilities	210,030	143,199	22,572	(66,831)	(187,457)	1,802,290	1,697,926	1,705,824	(104,364)	(96,466)	1,802,290	2,037,742	1,705,824	235,453	(96,466)
Materials and Supplies	348,727	349,926	207,490	1,199	(141,237)	2,227,858	2,175,432	1,486,678	(52,425)	(741,180)	2,227,858	2,334,092	1,486,678	106,235	(741,180)
Miscellaneous Services	361,188	673,911	361,295	312,724	108	1,700,268	1,985,580	1,513,867	285,312	(186,401)	1,700,268	2,184,774	1,513,867	484,506	(186,401)
Treatment and Transportation	-	-	-	-	-	11,594	5,625	12,480	(5,969)	886	11,594	13,800	12,480	2,206	886
Depreciation and Amortization	534,200	527,572	997,105	(6,628)	462,905	6,287,536	6,286,719	6,399,799	(817)	112,263	6,287,536	6,178,570	6,399,799	(108,966)	112,263
Major Maintenance Expenses	121,825	3,206,870	(732,734)	3,085,045	(854,559)	880,206	4,258,744	-	3,378,537	(880,206)	880,206	4,206,200	4,029,868	3,325,994	3,149,662
Other Miscellaneous	5,427,960	-	4,022,328	(5,427,960)	(1,405,632)	5,441,323	13,363	4,029,868	(5,427,960)	(1,411,455)	5,441,323	-	-	(5,441,323)	(5,441,323)
Total Operating Expenses	8,177,277	7,311,000	5,814,538	(866,277)	(2,362,739)	31,166,006	30,607,382	26,806,527	(558,624)	(4,359,479)	31,166,006	31,451,261	26,806,527	285,255	(4,359,479)
Net Operating Profit	(3,236,524)	(2,398,066)	(2,032,832)	(838,458)	(1,203,692)	20,210,264	20,736,471	19,094,554	(526,207)	1,115,710	20,210,264	19,492,897	19,094,554	717,367	1,115,710
Non-Operating Income (Expense)															
Interest Income	211,896	156,981	2,833	54,915	209,064	914,680	821,981	5,373	92,699	909,307	914,680	176,419	5,373	738,261	909,307
Interest (Expense)	(1,403,910)	(1,968,250)	(4,242,029)	564,340	2,838,119	(16,741,931)	(17,428,760)	(19,452,114)	686,829	2,710,183	(16,741,931)	(17,474,997)	(19,452,114)	733,066	2,710,183
Other Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Non-Operating Income (Expense)	(1,192,014)	(1,811,269)	(4,239,197)	619,255	3,047,183	(15,827,251)	(16,606,779)	(19,446,741)	779,528	3,619,490	(15,827,251)	(17,298,578)	(19,446,741)	1,471,327	3,619,490
Net Income (Loss)	(4,428,537)	(4,209,335)	(6,272,028)	(219,203)	1,843,491	4,383,013	4,129,693	(352,187)	253,321	4,735,200	4,383,013	2,194,319	(352,187)	2,188,694	4,735,200
CASH FLOW STATEMENT															
Cash Flows From Operating Activities															
Operating Revenues	4,940,753	4,912,934	3,781,706	27,819	1,159,047	51,376,270	51,343,854	45,901,081	32,416	5,475,189	51,376,270	50,944,159	45,901,081	432,111	5,475,189
Operating Expenses (ex D&A)	(7,643,077)	(6,783,428)	(4,817,433)	(859,649)	(2,825,644)	(24,878,470)	(24,320,663)	(20,406,728)	(557,807)	(4,471,742)	(24,878,470)	(25,272,691)	(20,406,728)	394,221	(4,471,742)
Non-Cash Working Capital Changes	1,444,161	3,548,000	4,143,028	(2,103,839)	(2,698,867)	(3,391,427)	(1,287,960)	2,684,441	(2,103,467)	(6,075,867)	(3,391,427)	2,197,478	2,684,441	(5,588,904)	(6,075,867)
Net Cash Provided by (Used in) Operating Activities	(1,258,162)	1,677,506	3,107,301	(2,935,669)	(4,365,463)	23,106,374	25,735,231	28,178,794	(2,628,857)	(5,072,420)	23,106,374	27,868,945	28,178,794	(4,762,572)	(5,072,420)
Cash Flows From Financing Activities															
Capital Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds New Borrowing	-	-	-	-	-	-	-	-	-	-	-	1,200,000	-	(1,200,000)	-
Interest Payments	(5,914,856)	(5,792,543)	(5,827,901)	(122,313)	(86,955)	(11,670,361)	(11,548,048)	(11,600,444)	(122,313)	(69,917)	(11,670,361)	(12,799,531)	(11,600,444)	1,129,170	(69,917)
Principal Payments	(1,735,649)	(2,660,831)	(2,514,642)	925,182	778,993	(1,735,649)	(2,660,831)	(2,514,642)	925,182	778,993	(1,735,649)	(2,660,831)	(2,514,642)	925,182	778,993
Net Cash Provided by (Used in) Financing Activities	(7,650,505)	(8,453,374)	(8,342,543)	802,869	692,038	(13,406,010)	(14,208,879)	(14,115,086)	802,869	709,076	(13,406,010)	(14,260,362)	(14,115,086)	854,352	709,076
Cash Flows from Capital and Related Activities															
Non-Operating Income (Expenses)	-	-	-	-	-	(1,286,651)	(1,286,651)	(1,243,524)	-	(43,127)	(1,286,651)	(1,286,650)	(1,243,524)	(1)	(43,127)
Capital Expenditures, net	2,298,357	1,758,860	95,752	539,497	2,202,605	(6,519,178)	(7,029,370)	(3,825,566)	510,192	(2,693,613)	(6,519,178)	(7,058,800)	(3,825,566)	539,622	(2,693,613)
Net Cash Provided By (Used In) Capital and Related Activities	2,298,357	1,758,860	95,752	539,497	2,202,605	(7,805,829)	(8,316,021)	(5,069,090)	510,192	(2,736,740)	(7,805,829)	(8,345,450)	(5,069,090)	539,621	(2,736,740)
Cash Flows From Investing Activities															
Investments Converting To Cash	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchased Investments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income	211,896	156,981	2,833	54,915	209,064	914,680	821,981	5,373	92,699	909,307	914,680	176,419	5,373	738,261	909,307
Net Cash Provided By (Used In) Investing Activities	211,896	156,981	2,833	54,915	209,064	914,680	821,981	5,373	92,699	909,307	914,680	176,419	5,373	738,261	909,307
FUND NET CASH FLOWS	(6,398,414)	(4,860,027)	(5,136,658)	(1,538,387)	(1,261,756)	2,809,215	4,032,312	8,999,991	(1,223,097)	(6,190,776)	2,809,215	5,439,552	8,999,991	(2,630,338)	(6,190,776)
DEBT SERVICE RATIO															
Debt Service Ratio (Indenture Based)															
User Charges	3,630,325	4,194,764	3,613,952	(564,440)	16,372	45,874,339	46,405,273	42,276,434	(530,934)	3,597,905	45,874,339	46,388,630	42,276,434	(514,291)	3,597,905
Operating Expenses (Cash Based)	(7,643,077)	(6,783,428)	(4,817,433)	(859,649)	(2,825,644)	(24,878,470)	(24,320,663)	(20,406,728)	(557,807)	(4,471,742)	(24,878,470)	(25,272,691)	(20,406,728)	394,221	(4,471,742)
Interest Income	211,896	156,981	2,833	54,915	209,064	914,680	821,981	5,373	92,699	909,307	914,680	176,419	5,373	738,261	909,307
Annual Lease Payment (City)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Operating Revenues (Expenses)	1,310,429	718,170	167,754	592,259	1,142,675	5,501,931	4,938,581	3,624,647	563,350	1,877,284	5,501,931	4,555,529	3,624,647	946,403	1,877,284
Cash Available For Debt Service	(2,490,427)	(1,713,513)	(1,032,894)	(776,914)	(1,457,533)	27,412,481	27,845,172	25,499,726	(432,691)	1,912,755	27,412,481	25,847,886	25,499,726	1,564,594	1,912,755
Interest Paid	972,530	972,530	966,704	-	5,826	11,670,361	11,548,048	11,600,444	122,313	69,917	11,670,361	12,799,531	11,600,444	(1,129,170)	69,917
Debt Retirement (Principal Payments)	144,637	221,736	209,554	(77,099)	(64,916)	1,735,649	2,660,831	2,514,642	(925,182)	(778,993)	1,735,649	2,660,831	2,514,642	(925,182)	(778,993)
Total Debt Service	1,117,168	1,194,266	1,176,257	(77,099)	(59,090)	13,406,010	14,208,879	14,115,086	(802,869)	(709,076)	13,406,010	15,460,362	14,115,086	(2,054,352)	(709,076)
Debt Service Ratio	(2.23)	(1.43)	(0.88)	(0.79)	(1.35)	2.04	1.96	1.81	0.09	0.24	2.04	1.67	1.81	0.37	0.24

LEHIGH COUNTY AUTHORITY
VARIANCE ANALYSIS - MONTH
For the Period Ended December 31, 2022

STATEMENTS OF ACTIVITIES

Operating Revenues:

User Charges
Connection & System Charges
Other Miscellaneous Revenues

Total Operating Revenues

Operating Expenses:

Personnel
Shared Services - General & Administrative
Utilities
Materials and Supplies
Miscellaneous Services
Treatment and Transportation
Depreciation and Amortization
Major Maintenance Expenses
Other Miscellaneous

Total Operating Expenses

Net Operating Profit

Non-Operating Income (Expense)

Interest Income
Interest (Expense)
Other Miscellaneous

Net Non-Operating Income (Expense)

Net Income (Loss)

CASH FLOW STATEMENT

Cash Flows From Operating Activities

Operating Revenues
Operating Expenses (ex D&A)
Non-Cash Working Capital Changes

Net Cash Provided by (Used in) Operating Activities

Cash Flows From Financing Activities

Capital Contributions
Proceeds New Borrowing
Interest Payments
Principal Payments

Net Cash Provided by (Used in) Financing Activities

Cash Flows from Capital and Related Activities

Non-Operating Income (Expenses)
Capital Expenditures, net

Net Cash Provided By (Used In) Capital and Related Activities

Cash Flows From Investing Activities

Investments Converting To Cash
Purchased Investments
Interest Income

Net Cash Provided By (Used In) Investing Activities

FUND NET CASH FLOWS

City Division			
Actual	Q4 FC	FC Var	Comments
3,630,325	4,194,764	(564,440)	Lower municipal revenues
1,265,945	713,170	552,775	Higher project reimbursement
44,484	5,000	39,484	
4,940,753	4,912,934	27,819	Lower user charges favorably offset by higher system & other revenues
1,030,840	2,077,503	1,046,663	Lower labor charges into the fund
142,508	332,020	189,512	
210,030	143,199	(66,831)	
348,727	349,926	1,199	
361,188	673,911	312,724	
-	-	-	
534,200	527,572	(6,628)	
121,825	3,206,870	3,085,045	Related to projects expensed
5,427,960	-	(5,427,960)	Higher project spending expensed
8,177,277	7,311,000	(866,277)	Lower personnel costs more than offset by higher projects expensed
(3,236,524)	(2,398,066)	(838,458)	Higher operating expenses
211,896	156,981	54,915	
(1,403,910)	(1,968,250)	564,340	
-	-	-	
(1,192,014)	(1,811,269)	619,255	Lower interest expense
(4,428,537)	(4,209,335)	(219,203)	Lower net operating profit partially offset by favorable financial activity

4,940,753	4,912,934	27,819	
(7,643,077)	(6,783,428)	(859,649)	
1,444,161	3,548,000	(2,103,839)	
(1,258,162)	1,677,506	(2,935,669)	Lower net operating income and unfavorable working capital movements
-	-	-	
(5,914,856)	(5,792,543)	(122,313)	
-	(2,660,831)	2,660,831	
(5,914,856)	(8,453,374)	2,538,518	Favorable due to timing of principal payments
(1,735,649)	-	(1,735,649)	
2,298,357	1,758,860	539,497	
562,708	1,758,860	(1,196,152)	Higher capex
-	-	-	
-	-	-	
211,896	156,981	54,915	
211,896	156,981	54,915	
(6,398,414)	(4,860,027)	(1,538,387)	Lower cash from operations and higher capex partially offset by favorable financing activities

LEHIGH COUNTY AUTHORITY
CASH & INVESTMENT SUMMARY
For the Period Ended December 31, 2022

	Suburban Water					Suburban Wastewater					City Division					Total			
	12/31/2022 Actual	2022 Forecast	2022 Budget	2021 Actual		12/31/2022 Actual	2022 Forecast	2022 Budget	2021 Actual		12/31/2022 Actual	2022 Forecast	2022 Budget	2021 Actual		12/31/2022 Actual	2022 Forecast	2022 Budget	2021 Actual
Cash																			
Operating																			
Unrestricted	5,207,096	5,699,945	4,277,520	4,377,319		900,454	2,642,413	8,147,829	448,128		8,682,833	345,889	14,389,739	6,684,651		14,663,837	8,688,247	26,815,088	11,510,099
Restricted	-	-	-	-		-	0	272	(0)		25,418,086	28,126,481	18,916,191	25,794,847		25,418,086	28,126,481	18,916,463	25,794,847
Total Operating	5,207,096	5,699,945	4,277,520	4,377,319		900,454	2,642,413	8,148,101	448,128		34,100,919	28,472,370	33,305,930	32,479,498		40,081,923	36,814,728	45,731,551	37,304,946
Capital																			
Unrestricted	257,425	256,867	2,042,457	319,718		6,862,722	5,264,599	7,672,019	5,955,385		3,347,783	11,062,077	169,980	3,022,601		10,467,930	16,583,544	9,884,456	9,297,704
Restricted	-	-	-	-		338,677	338,424	337,932	338,360		7,520,562	7,500,000	7,500,000	7,500,035		7,859,239	7,838,424	7,837,932	7,838,396
Total Capital	257,425	256,867	2,042,457	319,718		7,201,399	5,603,023	8,009,951	6,293,745		10,868,345	18,562,077	7,669,980	10,522,636		18,327,169	24,421,968	17,722,388	17,136,099
Other Restricted																			
Debt Reserves	1,656,568	1,653,534	1,858,493	1,943,941		-	-	-	-		28,335,482	27,493,396	28,976,677	27,493,396		29,992,050	29,146,930	30,835,170	29,437,337
Escrow	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Total Other Restricted	1,656,568	1,653,534	1,858,493	1,943,941		-	-	-	-		28,335,482	27,493,396	28,976,677	27,493,396		29,992,050	29,146,930	30,835,170	29,437,337
Total Cash	7,121,089	7,610,346	8,178,470	6,640,978		8,101,853	8,245,436	16,158,052	6,741,873		73,304,746	74,527,843	69,952,587	70,495,531		88,401,142	90,383,626	94,289,109	83,878,382
Investments																			
Operating																			
Unrestricted	1,929,875	1,974,940	1,497,825	1,974,940		8,866,269	6,977,547	6,387,746	6,977,547		-	-	-	-		10,796,144	8,952,487	7,885,571	8,952,487
Restricted	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Total Operating	1,929,875	1,974,940	1,497,825	1,974,940		8,866,269	6,977,547	6,387,746	6,977,547		-	-	-	-		10,796,144	8,952,487	7,885,571	8,952,487
Capital																			
Unrestricted	1,015,194	1,000,184	1,000,000	1,000,184		-	-	-	-		-	-	-	-		1,015,194	1,000,184	1,000,000	1,000,184
Restricted	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Total Capital	1,015,194	1,000,184	1,000,000	1,000,184		-	-	-	-		-	-	-	-		1,015,194	1,000,184	1,000,000	1,000,184
Other Restricted																			
Debt Reserves	-	-	244,924	-		-	-	-	-		-	-	-	-		-	-	244,924	-
Escrow	218,888	-	4,210,752	-		-	-	-	-		32,090	-	-	-		250,978	-	4,210,752	-
Total Other Restricted	218,888	-	4,455,676	-		-	-	-	-		32,090	-	-	-		250,978	-	4,455,676	-
Total Investments	3,163,957	2,975,124	6,953,501	2,975,124		8,866,269	6,977,547	6,387,746	6,977,547		32,090	-	-	-		12,062,316	9,952,671	13,341,247	9,952,671
Total Cash and Investments	10,285,046	10,585,470	15,131,971	9,616,102		16,968,122	15,222,983	22,545,798	13,719,420		73,336,835	74,527,843	69,952,587	70,495,531		100,463,458	100,336,297	107,630,356	93,831,053
Summary																			
Cash																			
Unrestricted	5,464,521	5,956,812	6,319,977	4,697,037		7,763,176	7,907,012	15,819,848	6,403,513		12,030,616	11,407,966	14,559,719	9,707,252		25,131,767	25,271,791	36,699,544	20,807,802
Restricted	1,656,568	1,653,534	1,858,493	1,943,941		338,677	338,424	338,204	338,360		61,274,130	63,119,877	55,392,868	60,788,279		63,269,375	65,111,835	57,589,565	63,070,580
Total Cash	7,121,089	7,610,346	8,178,470	6,640,978		8,101,853	8,245,436	16,158,052	6,741,873		73,304,746	74,527,843	69,952,587	70,495,531		88,401,142	90,383,626	94,289,109	83,878,382
Investments																			
Unrestricted	2,945,069	2,975,124	2,497,825	2,975,124		8,866,269	6,977,547	6,387,746	6,977,547		-	-	-	-		11,811,338	9,952,671	8,885,571	9,952,671
Restricted	218,888	-	4,455,676	-		-	-	-	-		32,090	-	-	-		250,978	-	4,455,676	-
Total Investments	3,163,957	2,975,124	6,953,501	2,975,124		8,866,269	6,977,547	6,387,746	6,977,547		32,090	-	-	-		12,062,316	9,952,671	13,341,247	9,952,671
Total Cash and Investments	10,285,046	10,585,470	15,131,971	9,616,102		16,968,122	15,222,983	22,545,798	13,719,420		73,336,835	74,527,843	69,952,587	70,495,531		100,463,458	100,336,297	107,630,356	93,831,053

CERTIFICATES OF DEPOSIT

December 2022

Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
------	------	----------	-----------------	---------------------	-------------	---------------

NONE PURCHASED

DEVELOPMENT ACTIVITY

Water system construction is occurring in the following developments:

Macungie Crossings Home Depot, LMT
8323/8449 Congdon Hill Drive, 2 industrial lots with warehouses, LMT
Estates at Maple Ridge, Water main extension-UMiIT
Fields at Indian Creek, Phases 4 & 5, 86 residential units (sfd), water and sewer, UMiIT & Emmaus
Kohler Tract, 123 residential lots (sfa), water and sewer, UMiIT
Lehigh Hills, Lot 5 Phase 2, 240 residential units (sfd.), UMT
Lehigh Hills Townhouses, 24 townhouse units (sfa), UMT
Mountain View Estates, 27 residential units (sfd), LMT
Parkland Crossings Main Extension UMT
Sauerkraut Lane Extension, Roadway & water line extension, LMT
West Hills Business Center Lot H, 1 commercial lot, WeisT
Green Hills Commerce Center 3 Possible Water Main Extension/Change of plans UMT
3369 Rt 100 Neighborhood Hospital & Medical Offices, 1 commercial lot, LMT
749 Route 100,UMT

Water system plans are being reviewed for the following developments:

2619 Grove Street Sewer Main Extension,Washington Township
3400 Brookside Road, Indian Creek- 26 Single family homes-Main extension, LMT
3952 Independence Drive,NW
4002 Chestnut Street water main extension,Umilford
Valley at Indian Creek 3510 Macungie Road 22 Single family homes-LMT
5329-5347-5357 Hamilton Blvd., 1 commercial lot, LMT
7034 Ambassador Drive -Warehouse, UMT
ABE Doors & Windows Redevelopment, I commercial lot, LMT
Advanced Health Care of Allentown, 1 commercial lot, LMT
Air Products & Chemicals-Cetronia Road, 1 commercial lot, UMT
ATAS International, 1 industrial lot, UMT
Carriage East Residential Development, 11 residential units, (sfd), UMT
Chick-Fil-A Redevelopment, LMT
Estates at Maple Ridge, 30 residential units (sfd), UMiIT
Fallbrooke Residential Subdivision, 90 sf residential units, UMT
Fields at Brookside, water main relocation, LMT
Glenlivet Drive West Main extension and subdivision
Grant Street Townes, 18 Townhouse, WT
Green Hills Commerce Center III, 1 commercial lot, UMT
Guardian Self-Storage, 1 commercial lot, LMT
Hidden Meadows - Phase 3, 20 townhouse units, UMT
Home Depot Sub Lot Condo unit LMT
Laurel Field, Phase 5, 25 townhouses, UMT
Macungie Crossings Home Depot, LMT
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
Parkland Crossing (formerly 1224 Weilers Rd Twins), 144 townhouse units, UMT
Posh Properties 4316,4320,4330,4344 Hamilton Blvd LMT, day care-self storage 4 lots water
Ridings at Parkland, Phase 2, 38 residential units (sfd), NWT
Schoeneck Road, Lot 1, 1 lot, warehouse, LMT
Self-Storage Facility, Cedarbrook Road – 1 Commercial Lot, LMT
Spring Creek Properties, Lot 12, 1 lot, warehouse, LMT
Spring Creek Estates 2022 LMT 2 lots, 2 6 unit Apt, 8 single family homes, water
Taco Bell 248 Route 100-UMT
The Annex at Fields at Indian Creek, 22 sf residential units, Emmaus Borough
Towneplace Suites by Marriott, 91-room hotel, UMT
Towns At Schaefer Run, 128 townhouse unit (sfa), UMT
Trexler Center Unit 5-Wawa-LMT
Upper Macungie Community Center UMT commercial lot, water
Woodmont Valley 2, 129 apartment units (former Allen Organ Co.) LMT-New

Sewage Facilities Planning Modules Reviewed in Prior Month:

GPD

Morning Call Apartments	101 N 6th St	Allentown	36,964
Fallbrooke Residential Subdivision	9160 Schantz Rd & 9282 Schantz Rd	U Mac	18,286
1134 Hanover Ave LLC	1134 Hanover Ave	Allentown	1,428

System Operations Review - January 2023

Presented: February 27, 2023

<u>Critical Activities</u>	<u>System</u>	<u>Description</u>	<u>Jan-23</u>	<u>2023 Totals</u>	<u>2022 Totals</u>	<u>Permit</u>
----------------------------	---------------	--------------------	---------------	--------------------	--------------------	---------------

Critical Activities	System	Description	Jan-23	2023 Totals	2022 Totals	Permit
			Daily Avg (MGD)	Daily Avg (MGD)	Daily Avg (MGD)	Daily Max (MGD)
Water Production	Allentown	Total	21.83	21.83	22.47	39.0
		Schantz Spring	7.46	7.46	6.90	9.0
		Crystal Spring	3.87	3.87	3.87	4.0
		Little Lehigh Creek	10.46	10.46	11.68	30.0
		Lehigh River	0.03	0.03	0.03	28.0
	Central Lehigh	Total	10.42	10.42	11.30	19.04 MGD Avg
		Feed from Allentown	7.43	7.43	7.20	7.0 MGD Avg 10.5 MGD Max
		Well Production (CLD)	2.99	2.99	4.10	8.54 MGD Avg
		Sum of all (12) other Suburban Water Systems	0.13	0.13	0.14	1.71 Sum of all wells
Wastewater Treatment		Kline's Island	33.49	33.49	32.61	40.0
		Pretreatment Plant	4.88	4.88	5.06	5.75 (design capacity)
		Sum of all (5) other Suburban WW Systems	0.24	0.24	0.20	0.36
			Jan-23	2023 Totals	2022 Totals	2021 Totals
Precipitation Totals (inches)			4.07	4.07	46.47	44.67
Compliance Reports Submitted to Allentown			31	31	277	280
Notices of Violation (NOVs)		(Allentown + Suburban)	0	0	4	3
Sanitary Sewer Overflows (SSOs)/Bypasses		(Allentown + Suburban)	1	1	18	26
Main Breaks Repaired		Allentown	0	0	34	20
		Suburban	2	2	15	14
Customer Service Phone Inquiries		(Allentown + Suburban)	993	993	10,539	15,857
Water Shutoffs for Non-Payment		(Allentown + Suburban)	157	157	1,975	1,773
Injury Accidents		(Allentown + Suburban)	0	0	7	8
Emergency Declarations		Allentown	0	0	(3) @ \$386,225.43	0
		Suburban	0	0	(4) @ \$933,077.1	(1) @ \$48,000
Significant Repairs/Upgrades:						
Reservoir 1 was placed back into service on Janurary 17th after the exterior repairs were completed. The reservoir will be taken off line in the spring for the installation of an interior coating.						
Description of NOVs and/or SSOs:						
One bypass occurred at Heidelberg Heights WWTP due to snow melt and rainfall exceeding 1". The bypass occurred from 1/26 to 1/30 and discharged 122,880 gallons.						
Other Highlights:						
N/A						

Lehigh County Authority
System Operations Review - January 2023
Presented: February 27, 2023

<u>Critical Activities</u>	<u>System</u>	<u>Description</u>	<u>Jan-23</u>	<u>2023 Totals</u>	<u>2022 Totals</u>
Wastewater Compliance	Allentown	Bypass	0	0	2
		Bypass Volume	0	0	369,704
		Permit Exceedances	0	0	1
		Sanitary Sewer Overflows	0	0	3
		COA Issued NOVs	0	0	1
		Regulatory Agency issued NOVs	0	0	0
	Arcadia	Bypass	0	0	0
		Bypass Volume	0	0	0
		Permit Exceedances	0	0	7
		Sanitary Sewer Overflows	0	0	0
		NOV	0	0	0
	Heidelberg Heights	Bypass	1	1	8
		Bypass Volume	122,880	122,880	1,392,261
		Permit Exceedances	1	1	16
		Sanitary Sewer Overflows	0	0	0
		NOVs	0	0	0
	Lynn	Bypass	0	0	2
		Bypass Volume	0	0	472,000
		Permit Exceedances	0	0	7
		Sanitary Sewer Overflows	0	0	1
		NOVs	0	0	0
	Sand Spring	Bypass	0	0	0
		Bypass Volume	0	0	0
		Permit Exceedances	4	4	77
		Sanitary Sewer Overflows	0	0	0
		NOVs	0	0	1
	Wynnewood	Bypass	0	0	0
		Bypass Volume	0	0	0
		Permit Exceedances	0	0	4
		Sanitary Sewer Overflows	0	0	0
		NOVs	0	0	0
Waster Compliance	Allentown	Boil Water Advisories	0	0	1
	Central Lehigh	Boil Water Advisories	0	0	2
	Suburban Water Systems	Boil Water Advisories	0	0	4