



LEHIGH COUNTY AUTHORITY

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

Agendas & Minutes Posted:
www.lehighcountyauthority.org

Published: April 20, 2020

BOARD MEETING AGENDA – April 27, 2020

1. Call to Order

- NOTICE OF MEETING RECORDINGS

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

- *Public Participation Sign-In Request*

2. Review of Agenda / Executive Sessions

3. Approval of Minutes

- *April 13, 2020 Board meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

WATER

- *Arcadia West Division – Water Storage Tank Replacement Design Phase (Approval) (tan)*

WASTEWATER

- *Kline's Island Sewer System – Regional Sewer Capacity & Wet-Weather Planning – Sewage Billing Meter QAQC Data Analytics and 2021 Flow Metering Preparation (Approval) (green)*

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

7. Monthly Financial Review (2nd Board meeting per month) – **March report to be distributed at a later date**

8. Monthly System Operations Overview (2nd Board meeting per month) – **March report attached**

9. Staff Comments

10. Solicitor's Comments

11. Public Comments / Other Comments

12. Executive Sessions

13. Adjournment

UPCOMING BOARD MEETINGS

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

May 11, 2020

May 18, 2020

June 8, 2020

PUBLIC PARTICIPATION POLICY

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

REGULAR MEETING MINUTES

April 13, 2020

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:06 p.m. on Monday, April 13, 2020, Chairman Brian Nagle presiding. The meeting was held via video and audio advanced communication technology ("ACT"), using the ZOOM internet application, due to the national COVID-19 pandemic emergency. Each Board member and other attendees of the meeting were able hear each other attendee, and be heard by each other attendee. The public could also participate in the meeting via ACT, using the ZOOM internet application. A Roll Call of Board members present was taken. Chairman Brian Nagle, Amir Famili, Jeff Morgan, Richard Bohner, Linda Rosenfeld, Norma Cusick and Kevin Baker were present through ACT for the duration of the meeting.

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

REVIEW OF AGENDA

Liesel Gross stated there are no changes to the agenda.

APPROVAL OF MINUTES

March 19, 2020 Emergency Meeting Minutes

Chairman Nagle noted a grammatical error. On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the minutes of the March 19, 2020 Board meeting as corrected (6-0). Richard Bohner abstained.

March 23, 2020 Meeting Minutes

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the minutes of the March 23, 2020 Board meeting as published (6-0). Richard Bohner abstained.

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

2021-2025 Capital Plan

Liesel Gross provided an overview of the 2021-2025 Final Draft Capital Plan, including a PowerPoint presentation, for Board approval. It is important to note that approval of the Plan does not indicate authorization for Plan funding. The Authority made an adjustment to its capital financing to reflect the ongoing system rehabilitation work required for the future. Annual and ongoing projects and system rehabilitation will be funded directly through annual revenues or existing operating reserves. Borrowing would be limited to large scale projects that are not expected to be repeated or to develop water or sewer capacity to meet future customer requirements. Funding for Allentown system upgrades remain undetermined due to the ongoing negotiations and discussions between LCA and the City of Allentown related to the Concession Agreement. To balance these funding strategies, a forecast of future revenue requirements is presented annually to ensure the Plan goals can be met.

Public comments were received in writing from the City of Allentown and the Lehigh Valley Planning Commission.

Jennifer McKenna, City of Allentown Office of Compliance, commented that the cooperation with the City of Allentown is appreciated especially regarding any additional charges to the rate payers.

On a motion by Linda Rosenfeld, seconded by Richard Bohner, the Board approved the 2021-2025 Capital Plan – All Divisions (7-0).

Suburban Division – Heidelberg Heights Sanitary Sewer Rehabilitation Program Construction Phase Bid Rejection

Chuck Volk asked for approval to reject the bids for the annual improvements of the Suburban Division – Heidelberg Heights Sanitary Sewer Rehabilitation project. The project is part of the Corrective Action Plan to eliminate hydraulic overloads and bypasses at the Heidelberg Heights Wastewater Treatment Plant, and is in the third phase of annual sewer main and lateral replacements. The reason for the rejection is the very high bids that were received for the project. The unexpectedly high bids were due to the uncertainty of the availability of materials and manpower. Mr. Volk recommended waiting 30 days, and then rebidding the project using a smaller scope.

Chairman Nagle asked if there was anything specific causing the uncertainty or could it be related to the COVID-19 crisis. Mr. Volk spoke with the lowest bidder and was told that the uncertainty to obtain material and have manpower to do the work is all related to the COVID-19 crisis.

Amir Famili asked if DEP would understand a delay of six to nine months for the project, or will they demand the Authority complete the project with the current schedule. Liesel Gross noted that the Authority did contact DEP, and they will consider a delay as long as the Authority shows due diligence and acts on good faith. Mr. Famili suggested waiting three months then rebid the project.

On a motion by Linda Rosenfeld, seconded by Jeff Morgan, the Board approved the rejection of the bids and authorized waiting a minimum of three months to rebid the project using the same scope of the work as originally bid (7-0).

Suburban Division – Park Pump Station Upgrade Electrical Contract Change Order No. 2

Chuck Volk asked for approval of the final electrical contract Change Order No. 2 for additional electrical work, electrical hardware, and support services that were provided at Park Pump Station during the extended station startup and performance testing period. The final change order consists of lights in Parkway transformer, e-stop and raceway replacement for pre-existing comminutors, additional City of Allentown permit costs, start-up operational changes and SCADA changes, added alarms and hardware, additional programming to the existing generator, and security system repairs.

Jeff Morgan stated that these types of issues are completely common for this type of project, and he recommended approval. Ed Klein commented that this will not harm the budget. Richard Bohner asked if this change order will complete the need to invest in this facility for the foreseeable future. Chuck Volk replied that there will be a future need to replace the generator due to a declining performance and explained that he will plan to begin design on that project next year.

Mr. Volk asked for approval of the Capital Project Authorization – Amendment No. 2 for the Electrical Contract Change Order to Shannon A. Smith, Inc. in the amount of \$45,544.87.

On a motion by Linda Rosenfeld, seconded by Jeff Morgan, the Board approved the Capital Project Authorization – Amendment No. 2 for the Electrical Contract Change Order to Shannon A. Smith, Inc. in the amount of \$45,544.87 (7-0).

MONTHLY PROJECT UPDATES / INFORMATION ITEMS

Liesel Gross reviewed the report and highlighted items for the April 27, 2020 Board meeting. Ms. Gross also noted that in May there will be a presentation by the Auditors regarding the 2019 audit.

Chairman Nagle questioned why there is a temporary hold on the Allentown Division SCADA system replacement project. Chris Moughan explained that due to the COVID-19 pandemic emergency, no external contractors are allowed in LCA's facilities. The system is working well, but will require an additional four days to complete once the emergency is lifted.

STAFF COMMENTS

Liesel Gross updated the Board on the COVID-19 Pandemic planning noting that the entire structure at the Authority has changed. Ms. Gross stated she is proud of the employees for their cooperation. There are approximately 45-50 employees working from home thanks to the tremendous effort by the IT department. The various operations departments have restructured their schedules to allow for proper social distancing and employee health protection, and many new protocols have been put in place across the entire organization to limit face-to-face contact between employees and with the public. She reported that the new arrangements seem to be working well. Supervisors have been performing wellness checks daily as an early warning sign of any sick employees. On the customer side, the offices are closed and in-home customer visits have been eliminated, except in case of an emergency. Water service termination and penalties have been suspended to support customer payment of their water and sewer bills.

Kevin Baker asked if there have been changes in the water consumption. Liesel Gross said it's too early to tell. Many of the Authority's large industrial customers are still operating because they are considered to be life-sustaining businesses. There are some sewer challenges due to the flushing of items that should not be flushed, such as paper towels and baby wipes, and there is a slight increase in fats, oils and grease coming from increased household usage.

Chairman Nagle asked about employee morale. Ms. Gross stated that employees have been exceptionally flexible and she is received positive feedback, but employees are understandably worried about the situation. She also acknowledged that many employees are working less desirable shifts as a result of the change in operations. She noted that employee cooperation and support has been very strong, which is greatly appreciated. Chairman Nagle commented that the employees are doing a great job. Ed Klein commented he is pleased with groups of employees being cooperative. John Parsons commented that Operations is getting by and people are adapting. Chuck Volk commented that the pretreatment plant is operating similar to the Operations group and are split into two shifts to reduce employee interaction. Susan Sampson commented that the customer service group is working remotely taking care of customers daily and the field metering crew is taking extra safety precautions.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

Jennifer McKenna, City of Allentown Compliance Office, suggested changing the wording to the Monthly Project Updates, Allentown Division – Water Filtration Plant SCADA System Replacement to read “*On hold temporarily due to COVID-19*” for better explanation. Ms. McKenna complimented the Authority on the way it is conducting its teleconference Board meetings. Liesel Gross credited Chris Moughan for his work on this. Chairman Nagle gave recognition to all employees.

EXECUTIVE SESSION

None.

ADJOURNMENT

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

Richard Bohner
Secretary

MEMORANDUM

Date: April 27, 2020

To: Lehigh County Authority Board of Directors
From: Amy Kunkel, Chuck Volk
Subject: Suburban Division – Arcadia West Water
Storage Tank Replacement - Design Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Design Phase	\$138,100
2	Professional Services Authorization – Entech Engineering (1), (2)	\$68,100

- (1) *Included in the Capital Project Authorization.*
(2) *Does not includes Construction phase related engineering services.*

PROJECT OVERVIEW:

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

An evaluation of the tank was performed by Suez in 2018 which noted corrosion of the tank on both the interior and exterior included recommendations for improvements for regulatory compliance and recommendations for a new coating system. The inspection also noted two leaks under the tank floor. In addition, two holes in the tank walls have been repaired in the last few years. Seasonal leaks have developed at bolt hole locations and there is concern that continued tightening of the bolts by LCA personnel will result in stripping of the bolts. In 2019 LCA contracted with Entech Engineering to prepare an engineering report evaluating options for the repair or replacement of the tank while maintaining service and fire protection to customers. The option recommended by Entech and ultimately selected by LCA was to replace the tank with a new concrete tank built adjacent to the existing tank.

The new tank is proposed to be built on the existing easement adjacent to the existing tank, and will include water main connections, foundations, structural support, coating, mechanical, electrical, control and instrumentation systems and related site work. The existing tank and foundation will be demolished and removed once the new tank is completed.

FUNDING:

This Project will be funded by the LCA Suburban Division

BUDGET AMENDMENT

Not required for this approval

PROJECT STATUS:

Pending Board approval of the Design Phase.

THIS APPROVAL-DESIGN PHASE

Lehigh County Authority (LCA) intends to retain the services of an engineering consulting firm to provide design related services. Approval for construction related engineering services will be requested with the Construction Phase authorization. The following table summarizes the professional services to be performed:

Professional Services ⁽¹⁾
1. Attend kickoff meeting.
2. New reservoir design..
3. Prepare Maintenance of Operation Plan
4. Apply for state and local permits.
5. Prepare construction bid documents (plans and specifications).
6. Provide bidding services

1. For Design and Bid Phase.

CONSULTANT SELECTION PROCESS:

Three engineering firms, Entech Engineering, GHD, and ARRO Consulting, Inc. were invited to submit proposals for the project in February 2020. The firms were selected based on prior LCA project performance and/or general expertise with water storage tanks. The consultants were allowed access to the site to assess site conditions and ask questions related to the design work. Proposals were received on March 27, 2020, the results of which follow:

Consultant	Cost ⁽¹⁾
Entech Engineering	\$68,100
GHD	\$80,007
ARRO Consulting, Inc.	\$109,653.55

(1) Total Proposal Cost

Based upon our review of all aspects of both the Technical and Cost Proposals submitted by the three firms, we recommend award of the Design Phase services to Entech Engineering. Their proposal is on scope and represents what we believe is the best overall value for the Authority. Entech Engineering will perform the services outlined in their proposal.

ENTECH ENGINEERING -COMPANY INFORMATION & REFERENCE CHECK:

Established in 1981, Entech Engineering is a multi-disciplinary engineering consulting firm headquartered in Reading, PA, with additional satellite offices across PA.. With more than 120 professional and support staff, Entech has sufficient personnel in the required disciplines to guarantee continuity and continued progress on all disciplines this contract requires. Entech prepared the 2019 Arcadia West Water Storage Tank Engineering Report and has completed numerous water storage tank designs for various Authorities in Pennsylvania. They are the design engineer for the Wynnewood and Sand Springs Wastewater Treatment Plant Replacement projects.

PROJECT SCHEDULE:

At this juncture the construction portion of this project is anticipated to be bid in the first quarter of 2021 with completion of construction by the first quarter of 2022.

FUTURE AUTHORIZATIONS- CONSTRUCTION PHASE:

After the construction contract(s) bids are received, a Capital Project Authorization (CPA) Amendment will be presented to the Board for approval of the Construction Phase; and will include construction contract award(s), professional services amendment for construction related services, staff costs and other related components.



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

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

Date: April 27, 2020

Requested By: Amy Kunkel

Approvals

Department Head:

Chief Executive

Officer:

Suburban Division- Arcadia West Water Storage Tank Replacement

Previous Authorizations- None

This Authorization – Design Phase: \$68,100

Entech Engineering, Inc will provide design engineering related services for the aforementioned project.

Professional Services
1. Attend kick off meeting
2. Design of new concrete water storage tank and related upgrades
3. Complete state and local permit applications and administer submissions
4. Prepare construction bid documents (plans and specifications)
5. Provide bid phase services

Cost Estimate (not to be exceeded without further authorization): **\$ 68,100**

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

(For Authority Use Only)

Authorization Completion:

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

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	<u>SD-W-20-2</u>	BUDGET FUND:	<u>Suburban Div\Water\Capital</u>
PROJECT TITLE:	<u>Arcadia West Water Storage Tank Replacement</u>	PROJECT TYPE:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment
THIS AUTHORIZATION:	<u>\$138,100</u>		
TO DATE (W/ ABOVE)	<u>\$138,100</u>		

DESCRIPTION AND BENEFITS:

This Project is for the replacement of the Arcadia West bolted steel water storage tank with a new concrete tank of the same volume built adjacent to the existing tank. The design includes demolition and removal of the original tank, site work and related mechanical and electrical work. Entech Engineering will be used for the engineering consulting services. The project is anticipated to be bid ready by the first quarter of 2021.

Reference the attached Memorandum for additional information.

Previous Authorizations	
None	

REQUESTED THIS AUTHORIZATION	
Design Phase	
Staff	\$30,000
Engineering Consultant – Entech Engineering	\$68,100
Easements	\$25,000
Legal	\$5,000
Contingency	\$10,000
Total This Authorization	\$138,100

Future Authorization	
Construction Phase	\$1,000,000

Total Estimated Project	\$1,138,100
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REVIEW AND APPROVALS:

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

MEMORANDUM

Date: April 27, 2020

To: LCA Board of Directors
Liesel Gross, C.E.O.

From: Phil DePoe, Interim Senior Planning Engineer

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

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Professional Services Authorization – Arcadis	\$75,000

PROJECT OVERVIEW

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare modeling and identifying the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering will include a mix of approximately 100 temporary meters and the existing approximately 30 sewage billing meters. Data delivery and storage procedures, quality assurance, and flow analytics need implemented in 2020 for these sewage billing meters.

The primary result desired from this work is a clear determination of which existing sewage billing meters (SBMs) can be used for purposes of conducting this rigorous flow monitoring in 2021, as described in the draft Interim Act 537 plan. If this work results in a determination that an SBM cannot be utilized for the 2021 flow monitoring program, a temporary meter will need to be used in its place. Due to the cost of temporary metering (approximately \$10,000 per meter), maximizing the use of existing SBMs will result in considerable cost savings for the region.

This will be the second phase of this Sewage Billing Meter (SBM) program development. Phase 1 included an initial investigation and field review of the physical SBM characteristics. This task was performed in 2018 and 2019. Many SBMs required minor modifications that have been addressed. Phase 2 of this work is described below.

FINANCIAL

Costs associated with the ongoing SBM program development will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee.

PROJECT STATUS

Pending Board approval of this second phase in the SBM program development. This is a requirement of the Act 537 Plan development process that is due to DEP in 2025.

PROFESSIONAL SERVICES – PLANNING PHASE

Under terms of the Lease, the City has instructed LCA to utilize Arcadis for this SBM program development. This authorization includes the following two tasks:

- *Task 1: Sewage Billing Meter Data Delivery and Storage Procedures; Tool Development and Accessibility Determination*
 - Review each Signatory's SBM electronic data delivery platform
 - Develop frequency of data upload and quality assurance protocols
 - Establish triggers points for evaluation when data falls outside of acceptable variances
 - Conduct two-week data collection trial period in late July 2020
- *Task 2: Initial Data Quality Assurance and Flow Analytics*
 - Collect data for a minimum of 30 days to a maximum of 90 days in the fourth quarter of 2020
 - Analyze data for quality assurance and conduct a preliminary assessment of key characteristics (such as the effect of rainfall on measured flows and diurnal flow patterns) captured by each meter
 - Present summary spreadsheet of findings including a final determination regarding which SBMs can be used in the 2021 flow monitoring program

PROJECT SCHEDULE

Assuming Board approval of this latest SBM program phase at the April 27, 2020 meeting, initial data collection and analysis will commence immediately, with the initial trial period scheduled for July 2020. The actual data transfer logistics and protocol will be finalized in the third quarter of 2020, and one- to three-month final trial period conducted in the fourth quarter of 2020. Decisions on SBM inclusion for the 2021 metering program will be made in conjunction with the relevant stakeholders by the end of the year.

FUTURE AUTHORIZATIONS

No future authorizations are anticipated with this SBM program development. This is the second and final phase.



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. 1**

Professional: ARCADIS U.S., INC.
1128 Walnut Street, 4th Floor
Philadelphia, PA 19107

Date: April 27, 2020

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

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

As part of the Interim Act 537 Plan, the municipalities served by the Kline's Island Sewer System have committed to completing a flow metering and modeling project beginning in 2021. The flow metering data will be used to prepare modeling and identifying the capital improvements needed to meet the future sewage capacity needs of the region through 2050. The flow metering will include a mix of temporary meters and the existing sewage billing meters. Data delivery and storage procedures, quality assurance, and flow analytics need implemented in 2020 for these sewage billing meters. This proposal includes the following program development services:

Professional Services ⁽¹⁾
1. Establish procedures, tools, and storage database to continuously/regularly receive and append to previously collected data
2. Develop baseline and rainfall flow patterns for each meter to serve as the benchmark for QA/QC checks
3. Complete all work in time to use the meters for the 2021 project - including final determination of which SBMs can be included in the 2021 monitoring program, and which must be excluded due to site issues or data deficiencies.

(1) For Program Development Services Only.

SBM Physical QA/QC (Prior): \$40,000

SBM QA/QC Data Analytics Proposal (This Amendment): \$75,000

Cost Estimate (not to be exceeded without further authorization): \$115,000

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:** _____

Phil DePoe, P.E.
Capital Works Program Manager
Lehigh County Authority
1053 Spruce Road
Allentown, PA 18106-0348

ARCADIS U.S., Inc.
1128 Walnut Street, 4th Floor
Philadelphia, PA 19107
Tel 215-625-0850
Fax 215-625-0172
www.arcadis-us.com

RE: Sewage Billing Meter QAQC Data Analytics and 2021 Flow Metering Preparation

Dear Mr. DePoe:

Arcadis is pleased to provide the City of Allentown through their operating agreement with Lehigh County Authority (LCA) the following scope and budget to provide engineering services related to the next phase of sewage billing meter (SBM) program development.

Most of the 35 SBMs, with the exception of the 4 Emmaus meters (which are being completely overhauled) and the 8 smaller (<50,000 gpd) Salisbury Township meters, all SBMs are or will be capable of delivering accurate electronic flow data across the anticipated range of flow conditions by June 2020. In addition to the normal ongoing use of these data for billing and peak flow reporting, these meters will represent a significant portion of the data collected to characterize flows and calibrate the expanded Kline's Island Sewer System (KISS) model. This proposed scope of work is intended to ensure these SBMs meet these needed data quality objectives by January 2021 so that, if they don't, temporary meters can be installed in their place. The attached project schedule shows the task and implementation sequence/schedule needed to meet this timeline. The Covid-19 circumstance will impact schedule but given current forecasts I believe we have sufficient slack in the schedule to achieve the goals.

Date:
April 8, 2020

Contact:
Jim Shelton

Phone:
302.723.1450

Email:
James.Shelton@arcadis.com

OBJECTIVES

There are three primary goals of this work:

1. Establish procedures, tools, and storage database to continuously/regularly receive and append to previously collected data (hopefully automatically or with as little manual work as possible) from all SBMs and check flow data they load into the storage database properly.
2. Develop baseline and rainfall flow patterns for each meter to serve as the benchmark for routine QAQC checks that meter continues to perform properly.
3. Complete all work in time to use these meters for the 2021 flow metering project, including final determination of which SBMs can be included in the 2021 monitoring program, and which must be excluded due to site issues or data deficiencies.

SCOPE OF WORK

This phase of the sewage billing meter program includes the following tasks:

Task 1 – Sewage Billing Meter Data Delivery and Storage Procedures and Tool Development and Accessibility Determination

Working with LCA staff, Arcadis will meet with each Signatory to review each meter's individual electronic delivery platform, develop API and/or SharePoint query and retrieve programming/scripts, establish time consistency scrubs, allocate and format data storage site(s), and develop PowerBI dashboards for management and operations review and use of the data.

Arcadis will develop upload frequency, QA/QC procedures for check-in and acceptance of data sets, data quality objectives, flow analytic procedures and frequencies, and triggers/alarms if data fall outside bounds of the data quality objectives. Arcadis will develop tools needed to conduct these items.

Arcadis will work with LCA and the Signatories to conduct a two-week data capture trial, then follow that up with an additional one-week data capture trial for any meters that failed the first trial. This work needs to be started no later than mid-June 2020 and completed by mid-September 2020. This work will be reduced if significant SBMs are not available and portable meters are instead installed in 2021. Any SBM meter not capable of electronic data transfer capabilities will be fitted with an RTU by City via LCA's flow metering contract with Flow Assessment Services in time to participate in the July 15-30 data capture trial.

Task 2 – Initial Data QA/QC and Flow Analytics

Once the SBMs are integrated into the Task 1 data capture program, 90 days of data will be collected. For the purposes of this scope and budget, it is assumed that of the 35 SBMs, the 4 Emmaus meters and the 9 smaller Salisbury Township meters will not be included. This work will be reduced if significant SBMs are not available and portable meters are instead installed in 2021.

Arcadis will tailor a time series analyzer (TSA - either Oracle-based or PowerBI-based) to support this work. Arcadis will also develop an SBM QA/QC Tracker spreadsheet to track work and performance. Arcadis will acquire the 90 days of data from the LCA storage site, review in Excel, note gaps in the data logs, and load the .csv files into the TSA.

Arcadis will then develop gross and net hydrographs and scattergraphs for each SBM to develop base line flow condition patterns. Baseflow patterns will be developed for each day of the week. These will be linked to the SBM QA/QC Tracker. Arcadis will assess scattergraph pattern (depth vs velocity/flow) to discern site anomalies (backwater, diurnal changes, commercial/industrial impacts to flow patterns, response to rainfall). Arcadis will calculate average dry day flow rate, depth, velocity, baseline infiltration, total volume dry day, and total monthly volume. If available, Arcadis will compare results to previous data.

Arcadis will evaluate each SBM's response to rainfall using available rain gauge data. Wet weather flow statistics (RDII volume, QvI, peaking factor, RDII volume/miles sewer, immediacy of responses, return to normal flow delay) will be calculated. Arcadis will evaluate the shape of rainfall impacted hydrographs to

Phil DePoe
April 8, 2020

assess the nature and extent of sources. Arcadis will prepare a spreadsheet summary of findings and present all findings in a workshop meeting, including final determination of which SBMs can be included in the 2021 monitoring program, and which must be excluded due to site issues or data deficiencies.

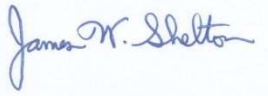
BUDGET ESTIMATE

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. The cost of these services is estimated to \$75,000. We will not exceed this budget without prior authorization from LCA. Payment for services will be based upon the actual labor and 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 contact me.

Sincerely,

Arcadis U.S., Inc.

A handwritten signature in blue ink that reads "James W. Shelton". The signature is fluid and cursive, with the first name "James" and last name "Shelton" clearly legible.

James W. Shelton, PE
Vice President

Use or disclosure of information contained on this sheet is subject to the restriction and disclaimer located on the signature page of this document.

**LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS
MARCH 2020**

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUMMARY
MARCH 2020

MONTH					MARCH 2020	YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Year	FC Var	PY Var		Actual	Forecast	Prior Year	FC Var	PY Var	Forecast	Budget	Prior Year	Bud Var	PY Var
					Income Statement										
(46,669)	(52,885)	(21,353)	6,216	(25,316)	Suburban Water	68,968	34,536	(8,604)	34,432	77,572	(78,408)	(78,407)	811,663	(1)	(890,071)
13,587	(21,775)	(329,373)	35,362	342,960	Suburban Wastewater	2,991,222	2,868,058	(66,631)	123,164	3,057,853	1,280,700	(1,269,292)	(967,554)	2,549,992	2,248,254
(189,987)	(208,507)	105,775	18,520	(295,762)	City Division	(123,738)	(195,571)	(229,855)	71,833	106,117	(4,106,580)	(4,106,561)	(2,102,351)	(19)	(2,004,229)
(223,069)	(283,167)	(244,951)	60,098	21,882	Total LCA	2,936,452	2,707,023	(305,090)	229,429	3,241,542	(2,904,288)	(5,454,260)	(2,258,242)	2,549,972	(646,046)
					Cash Flow Statement										
592,169	582,334	(198,238)	9,835	790,407	Suburban Water	238,504	210,193	802,229	28,311	(563,725)	(2,048,280)	(2,048,282)	2,470,117	2	(4,518,397)
(430,772)	(537,179)	(398,853)	106,407	(31,919)	Suburban Wastewater	376,456	53,790	(2,837,840)	322,666	3,214,296	20,034,852	17,484,855	(1,600,328)	2,549,997	21,635,180
1,965,404	1,948,526	2,433,899	16,878	(468,495)	City Division	4,274,440	4,040,786	233,654	233,654	4,040,786	3,142,942	3,142,950	7,412,882	(8)	(4,269,940)
2,126,801	1,993,681	1,836,808	133,120	289,993	Total LCA	4,889,400	4,304,769	(1,801,957)	584,631	6,691,357	21,129,514	18,579,523	8,282,671	2,549,991	12,846,843
					Debt Service Coverage Ratio										
1.08	1.08	1.32	(0.00)	(0.24)	Suburban Water	1.33	1.31	1.36	0.03	(0.03)	1.25	1.25	1.59	0.00	(0.34)
3.07	2.81	1.37	0.26	1.71	Suburban Wastewater	10.38	10.07	6.71	0.30	3.67	4.14	2.56	5.68	1.58	(1.54)
1.33	1.32	1.65	0.01	(0.32)	City Division	1.45	1.43	1.50	0.02	(0.05)	1.34	1.34	1.48	-	(0.15)

LEHIGH COUNTY AUTHORITY
CONSOLIDATED FINANCIAL STATEMENTS
MARCH 2020

MONTH				MARCH 2020				YEAR-TO-DATE				FULL YEAR FORECAST				FULL YEAR BUDGET			
Sub W	Sub WW	City	LCA	INCOME STATEMENT				Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA
				Operating Revenues															
805,825	1,233,717	3,339,347	5,378,889	User Charges				2,432,522	3,858,406	9,644,907	15,935,835	10,582,032	16,446,156	38,712,480	65,740,668	10,582,010	16,446,154	38,712,488	65,740,652
32,458	52,014	9,608	94,080	Connection & System Charges				79,361	2,770,308	42,002	2,891,671	776,496	3,396,288	2,959,800	7,132,584	776,500	846,282	2,959,800	4,582,582
838,283	1,285,731	3,348,955	5,472,969	Total Operating Revenues				2,511,883	6,628,714	9,686,909	18,827,506	11,358,528	19,842,444	41,672,280	72,873,252	11,358,510	17,292,436	41,672,288	70,323,234
				Operating Expenses															
116,068	51,114	1,145,092	1,312,274	Personnel Costs				386,630	179,292	2,125,392	2,691,314	2,106,228	992,544	7,883,196	10,981,968	2,106,222	992,555	7,883,195	10,981,972
131,484	62,280	80,362	274,126	General and Administrative				250,647	133,713	971,743	1,356,103	1,193,832	452,688	4,604,676	6,251,196	1,193,837	452,684	4,604,681	6,251,202
37,821	23,147	153,485	214,453	Utilities				97,397	69,137	450,717	617,251	596,544	464,328	2,141,064	3,201,936	596,540	464,325	2,141,069	3,201,934
14,622	30,195	127,559	172,376	Materials and Supplies				44,400	69,646	277,788	391,834	563,004	430,152	1,688,640	2,681,796	563,005	430,139	1,688,624	2,681,768
181,272	728,506	71,091	980,869	Miscellaneous Services				582,506	2,054,803	207,366	2,844,675	2,875,140	10,015,956	2,342,340	15,233,436	2,875,124	10,015,943	2,342,341	15,233,408
-	-	-	-	Treatment & Transportation				-	-	-	-	-	-	-	-	-	-	-	-
220,000	383,460	490,000	1,093,460	Depreciation and Amortization				660,000	1,150,380	1,470,000	3,280,380	2,750,004	4,602,996	5,880,000	13,233,000	2,750,000	4,603,000	5,880,000	13,233,000
66,532	6,032	47,350	119,914	Other Expenses				67,501	10,624	92,775	170,900	3,396	999,996	2,782,920	3,786,312	3,400	1,000,000	2,782,916	3,786,316
767,799	1,284,734	2,114,939	4,167,472	Total Operating Expenses				2,089,081	3,667,595	5,595,781	11,352,457	10,088,148	17,958,660	27,322,836	55,369,644	10,088,128	17,958,646	27,322,826	55,369,600
70,484	997	1,234,016	1,305,497	Net Operating Income				422,802	2,961,119	4,091,128	7,475,049	1,270,380	1,883,784	14,349,444	17,503,608	1,270,382	(666,210)	14,349,462	14,953,634
				Non-Operating Income (Expense)															
8,946	21,899	29,280	60,125	Interest Income				32,177	65,091	152,298	249,566	159,996	200,004	900,000	1,260,000	160,000	200,000	900,000	1,260,000
(127,692)	(17,105)	(1,453,283)	(1,598,080)	Interest Expense				(383,176)	(51,141)	(4,359,849)	(4,794,166)	(1,508,784)	(803,088)	(19,356,024)	(21,667,896)	(1,508,789)	(803,082)	(19,356,023)	(21,667,894)
1,593	7,796	-	9,389	Other Miscellaneous Income (Expenses)				(2,835)	16,153	(7,315)	6,003	-	-	-	-	-	-	-	-
(117,153)	12,590	(1,424,003)	(1,528,566)	Net Non-Operating Income (Expense)				(353,834)	30,103	(4,214,866)	(4,538,597)	(1,348,788)	(603,084)	(18,456,024)	(20,407,896)	(1,348,789)	(603,082)	(18,456,023)	(20,407,894)
(46,669)	13,587	(189,987)	(223,069)	Net Income Before Capital Contributions				68,968	2,991,222	(123,738)	2,936,452	(78,408)	1,280,700	(4,106,580)	(2,904,288)	(78,407)	(1,269,292)	(4,106,561)	(5,454,260)
-	-	-	-	Capital Contributions				-	-	-	-	-	-	-	-	-	-	-	-
(46,669)	13,587	(189,987)	(223,069)	NET INCOME				68,968	2,991,222	(123,738)	2,936,452	(78,408)	1,280,700	(4,106,580)	(2,904,288)	(78,407)	(1,269,292)	(4,106,561)	(5,454,260)
Sub W	Sub WW	City	LCA	MARCH 2020				Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA	Sub W	Sub WW	City	LCA
				CASH FLOW STATEMENT															
				Cash Flows From Operating Activities															
838,283	1,285,731	3,348,955	5,472,969	Operating Revenues				2,511,883	6,628,714	9,686,909	18,827,506	11,358,528	19,842,444	41,672,280	72,873,252	11,358,510	17,292,436	41,672,288	70,323,234
(547,799)	(901,274)	(1,624,939)	(3,074,012)	Operating Expenses (ex D&A)				(1,429,081)	(2,517,215)	(4,125,781)	(8,072,077)	(7,338,144)	(13,355,664)	(21,442,836)	(42,136,644)	(7,338,128)	(13,355,646)	(21,442,826)	(42,136,600)
90,266	(486,983)	651,196	254,479	Non-Cash Working Capital Changes				(641,628)	(2,060,123)	(887,073)	(3,588,824)	-	-	-	-	-	-	-	-
380,750	(102,526)	2,375,212	2,653,436	Net Cash Provided by (Used In) Operating Activities				441,174	2,051,376	4,674,055	7,166,605	4,020,384	6,486,780	20,229,444	30,736,608	4,020,382	3,936,790	20,229,462	28,186,634
				Cash Flows From Financing Activities															
-	-	-	-	Capital Contributions				-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	Proceeds New Borrowing				-	-	-	-	5,119,500	22,635,000	-	27,754,500	5,119,500	22,635,000	-	27,754,500
(4,342)	(14,131)	-	(18,473)	Interest Payments				(13,194)	(42,401)	-	(55,595)	(1,508,784)	(803,088)	(13,978,236)	(16,290,108)	(1,508,789)	(803,082)	(13,978,238)	(16,290,109)
(30,675)	(44,505)	-	(75,180)	Principal Payments				(91,858)	(137,530)	-	(229,388)	(1,832,772)	(813,348)	(1,442,928)	(4,089,048)	(1,832,775)	(813,353)	(1,442,932)	(4,089,060)
(35,017)	(58,636)	-	(93,653)	Net Cash Provided by (Used In) Financing Activities				(105,052)	(179,931)	-	(284,983)	1,777,944	21,018,564	(15,421,164)	7,375,344	1,777,936	21,018,565	(15,421,170)	7,375,331
				Cash Flows from Capital and Related Activities															
1,593	7,796	(266,629)	(257,240)	Non-Operating Income (Expenses)				(2,835)	16,153	(273,944)	(260,626)	-	-	(533,258)	(533,258)	-	-	(533,258)	(533,258)
(257,103)	(1,034,305)	(172,459)	(1,463,867)	Capital Expenditures, net				(619,960)	(1,576,233)	(277,969)	(2,474,162)	(8,006,604)	(7,670,496)	(2,032,080)	(17,709,180)	(8,006,600)	(7,670,500)	(2,032,084)	(17,709,184)
(255,510)	(1,026,509)	(439,088)	(1,721,107)	Net Cash Provided By (Used In) Capital and Related Activities				(622,795)	(1,560,080)	(551,913)	(2,734,788)	(8,006,604)	(7,670,496)	(2,565,338)	(18,242,438)	(8,006,600)	(7,670,500)	(2,565,342)	(18,242,442)
				Cash Flows From Investing Activities															
493,000	735,000	-	1,228,000	Investments Converting To Cash				1,236,000	1,233,000	-	2,469,000	743,000	-	-	743,000	-	-	-	-
-	-	-	-	Purchased Investments				(743,000)	(1,233,000)	-	(1,976,000)	(743,000)	-	-	(743,000)	-	-	-	-
8,946	21,899	29,280	60,125	Interest Income				32,177	65,091	152,298	249,566	159,996	200,004	900,000	1,260,000	160,000	200,000	900,000	1,260,000
501,946	756,899	29,280	1,288,125	Net Cash Provided By (Used In) Investing Activities				525,177	65,091	152,298	742,566	159,996	200,004	900,000	1,260,000	160,000	200,000	900,000	1,260,000
592,169	(430,772)	1,965,404	2,126,801	FUND NET CASH FLOWS				238,504	376,456	4,274,440	4,889,400	(2,048,280)	20,034,852	3,142,942	21,129,514	(2,048,282)	17,484,855	3,142,950	18,579,523
				DEBT SERVICE RATIO															
301,023	414,152	1,708,858	2,424,033	Total Cash Available For Debt Service				1,112,144	4,192,743	5,572,797	10,877,684	4,180,380	6,686,784	20,596,186	31,463,350	4,180,382	4,136,790	20,596,204	28,913,376
278,463	134,703	1,285,097	1,698,263	Debt Service				835,389	404,109	3,855,291	5,094,789	3,341,556	1,616,436	15,421,164	20,379,156	3,341,564	1,616,435	15,421,170	20,379,169
1.08	3.07	1.33	1.43	DSCR				1.33	10.38	1.45	2.14	1.25	4.14	1.34	1.54	1.25	2.56	1.34	1.42

LEHIGH COUNTY AUTHORITY
CASH & INVESTMENT ANALYSIS
YTD MARCH 2020

US DOLLARS	Suburban Water	Suburban Wastewater	City Division	LCA Total
CURRENT YEAR ENDING BALANCES				
Cash				
Unrestricted Operating Cash	9,303,765	1,881,057	3,593,444	14,778,266
Unrestricted Project Cash	2,041,569	5,637,661	170,893	7,850,123
Total Unrestricted Cash	11,345,334	7,518,718	3,764,337	22,628,389
Restricted Cash	1,499,266	338,023	60,047,547	61,884,836
Total Cash	12,844,600	7,856,741	63,811,884	84,513,225
Investments				
Unrestricted Investments	2,647,068	7,769,429	-	10,416,497
Restricted Investments	4,593,314	-	-	4,593,314
Total Investments	7,240,382	7,769,429	-	15,009,811
Total Cash + Investments				
Unrestricted	13,992,402	15,288,147	3,764,337	33,044,886
Restricted	6,092,580	338,023	60,047,547	66,478,150
Total	20,084,982	15,626,170	63,811,884	99,523,036

CURRENT YEAR BEGINNING BALANCES				
Cash				
Unrestricted Operating Cash	9,073,260	4,470,362	3,691,201	17,234,823
Unrestricted Project Cash	2,037,248	2,671,991	169,980	4,879,219
Total Unrestricted Cash	11,110,508	7,142,353	3,861,181	22,114,042
Restricted Cash	1,495,588	337,932	55,676,263	57,509,783
Total Cash	12,606,096	7,480,285	59,537,444	79,623,825
Investments				
Unrestricted Investments	3,136,930	7,757,276	-	10,894,206
Restricted Investments	4,593,110	-	-	4,593,110
Total Investments	7,730,040	7,757,276	-	15,487,316
Total Cash + Investments				
Unrestricted	14,247,438	14,899,629	3,861,181	33,008,248
Restricted	6,088,698	337,932	55,676,263	62,102,893
Total	20,336,136	15,237,561	59,537,444	95,111,141

NET ACTIVITY - INCREASE (DECREASE)				
Cash				
Unrestricted Operating Cash	230,505	(2,589,305)	(97,757)	(2,456,557)
Unrestricted Project Cash	4,321	2,965,670	913	2,970,904
Total Unrestricted Cash	234,826	376,365	(96,844)	514,347
Restricted Cash	3,678	91	4,371,284	4,375,053
Total Cash	238,504	376,456	4,274,440	4,889,400
Investments				
Unrestricted Investments	(489,862)	12,153	-	(477,709)
Restricted Investments	204	-	-	204
Total Investments	(489,658)	12,153	-	(477,505)
Total Cash + Investments				
Unrestricted	(255,036)	388,518	(96,844)	36,638
Restricted	3,882	91	4,371,284	4,375,257
Total	(251,154)	388,609	4,274,440	4,411,895

Days on Hand - Unrestricted Cash	564.32	205.48	64.08	196.01
Days on Hand - Unrestricted Cash + Investments	695.98	417.81	64.08	286.24

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
MARCH 2020

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR					
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var	
Operating Revenues																				
805,825	822,568	727,875	(16,743)	77,950	User Charges					2,432,522	2,450,704	2,257,387	(18,182)	175,135	10,582,032	10,582,010	9,893,594	22	688,438	
32,458	30,625	64,730	1,833	(32,272)	Connection & System Charges					79,361	109,041	108,421	(29,680)	(29,060)	776,496	776,500	956,817	(4)	(180,321)	
838,283	853,193	792,605	(14,910)	45,678	Total Operating Revenues					2,511,883	2,559,745	2,365,808	(47,862)	146,075	11,358,528	11,358,510	10,850,411	18	508,117	
Operating Expenses																				
116,068	125,519	150,012	9,451	33,944	Personnel Costs					386,630	411,557	394,451	24,927	7,821	2,106,228	2,106,222	1,511,237	(6)	(594,991)	
131,484	99,486	47,198	(31,998)	(84,286)	General and Administrative					250,647	223,458	183,163	(27,189)	(67,484)	1,193,832	1,193,837	919,226	5	(274,606)	
37,821	49,712	8,120	11,891	(29,701)	Utilities					97,397	111,136	78,787	13,739	(18,610)	596,544	596,540	488,568	(4)	(107,976)	
14,622	32,917	40,117	18,295	25,495	Materials and Supplies					44,400	82,226	72,199	37,826	27,799	563,004	563,005	376,069	1	(186,935)	
181,272	190,595	205,457	9,323	24,185	Miscellaneous Services					582,506	614,285	586,927	31,779	4,421	2,875,140	2,875,124	2,575,929	(16)	(299,211)	
-	-	-	-	-	Treatment & Transportation					-	-	-	-	-	-	-	-	-	-	-
220,000	229,167	229,166	9,167	9,166	Depreciation and Amortization					660,000	678,501	687,498	18,501	27,498	2,750,004	2,750,000	2,749,992	(4)	(12)	
66,532	66,283	1,107	(249)	(65,425)	Other Expenses					67,501	66,849	1,188	(652)	(66,313)	3,396	3,400	60,771	4	57,375	
767,799	793,679	681,177	25,880	(86,622)	Total Operating Expenses					2,089,081	2,188,012	2,004,213	98,931	(84,868)	10,088,148	10,088,128	8,681,792	(20)	(1,406,356)	
70,484	59,514	111,428	10,970	(40,944)	Net Operating Income					422,802	371,733	361,595	51,069	61,207	1,270,380	1,270,382	2,168,619	(2)	(898,239)	
Non-Operating Income (Expense)																				
8,946	13,333	12,738	(4,387)	(3,792)	Interest Income					32,177	39,999	42,131	(7,822)	(9,954)	159,996	160,000	179,230	(4)	(19,234)	
(127,692)	(125,732)	(145,519)	(1,960)	17,827	Interest Expense					(383,176)	(377,196)	(412,330)	(5,980)	29,154	(1,508,784)	(1,508,789)	(1,536,186)	5	27,402	
1,593	-	-	1,593	1,593	Other Miscellaneous Income (Expenses)					(2,835)	-	-	(2,835)	(2,835)	-	-	-	-	-	-
(117,153)	(112,399)	(132,781)	(4,754)	15,628	Net Non-Operating Income (Expense)					(353,834)	(337,197)	(370,199)	(16,637)	16,365	(1,348,788)	(1,348,789)	(1,356,956)	1	8,168	
(46,669)	(52,885)	(21,353)	6,216	(25,316)	Net Income Before Capital Contributions					68,968	34,536	(8,604)	34,432	77,572	(78,408)	(78,407)	811,663	(1)	(890,071)	
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-	-
(46,669)	(52,885)	(21,353)	6,216	(25,316)	NET INCOME					68,968	34,536	(8,604)	34,432	77,572	(78,408)	(78,407)	811,663	(1)	(890,071)	

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR					
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var	
Cash Flows From Operating Activities																				
838,283	853,193	792,605	(14,910)	45,678	Operating Revenues					2,511,883	2,559,745	2,365,808	(47,862)	146,075	11,358,528	11,358,510	10,850,411	18	508,117	
(547,799)	(564,512)	(452,011)	16,713	(95,788)	Operating Expenses (ex D&A)					(1,429,081)	(1,509,511)	(1,316,715)	80,430	(112,366)	(7,338,144)	(7,338,128)	(5,931,800)	(16)	(1,406,344)	
90,266	90,000	(134,535)	266	224,801	Non-Cash Working Capital Changes					(641,628)	(635,000)	(715,940)	(6,628)	74,312	-	-	5,800,237	-	(5,800,237)	
380,750	378,681	206,059	2,069	174,691	Net Cash Provided by (Used In) Operating Activities					441,174	415,234	333,153	25,940	108,021	4,020,384	4,020,382	10,718,848	2	(6,698,464)	
Cash Flows From Financing Activities																				
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing					-	-	-	-	-	5,119,500	5,119,500	-	-	5,119,500	
(4,342)	(4,732)	(4,995)	390	653	Interest Payments					(13,194)	(12,196)	(21,049)	(998)	7,855	(1,508,784)	(1,508,789)	(1,475,406)	5	(33,378)	
(30,675)	(30,731)	(30,022)	56	(653)	Principal Payments					(91,858)	(92,193)	(89,906)	335	(1,952)	(1,832,772)	(1,832,775)	(1,725,137)	3	(107,635)	
(35,017)	(35,463)	(35,017)	446	-	Net Cash Provided by (Used In) Financing Activities					(105,052)	(104,389)	(110,955)	(663)	5,903	1,777,944	1,777,936	(3,200,543)	8	4,978,487	
Cash Flows from Capital and Related Activities																				
1,593	-	-	1,593	1,593	Non-Operating Income (Expenses)					(2,835)	-	-	(2,835)	(2,835)	-	-	-	-	-	-
(257,103)	(267,217)	(180,352)	10,114	(76,751)	Capital Expenditures, net					(619,960)	(633,651)	(375,271)	13,691	(244,689)	(8,006,604)	(8,006,600)	(8,687,268)	(4)	680,664	
(255,510)	(267,217)	(180,352)	11,707	(75,158)	Net Cash Provided By (Used In) Capital and Related Activities					(622,795)	(633,651)	(375,271)	10,856	(247,524)	(8,006,604)	(8,006,600)	(8,687,268)	(4)	680,664	
Cash Flows From Investing Activities																				
493,000	493,000	(201,666)	-	694,666	Investments Converting To Cash					1,236,000	1,236,000	1,362,584	-	(126,584)	743,000	-	5,849,670	743,000	(5,106,670)	
-	-	-	-	-	Purchased Investments					(743,000)	(743,000)	(449,413)	-	(293,587)	(743,000)	-	(2,389,820)	(743,000)	1,646,820	
8,946	13,333	12,738	(4,387)	(3,792)	Interest Income					32,177	39,999	42,131	(7,822)	(9,954)	159,996	160,000	179,230	(4)	(19,234)	
501,946	506,333	(188,928)	(4,387)	690,874	Net Cash Provided By (Used In) Investing Activities					525,177	532,999	955,302	(7,822)	(430,125)	159,996	160,000	3,639,080	(4)	(3,479,084)	
592,169	582,334	(198,238)	9,835	790,407	FUND NET CASH FLOWS					238,504	210,193	802,229	28,311	(563,725)	(2,048,280)	(2,048,282)	2,470,117	2	(4,518,397)	

DEBT SERVICE RATIO																			
301,023	302,014	353,332	(991)	(52,309)	Total Cash Available For Debt Service					1,112,144	1,090,233	1,091,224	21,911	20,920	4,180,380	4,180,382	5,097,841	(2)	(917,461)
278,463	278,463	266,712	-	11,751	Debt Service					835,389	835,389	800,136	-	35,253	3,341,556	3,341,564	3,200,543	(8)	141,013
1.08	1.08	1.32	(0.00)	(0.24)	DSCR					1.33	1.31	1.36	0.03	(0.03)	1.25	1.25	1.59	0.00	(0.34)

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WATER
MARCH 2020

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
User Charges	805,825	822,568	(16,743)	Lower residential revenues and lower fire service revenues
Connection & System Charges	32,458	30,625	1,833	
Total Operating Revenues	838,283	853,193	(14,910)	Lower user charges
Operating Expenses				
Salaries and Wages	116,068	125,519	9,451	Higher internal service charges allocated in
General and Administrative	131,484	99,486	(31,998)	
Utilities	37,821	49,712	11,891	
Materials and Supplies	14,622	32,917	18,295	Lower purification supplies and lower supplies for D&C
Miscellaneous Services	181,272	190,595	9,323	
Treatment & Transportation	-	-	-	Lower operating revenues more than offset by lower operating expenses
Depreciation and Amortization	220,000	229,167	9,167	
Other Expenses	66,532	66,283	(249)	
Total Operating Expenses	767,799	793,679	25,880	
Net Operating Income	70,484	59,514	10,970	
Non-Operating Income (Expenses)				
Interest Income	8,946	13,333	(4,387)	Lower interest income Higher operating income partially offset by lower non-operating income
Interest (Expense)	(127,692)	(125,732)	(1,960)	
Other Miscellaneous Income (Expenses)	1,593	-	1,593	
Capital Contributions	-	-	-	
Total Non-Operating Income (Expenses)	(117,153)	(112,399)	(4,754)	
NET INCOME	(46,669)	(52,885)	6,216	

FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	838,283	853,193	(14,910)	Lower operating revenues more than offset by lower operating expenses
Operating Expenses (ex D&A)	(547,799)	(564,512)	16,713	
Non-Cash Working Capital Changes	90,266	90,000	266	
Net Cash Provided by (Used in) Operating Activities	380,750	378,681	2,069	
Cash Flows From Financing Activities				
Capital Contributions	-	-	-	
Proceeds New Borrowing	-	-	-	
Interest Payments	(4,342)	(4,732)	390	
Principal Payments	(30,675)	(30,731)	56	
Net Cash Provided by (Used in) Financing Activities	(35,017)	(35,463)	446	
Cash Flows from Capital and Related Activities				
Capital Expenditures, Net	(257,103)	(267,217)	10,114	Lower capex spending
Non-Operating Income (Expenses)	1,593	-	1,593	
Net Cash Provided By (Used In) Capital and Related Activities	(255,510)	(267,217)	11,707	
Cash Flows From Investing Activities				
Investments Converting To Cash	493,000	493,000	-	Higher cash from operations along with lower capex spending offset partially by lower interest income
Purchased Investments	-	-	-	
Interest Income	8,946	13,333	(4,387)	
Net Cash Provided By (Used In) Investing Activities	501,946	506,333	(4,387)	
FUND NET CASH FLOWS	592,169	582,334	9,835	

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
MARCH 2020

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR					
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var	
Operating Revenues																				
1,233,717	1,240,513	949,605	(6,796)	284,112	User Charges					3,858,406	3,846,776	3,781,929	11,630	76,477	16,446,156	16,446,154	14,566,551	2	1,879,605	
52,014	30,524	64,473	21,490	(12,459)	Connection & System Fees					2,770,308	2,751,572	117,094	18,736	2,653,214	3,396,288	846,282	2,778,171	2,550,006	618,117	
1,285,731	1,271,037	1,014,078	14,694	271,653	Total Operating Revenues					6,628,714	6,598,348	3,899,023	30,366	2,729,691	19,842,444	17,292,436	17,344,722	2,550,008	2,497,722	
Operating Expenses																				
51,114	53,712	87,791	2,598	36,677	Personnel Costs					179,292	181,136	212,757	1,844	33,465	992,544	992,555	804,472	11	(188,072)	
62,280	37,724	13,289	(24,556)	(48,991)	General and Administrative					133,713	103,172	76,915	(30,541)	(56,798)	452,688	452,684	396,588	(4)	(56,100)	
23,147	38,694	6,091	15,547	(17,056)	Utilities					69,137	85,082	68,623	15,945	(514)	464,328	464,325	438,942	(3)	(25,386)	
30,195	35,846	22,513	5,651	(7,682)	Materials and Supplies					69,646	87,538	78,914	17,892	9,268	430,152	430,139	333,610	(13)	(96,542)	
728,506	734,663	829,186	6,157	100,680	Miscellaneous Services					2,054,803	2,106,843	2,384,532	52,040	329,729	10,015,956	10,015,943	9,824,619	(13)	(191,337)	
-	-	-	-	-	Treatment & Transportation					-	-	-	-	-	-	-	-	-	-	-
383,460	383,583	383,527	123	67	Depreciation and Amortization					1,150,380	1,150,749	1,150,581	369	201	4,602,996	4,603,000	4,602,324	4	(672)	
6,032	8,333	1,525	2,301	(4,507)	Other Expenses					10,624	14,999	10,923	4,375	299	999,996	1,000,000	1,982,852	4	982,856	
1,284,734	1,292,555	1,343,922	7,821	59,188	Total Operating Expenses					3,667,595	3,729,519	3,983,245	61,924	315,650	17,958,660	17,958,646	18,383,407	(14)	424,747	
997	(21,518)	(329,844)	22,515	330,841	Net Operating Income					2,961,119	2,868,829	(84,222)	92,290	3,045,341	1,883,784	(666,210)	(1,038,685)	2,549,994	2,922,469	
Non-Operating Income (Expense)																				
21,899	16,667	23,431	5,232	(1,532)	Interest Income					65,091	50,001	69,532	15,090	(4,441)	200,004	200,000	284,246	4	(84,242)	
(17,105)	(16,924)	(22,960)	(181)	5,855	Interest Expense					(51,141)	(50,772)	(51,941)	(369)	800	(803,088)	(803,082)	(213,115)	(6)	(589,973)	
7,796	-	-	7,796	7,796	Other Miscellaneous Income (Expenses)					16,153	-	-	16,153	16,153	-	-	-	-	-	-
12,590	(257)	471	12,847	12,119	Net Non-Operating Income (Expense)					30,103	(771)	17,591	30,874	12,512	(603,084)	(603,082)	71,131	(2)	(674,215)	
13,587	(21,775)	(329,373)	35,362	342,960	Net Income Before Capital Contributions					2,991,222	2,868,058	(66,631)	123,164	3,057,853	1,280,700	(1,269,292)	(967,554)	2,549,992	2,248,254	
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-	-
13,587	(21,775)	(329,373)	35,362	342,960	NET INCOME					2,991,222	2,868,058	(66,631)	123,164	3,057,853	1,280,700	(1,269,292)	(967,554)	2,549,992	2,248,254	

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR					
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var	
Cash Flows From Operating Activities																				
1,285,731	1,271,037	1,014,078	14,694	271,653	Operating Revenues					6,628,714	6,598,348	3,899,023	30,366	2,729,691	19,842,444	17,292,436	17,344,722	2,550,008	2,497,722	
(901,274)	(908,972)	(960,395)	7,698	59,121	Operating Expenses (ex D&A)					(2,517,215)	(2,578,770)	(2,832,664)	61,555	315,449	(13,355,664)	(13,355,646)	(13,781,083)	(18)	425,419	
(486,983)	(500,000)	70,282	13,017	(557,265)	Non-Cash Working Capital Changes					(2,060,123)	(2,090,000)	(1,136,489)	29,877	(923,634)	-	-	5,176,837	-	(5,176,837)	
(102,526)	(137,935)	123,965	35,409	(226,491)	Net Cash Provided by (Used in) Operating Activities					2,051,376	1,929,578	(70,130)	121,798	2,121,506	6,486,780	3,936,790	8,740,476	2,549,990	(2,253,696)	
Cash Flows From Financing Activities																				
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing					-	-	-	-	-	22,635,000	22,635,000	-	-	22,635,000	
(14,131)	(16,924)	(14,613)	2,793	482	Interest Payments					(42,401)	(97,772)	(43,594)	55,371	1,193	(803,088)	(803,082)	(178,219)	(6)	(624,869)	
(44,505)	(44,779)	(41,017)	274	(3,488)	Principal Payments					(137,530)	(157,337)	(122,832)	19,807	(14,698)	(813,348)	(813,353)	(499,110)	5	(314,238)	
(58,636)	(61,703)	(55,630)	3,067	(3,006)	Net Cash Provided by (Used in) Financing Activities					(179,931)	(255,109)	(166,426)	75,178	(13,505)	21,018,564	21,018,565	(677,329)	(1)	21,695,893	
Cash Flows from Capital and Related Activities																				
7,796	-	-	7,796	7,796	Non-Operating Income (Expenses)					16,153	-	-	16,153	16,153	-	-	-	-	-	-
(1,034,305)	(1,089,208)	(483,454)	54,903	(550,851)	Capital Expenditures, net					(1,576,233)	(1,667,624)	(658,796)	91,391	(917,437)	(7,670,496)	(7,670,500)	(8,646,149)	4	975,653	
(1,026,509)	(1,089,208)	(483,454)	62,699	(543,055)	Net Cash Provided By (Used In) Capital and Related Activities					(1,560,080)	(1,667,624)	(658,796)	107,544	(901,284)	(7,670,496)	(7,670,500)	(8,646,149)	4	975,653	
Cash Flows From Investing Activities																				
735,000	735,000	-	-	735,000	Investments Converting To Cash					1,233,000	1,233,000	1,754,618	-	(521,618)	-	-	5,481,724	-	(5,481,724)	
-	-	(7,165)	-	7,165	Purchased Investments					(1,233,000)	(1,236,056)	(3,766,638)	3,056	2,533,638	-	-	(6,783,296)	-	6,783,296	
21,899	16,667	23,431	5,232	(1,532)	Interest Income					65,091	50,001	69,532	15,090	(4,441)	200,004	200,000	284,246	4	(84,242)	
756,899	751,667	16,266	5,232	740,633	Net Cash Provided By (Used In) Investing Activities					65,091	46,945	(1,942,488)	18,146	2,007,579	200,004	200,000	(1,017,326)	4	1,217,330	
(430,772)	(537,179)	(398,853)	106,407	(31,919)	FUND NET CASH FLOWS					376,456	53,790	(2,837,840)	322,666	3,214,296	20,034,852	17,484,855	(1,600,328)	2,549,997	21,635,180	
DEBT SERVICE RATIO																				
414,152	378,732	77,114	35,420	337,038	Total Cash Available For Debt Service					4,192,743	4,069,579	1,135,891	123,164	3,056,852	6,686,784	4,136,790	3,847,885	2,549,994	2,838,899	
134,703	134,703	56,444	-	78,259	Debt Service					404,109	404,109	169,332	-	234,777	1,616,436	1,616,435	677,329	1	939,107	
3.07	2.81	1.37	0.26	1.71	DSCR					10.38	10.07	6.71	0.30	3.67	4.14	2.56	5.68	1.58	(1.54)	

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - SUBURBAN WASTEWATER
MARCH 2020

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
User Charges	1,233,717	1,240,513	(6,796)	
Connection & System Charges	52,014	30,524	21,490	
Total Operating Revenues	1,285,731	1,271,037	14,694	
Operating Expenses				
Salaries and Wages	51,114	53,712	2,598	
General and Administrative	62,280	37,724	(24,556)	Higher internal service costs allocated in
Utilities	23,147	38,694	15,547	
Materials and Supplies	30,195	35,846	5,651	
Miscellaneous Services	728,506	734,663	6,157	
Treatment & Transportation	-	-	-	
Depreciation and Amortization	383,460	383,583	123	
Other Expenses	6,032	8,333	2,301	
Total Operating Expenses	1,284,734	1,292,555	7,821	
Net Operating Income	997	(21,518)	22,515	Higher operating revenues along with lower operating expenses
Non-Operating Income (Expenses)				
Interest Income	21,899	16,667	5,232	
Interest (Expense)	(17,105)	(16,924)	(181)	
Other Miscellaneous Income (Expenses)	7,796	-	7,796	
Capital Contributions	-	-	-	
Total Non-Operating Income (Expenses)	12,590	(257)	12,847	
NET INCOME	13,587	(21,775)	35,362	Higher operating revenues, lower operating expenses, and higher non-operating revenues

FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	1,285,731	1,271,037	14,694	
Operating Expenses (ex D&A)	(901,274)	(908,972)	7,698	
Non-Cash Working Capital Changes	(486,983)	(500,000)	13,017	
Net Cash Provided by (Used in) Operating Activities	(102,526)	(137,935)	35,409	Higher operating revenues, lower operating expenses, and more favorable working capital movements
Cash Flows From Financing Activities				
Capital Contributions	-	-	-	
Proceeds New Borrowing	-	-	-	
Interest Payments	(14,131)	(16,924)	2,793	
Principal Payments	(44,505)	(44,779)	274	
Net Cash Provided by (Used in) Financing Activities	(58,636)	(61,703)	3,067	
Cash Flows from Capital and Related Activities				
Capital Expenditures, Net	(1,034,305)	(1,089,208)	54,903	Lower capex
Non-Operating Income (Expenses)	7,796	-	7,796	
Net Cash Provided By (Used In) Capital and Related Activities	(1,026,509)	(1,089,208)	62,699	
Cash Flows From Investing Activities				
Investments Converting To Cash	735,000	735,000	-	
Purchased Investments	-	-	-	
Interest Income	21,899	16,667	5,232	
Net Cash Provided By (Used In) Investing Activities	756,899	751,667	5,232	
FUND NET CASH FLOWS	(430,772)	(537,179)	106,407	Higher funds from operations along with lower capex

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
MARCH 2020

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	INCOME STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var
Operating Revenues																			
3,339,347	3,336,040	3,146,500	3,307	192,847	User Charges					9,644,907	9,636,403	9,206,306	8,504	438,601	38,712,480	38,712,488	38,630,691	(8)	81,789
9,608	10,358	224,747	(750)	(215,139)	Connection & System Fees					42,002	52,741	254,878	(10,739)	(212,876)	2,959,800	2,959,800	1,101,025	-	1,858,775
3,348,955	3,346,398	3,371,247	2,557	(22,292)	Total Operating Revenues					9,686,909	9,689,144	9,461,184	(2,235)	225,725	41,672,280	41,672,288	39,731,716	(8)	1,940,564
Operating Expenses																			
1,145,092	1,146,933	826,982	1,841	(318,110)	Personnel Costs					2,125,392	2,095,799	2,099,776	(29,593)	(25,616)	7,883,196	7,883,195	8,050,023	(1)	166,827
80,362	78,723	261,381	(1,639)	181,019	General and Administrative					971,743	976,169	948,616	4,426	(23,127)	4,604,676	4,604,681	4,481,586	5	(123,090)
153,485	158,422	49,244	4,937	(104,241)	Utilities					450,717	465,266	399,700	14,549	(51,017)	2,141,064	2,141,069	2,241,593	5	100,529
127,559	125,720	117,467	(1,839)	(10,092)	Materials and Supplies					277,788	325,160	235,194	47,372	(42,594)	1,688,640	1,688,624	1,240,260	(16)	(448,380)
71,091	80,195	115,039	9,104	43,948	Miscellaneous Services					207,366	261,585	287,959	54,219	80,593	2,342,340	2,342,341	1,834,666	1	(507,674)
-	-	-	-	-	Treatment & Transportation					-	-	-	-	-	-	-	-	-	-
490,000	490,000	490,000	-	-	Depreciation and Amortization					1,470,000	1,470,000	1,470,000	-	-	5,880,000	5,880,000	5,880,000	-	-
47,350	51,910	44,532	4,560	(2,818)	Other Expenses					92,775	99,730	75,523	6,955	(17,252)	2,782,920	2,782,916	812,088	(4)	(1,970,832)
2,114,939	2,131,903	1,904,645	16,964	(210,294)	Total Operating Expenses					5,595,781	5,693,709	5,516,768	97,928	(79,013)	27,322,836	27,322,826	24,540,216	(10)	(2,782,620)
1,234,016	1,214,495	1,466,602	19,521	(232,586)	Net Operating Income					4,091,128	3,995,435	3,944,416	95,693	146,712	14,349,444	14,349,462	15,191,500	(18)	(842,056)
Non-Operating Income (Expense)																			
29,280	30,000	99,756	(720)	(70,476)	Interest Income					152,298	170,000	212,828	(17,702)	(60,530)	900,000	900,000	1,193,573	-	(293,573)
(1,453,283)	(1,453,002)	(1,460,583)	(281)	7,300	Interest Expense					(4,359,849)	(4,361,006)	(4,387,099)	1,157	27,250	(19,356,024)	(19,356,023)	(18,487,424)	(1)	(868,600)
-	-	-	-	-	Other Miscellaneous Income (Expenses)					(7,315)	-	-	(7,315)	(7,315)	-	-	-	-	-
(1,424,003)	(1,423,002)	(1,360,827)	(1,001)	(63,176)	Net Non-Operating Income (Expense)					(4,214,866)	(4,191,006)	(4,174,271)	(23,860)	(40,595)	(18,456,024)	(18,456,023)	(17,293,851)	(1)	(1,162,173)
(189,987)	(208,507)	105,775	18,520	(295,762)	Net Income Before Capital Contributions					(123,738)	(195,571)	(229,855)	71,833	106,117	(4,106,580)	(4,106,561)	(2,102,351)	(19)	(2,004,229)
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-
(189,987)	(208,507)	105,775	18,520	(295,762)	NET INCOME					(123,738)	(195,571)	(229,855)	71,833	106,117	(4,106,580)	(4,106,561)	(2,102,351)	(19)	(2,004,229)

MONTH					MARCH 2020					YEAR-TO-DATE					FULL YEAR				
Actual	Forecast	Prior Yr	FC Var	PY Var	CASH FLOW STATEMENT					Actual	Forecast	Prior Yr	FC Var	PY Var	Forecast	Budget	Prior Yr	Bud Var	PY Var
Cash Flows From Operating Activities																			
3,348,955	3,346,398	3,371,247	2,557	(22,292)	Operating Revenues					9,686,909	9,689,144	9,461,184	(2,235)	225,725	41,672,280	41,672,288	39,731,716	(8)	1,940,564
(1,624,939)	(1,641,903)	(1,414,645)	16,964	(210,294)	Operating Expenses (ex D&A)					(4,125,781)	(4,223,709)	(4,046,768)	97,928	(79,013)	(21,442,836)	(21,442,826)	(18,660,216)	(10)	(2,782,620)
651,196	650,000	791,751	1,196	(140,555)	Non-Cash Working Capital Changes					(887,073)	(950,000)	(936,321)	62,927	49,248	-	-	(4,585)	-	4,585
2,375,212	2,354,495	2,748,353	20,717	(373,141)	Net Cash Provided by (Used In) Operating Activities					4,674,055	4,515,435	4,478,095	158,620	195,960	20,229,444	20,229,462	21,066,915	(18)	(837,471)
Cash Flows From Financing Activities																			
-	-	-	-	-	Capital Contributions					-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Proceeds New Borrowing					-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	Interest Payments					-	-	(5,348)	-	5,348	(13,978,236)	(13,978,238)	(13,426,458)	2	(551,778)
-	-	-	-	-	Principal Payments					-	-	-	-	-	(1,442,928)	(1,442,932)	(1,245,000)	4	(197,928)
-	-	-	-	-	Net Cash Provided by (Used In) Financing Activities					-	-	(5,348)	-	5,348	(15,421,164)	(15,421,170)	(14,671,458)	6	(749,706)
Cash Flows from Capital and Related Activities																			
(266,629)	(266,629)	(262,431)	-	(4,198)	Non-Operating Income (Expenses)					(273,944)	(266,629)	(262,431)	(7,315)	(11,513)	(533,258)	(533,258)	(524,861)	-	(8,397)
(172,459)	(169,340)	(151,779)	(3,119)	(20,680)	Capital Expenditures, net					(277,969)	(378,020)	(355,434)	100,051	77,465	(2,032,080)	(2,032,084)	(3,591,927)	4	1,559,847
(439,088)	(435,969)	(414,210)	(3,119)	(24,878)	Net Cash Provided By (Used In) Capital and Related Activities					(551,913)	(644,649)	(617,865)	92,736	65,952	(2,565,338)	(2,565,342)	(4,116,788)	4	1,551,450
Cash Flows From Investing Activities																			
-	-	-	-	-	Investments Converting To Cash					-	-	-	-	-	-	-	3,940,640	-	(3,940,640)
-	-	-	-	-	Purchased Investments					-	-	-	-	-	-	-	-	-	-
29,280	30,000	99,756	(720)	(70,476)	Interest Income					152,298	170,000	212,828	(17,702)	(60,530)	900,000	900,000	1,193,573	-	(293,573)
29,280	30,000	99,756	(720)	(70,476)	Net Cash Provided By (Used In) Investing Activities					152,298	170,000	212,828	(17,702)	(60,530)	900,000	900,000	5,134,213	-	(4,234,213)
1,965,404	1,948,526	2,433,899	16,878	(468,495)	FUND NET CASH FLOWS					4,274,440	4,040,786	4,067,710	233,654	206,730	3,142,942	3,142,950	7,412,882	(8)	(4,269,940)
DEBT SERVICE RATIO																			
1,708,858	1,690,057	2,012,620	18,801	(303,762)	Total Cash Available For Debt Service					5,572,797	5,502,121	5,496,030	70,676	76,767	20,596,186	20,596,204	21,740,212	(18)	(1,144,026)
1,285,097	1,285,097	1,222,621	-	62,476	Debt Service					3,855,291	3,855,291	3,667,863	-	187,428	15,421,164	15,421,170	14,671,458	(6)	749,706
1.33	1.32	1.65	0.01	(0.32)	DSCR					1.45	1.43	1.50	0.02	(0.05)	1.34	1.34	1.48	(0.00)	(0.15)

LEHIGH COUNTY AUTHORITY
FINANCIAL STATEMENTS - CITY DIVISION
MARCH 2020

FORECAST VARIANCES - MONTH				
INCOME STATEMENT	Actual	Forecast	Variance	Comments
Operating Revenues				
User Charges	3,339,347	3,336,040	3,307	
Connection & System Charges	9,608	10,358	(750)	
Total Operating Revenues	3,348,955	3,346,398	2,557	Slightly higher user charges
Operating Expenses				
Salaries and Wages	1,145,092	1,146,933	1,841	
General and Administrative	80,362	78,723	(1,639)	
Utilities	153,485	158,422	4,937	
Materials and Supplies	127,559	125,720	(1,839)	
Miscellaneous Services	71,091	80,195	9,104	
Treatment & Transportation	-	-	-	
Depreciation and Amortization	490,000	490,000	-	
Other Expenses	47,350	51,910	4,560	
Total Operating Expenses	2,114,939	2,131,903	16,964	Lower overall operating expenses
Net Operating Income	1,234,016	1,214,495	19,521	Higher operating revenues along with lower operating expenses
Non-Operating Income (Expenses)				
Interest Income	29,280	30,000	(720)	
Interest (Expense)	(1,453,283)	(1,453,002)	(281)	
Other Miscellaneous Income (Expenses)	-	-	-	
Capital Contributions	-	-	-	
Total Non-Operating Income (Expenses)	(1,424,003)	(1,423,002)	(1,001)	Lower interest income
NET INCOME	(189,987)	(208,507)	18,520	Higher Operating income offset slightly by unfavorable non-operating items

FORECAST VARIANCES - MONTH				
CASH FLOW STATEMENT	Actual	Forecast	Variance	Comments
Cash Flows From Operating Activities				
Operating Revenues	3,348,955	3,346,398	2,557	
Operating Expenses (ex D&A)	(1,624,939)	(1,641,903)	16,964	
Non-Cash Working Capital Changes	651,196	650,000	1,196	
Net Cash Provided by (Used in) Operating Activities	2,375,212	2,354,495	20,717	Higher operating revenues, lower operating expenses
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				
Capital Expenditures, Net	(172,459)	(169,340)	(3,119)	Slightly higher capex
Non-Operating Income (Expenses)	(266,629)	(266,629)	-	
Net Cash Provided By (Used In) Capital and Related Activities	(439,088)	(435,969)	(3,119)	
Cash Flows From Investing Activities				
Investments Converting To Cash	-	-	-	
Purchased Investments	-	-	-	
Interest Income	29,280	30,000	(720)	
Net Cash Provided By (Used In) Investing Activities	29,280	30,000	(720)	
FUND NET CASH FLOWS	1,965,404	1,948,526	16,878	Higher funds from operations

Lehigh County Authority

System Operations Review - March 2020

Presented: April 27, 2020

Critical Activities	System	Description	Mar-20	2020 Totals	2019 Totals	Permit	
			Daily Avg (MGD)	Daily Avg (MGD)	Daily Avg (MGD)	Daily Max (MGD)	
Water Production	Allentown	Total	20.88	20.77	21.51	39.0	
		Schantz Spring	7.40	7.55	7.77	9.0	
		Crystal Spring	3.87	3.90	3.88	4.0	
		Little Lehigh Creek	9.52	9.24	9.85	30.0	
		Lehigh River	0.09	0.07	0.01	28.0	
	Central Lehigh	Total	9.54	9.31	9.75	19.04 MGD Avg	
		Feed from Allentown	6.92	6.79	6.93	7.0 MGD Avg 10.5 MGD Max	
		Well Production (CLD)	2.62	2.52	2.80	8.54 MGD Avg	
		Sum of all (12) other Suburban Water Systems	0.12	0.14	0.17	1.71 Sum of all wells	
Wastewater Treatment		Kline's Island	31.84	32.37	37.63	40.0	
		Pretreatment Plant	4.86	4.87	5.88	5.75 (design capacity)	
		Sum of all (5) other Suburban WW Systems	0.19	0.20	0.19	0.36	
			Mar-20	2020 Totals	2019 Totals	2018 Totals	
Precipitation Totals (inches)			3.12	8.62	60.66	66.96	
Compliance Reports Submitted to Allentown			37	83	278	285	
Notices of Violation (NOVs)			(Allentown + Suburban)	0	0	1	1
Sanitary Sewer Overflows (SSOs)/Bypasses			(Allentown + Suburban)	0	2	37	78
Main Breaks Repaired			Allentown	0	2	20	33
			Suburban	2	5	12	23
Customer Service Phone Inquiries			(Allentown + Suburban)	1,386	4,918	22,992	26,440
Water Shutoffs for Non-Payment			(Allentown + Suburban)	0	280	1,956	1,838
Injury Accidents			(Allentown + Suburban)	0	3	10	14
Emergency Declarations			Allentown	0	(1)@ \$119,972	(2)@ \$152,053	(5) @ \$76,469
			Suburban	0	\$0	(1) @ \$19,335	(1) @ \$21,197

Significant Repairs/Upgrades: There were no (0) significant repairs during March 2020. Also, during the Pandemic Emergency, most upgrades and projects in general have been postponed until after the Emergency has ended.

Description of NOVs and/or SSOs: There were zero (0) NOVs or SSOs for either LCA system during March, 2020.

Other Highlights: All four (4) operational areas have taken various precautions as we all deal with the Coronavirus. Schedules have been developed to keep the workers separated as best as we can. Priority work continues on all fronts but some routine maintenance activities are being deferred until after the pandemic is over. This can go on for several weeks or even a few months but if the emergency continues longer than that, Operations may need to regroup and decide what tasks can't be deferred any longer. Some distribution and collection system maintenance activities such as valve and hydrant exercising has been deferred but other tasks such as jetting daily and weekly grease routes in the city simply can't be pushed off. The city system has been experiencing higher than normal blockages within the sewer system and rags/wipes appear to be the culprit. The city has a vastly larger grease problem compared to suburban also.