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Agendas & Minutes Posted:
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LEHIGH COUNTY AUTHORITY

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BOARD MEETING AGENDA – December 11, 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

• *November 13, 2023 Board Meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *LCA Strategic Plan – 2023 Quarterly Progress Reporting (Approval) (gray) (digital Board packet, pages 8-14)*
- *Capital Works Planning Room Organizing, Secure Storage and Digitizing – Phase 2 (Approval) (salmon) (digital Board packet, pages 15-17)*
- *Resolution No. 12-2023-1: Customer Facility Fees & Connection Fees (Approval) (purple) (digital Board packet, pages 18-23)*

WATER

- *Water Filtration Plant: Filter Upgrade Project (Approval) (green) (digital Board packet, pages 24-36)*

WASTEWATER

- *Upper Western Lehigh Pump Station & Force Main (Approval) (pink) (digital Board packet, pages 37-43)*
- *Kline's Island WWTP: Substation No. 1 and Switchgear Replacement (Approval) (yellow) (digital Board packet, pages 44-59)*

- *KISS System Selection of Solution (SOS) (Approval) (blue) (digital Board packet, pages 60-66)*

6. Monthly Project Updates / Information Items (1st Board meeting per month) (digital Board packet, pages 67-74)
7. Monthly Financial Review (2nd Board meeting per month)
8. Monthly System Operations Overview (2nd Board meeting per month)
9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments
12. Board Member Comments
13. Executive Sessions
14. Adjournment

UPCOMING BOARD MEETINGS		
January 8, 2024	January 22, 2024	February 12, 2024

PUBLIC PARTICIPATION POLICY

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

REGULAR MEETING MINUTES

November 13, 2023

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:10 p.m. on Monday, November 13, 2023, Vice Chairman Amir Famili 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, Amir Famili, Linda Rosenfeld, Norma Cusick, Jeff Morgan, and Sean Ziller were present for Roll Call, and remained for the duration of the meeting. Vice Chairman Famili presided over the meeting at the request of Chairman Nagle, who participated remotely.

Attorney Mike Gaul of KingSpry, the Authority's Solicitor, was present along with Authority Staff, Liesel Gross, Ed Klein, Chris Moughan, Andrew Moore, AJ Capuzzi, Phil DePoe, Chuck Volk, and Lisa Miller.

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

REVIEW OF AGENDA

Liesel Gross announced that there are no changes to the agenda. An Executive Session was held prior to the start of the meeting to discuss litigation matters with legal counsel.

APPROVAL OF MINUTES

October 9 and 23, 2023 Meeting Minutes

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the minutes from the October 9 and October 23, 2023 meetings as presented (6-0).

PUBLIC COMMENTS

None.

Proposed 3M and DuPont PFAS Class Action Settlements – Authority Determination

Solicitor Gaul explained that the Authority has received an update regarding the proposed 3M and DuPont PFAS Class Action settlements, noting the proposed settlements require the Authority to make a decision regarding its participation in the settlements.

On a motion by Sean Ziller, seconded by Linda Rosenfeld, the Board approved opting out of the proposed 3M and DuPont PFAS Class Action settlements and authorized the Authority CEO, CFO, and/or special counsel to execute, serve, or file any necessary or convenient documentation to effectuate opting out of the proposed settlements (6-0).

Authority Solicitor Contract

Attorney Gaul and KingSpry Attorneys Kevin Reid and Richard Campbell, who were also in attendance, were excused from the meeting during the Board's consideration of the Authority Solicitor contract.

Liesel Gross provided background information on the appointment of King Spry as the Authority's Solicitor. Due to structural changes at King Spry, Attorney Michael Gaul will no longer serve as the Solicitor for the Authority. The Authority reviewed its current needs and received proposals from five different firms and interviewed three that were well qualified to meet the Authority's needs. Because King Spry has served the Authority admirably for many years and their proposal met the Authority's needs, Staff recommends contracting with King Spry with Kevin Reid as the main contact. There was Board discussion regarding representation for Authority matters, cost of services, and in-house counsel.

The Board then inquired about the potential to hire in-house counsel. Liesel Gross explained the in-house Solicitor position is included in the 2024 budget and will be reviewed next year. However, outside counsel for certain issues will continue to be needed considering the breadth of issues in which the Authority is currently involved. Also, the proposed contract with King Spry includes a 30-day termination clause, so there is significant flexibility to make a change if in-house counsel is determined to be preferred.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the contract with King Spry for their services through 2026 (6-0).

Attorneys Gaul, Reid and Campbell returned to the meeting.

2024 Water & Wastewater Rate Schedules

Liesel Gross highlighted the proposed 2024 rates and bill samples across various Authority service areas. In addition, a review of water and sewer rates throughout the Lehigh Valley was provided, showing how the Authority's rates compare in the region. The proposed 2024 water and sewer rates were presented in more detail during the budget process that concluded in October.

There was some Board discussion about the makeup of the Allentown Division rates, and the Capital Cost Recovery Charge.

On a motion by Norma Cusick, seconded by Sean Ziller, the Board approved the 2024 Water & Wastewater Rates.

Ms. Gross noted that notification will go out to customers and any comments received prior to the end of the year will be shared with the Board in January.

2024 Board Meeting Schedule

Liesel Gross noted that the meetings scheduled in May 2024 will only be one week apart due to the Memorial Day holiday. Board approval of the schedule is requested so the Authority staff can move forward with advertising the schedule.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the 2024 Board Meeting Schedule as presented (6-0).

Resolution No. 11-2023-1 PENNVEST Reimbursement for Lead Service Line Cycle 1 Project

Liesel Gross explained the Resolution is a standard form for the PENNVEST program that allows for PENNVEST funds to be used to reimburse the Authority for project expenses incurred prior to settlement on the loan or grant. As the project kicks off with design phase services and other work, the Authority will use its general funds to pay those expenses. The PENNVEST settlement is expected to occur in April 2024.

There was some Board discussion on the PENNVEST program and how funds are allocated to projects.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved Resolution No. 11-2023-1, PENNVEST Reimbursement for Lead Service Line Cycle 1 Project (6-0).

Lead Service Line Inventory Program & Compliance Planning - Allentown Division & Suburban Division

Chuck Volk provided an overview of the project to support compliance with the Lead and Copper Rule Revision, which requires water utilities to develop a detailed service line material inventory. A report on this inventory data must be submitted to the Pa. Department of Environmental Protection (DEP) and shared with the public before October 16, 2024. The Authority intends to hire a consultant to assist with the inventory. The authorization is shown as a single project with separate components to address the different needs of the Allentown Division and Suburban Division water systems.

There was discussion regarding the accuracy of the current inventory records and DEP guidelines. Mr. Volk stated that the inventory will help prioritize annual projects.

On a motion by Linda Rosenfeld, seconded by Brian Nagle, the Board approved the Capital Project Authorizations for the Lead Service Line Program Planning Phase to the Allentown Division in the amount of \$153,000.00 and the Suburban Division in the amount of \$68,000.00, which includes the Professional Services Authorization to GHD Engineering for the Allentown Division in the amount of \$108,000.00 and the Suburban Division in the amount of \$48,000.00 (6-0).

Lead Service Line Replacement Program Cycle 1

Chuck Volk provided an overview of the pilot project to support compliance with the Lead and Copper Rule Revision requiring the replacement of both public and private lead service lines. Cycle 1 of the project will replace approximately 150 lead service lines and include the investigation of approximately 450 service lines within the project area.

On a motion by Jeff Morgan, seconded by Norma Cusick, the Board approved the Capital Project Authorization for Lead Services Replacement Program Cycle 1 Design & Bid phase in the amount of \$225,700.00 which includes the Professional Services Authorization to Gannett Fleming, Inc. in the amount of \$125,700.00 (6-0).

Water Main Replacement Program Cycle 7

Jason Peters provided background of the main replacement project that will replace 1.22 miles of pipe in North Whitehall Township to replace developer-installed piping and appurtenances. He reviewed the site selection and bidding process, noting that the work will focus on replacing plastic water mains in this area, which has a high level of water loss due to the difficulty in performing leak detection investigations on plastic pipe material.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the Capital Project Authorization for the construction phase, Cycle 7 in the amount of \$2,042,979.00 which includes the Professional Services Authorization for construction engineering services to Gannett Fleming Inc. in the amount of \$50,000.00, the Professional Services Authorization for construction inspection services to Keystone Consulting Engineers in the amount of \$75,000.00, and the contract award for general construction to PACT ONE LLC in the amount of \$1,767,979.00. (6-0).

LCA Sewage Transportation Agreement – Upper Macungie & Lower Macungie Townships

Liesel Gross gave an overview of the agreement between Upper Macungie and Lower Macungie Townships and the Authority for the Upper Western Lehigh Pump Station and Force Main project, which will address the flow-restricted area of the Western Lehigh Interceptor commonly known as the Trexlertown Bottleneck. The project will include a pump station and force main that will connect to an Upper Macungie Township trunk line. This will remove approximately 2.5 million gallons per day from the Western Lehigh Interceptor to relieve the bottleneck area. The project is only an interim solution. Phil Depoe noted that the project only addresses dry-day conditions, and does not address wet-weather conditions. The Act 537 plan will provide a long-term solution to this problem area. The Sewage Transportation Agreement has been developed between the Townships and the Authority to specify the terms of the Authority's use of the Upper Macungie Township trunk line during the interim period until a long-term solution is implemented. Lower Macungie Township is a party to the agreement because a portion of its sewage flows enters the same trunk line.

On a motion by Brian Nagle, seconded by Norma Cusick, the Board approved the Sewage Transportation Agreement with Upper Macungie and Lower Macungie Townships and authorized the CEO to execute a final agreement in substantially the same form presented, with such modifications she deems necessary and convenient in consultation with the Authority Solicitor (6-0).

Chairman Nagle asked what will happen to the interim pipeline after the long-term solution is implemented, and who will pay for its removal. Ms. Gross explained that the agreement includes a provision that the Authority has the option to either allow the pipe to remain in place or remove it, and it would be the Authority's cost to remove the piping if that is the preferred option at that time.

Lynn Township WWTP Final Clarifier Project

Chuck Volk described the project that will add a second clarifier to the Lynn Township Wastewater Treatment Plant (WWTP). The existing clarifier is in need of mechanical rehabilitation and is also undersized. The addition of a new final clarifier will facilitate rehabilitation and provide for much needed redundancy. There was some Board discussion about the sizing of the existing clarifier and the future capacity needs of the system.

On a motion by Norma Cusick, seconded by Sean Ziller, the Board approved the Capital Project Authorization for the Lynn Township WWTP Final Clarifier Project design phase in the amount of \$113,300.00 which includes the Professional Services Authorization for the design phase engineering service to D'Huy Engineering in the amount of \$93,300.00 (6-0).

Pretreatment Plant (PTP) Near-Term Facility Improvements

Albert Capuzzi provided a review of the project for preliminary design for critical improvements to the Pretreatment Plant. This project is intended to address near-term needs to address resiliency and redundancy concerns, and long-term needs will be addressed in the Act 537 plan. The Authority intends to retain AECOM for design related engineering services. AECOM was selected for their technical approach and their inclusion of elements of the 30 percent design requested by the Authority.

There was some discussion regarding design elements and selection of solutions for the PTP challenges.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved the Professional Services Authorization for preliminary design to AECOM in the amount of \$282,225.00 (6-0).

MONTHLY PROJECT UPDATES / INFORMATION ITEMS

Liesel Gross pointed out that the monthly Financial report and monthly Operations report are the only items on the agenda for the November 27th meeting, so that meeting may get canceled. She also highlighted items for the meeting in December along with updates to the Open Project list.

Amir Famili thanked the Board for their efforts in reviewing all the projects on today's agenda.

STAFF COMMENTS

Liesel Gross recognized Solicitor Mike Gaul for all his efforts and thanked him for his work serving the Authority.

Ms. Gross also reviewed last week's kick-off to the public communications program for the Kline's Island Sewer System Act 537 Plan, including the first municipal meeting on this topic that was held last week. Over the next few weeks, several presentations at other municipal meetings are scheduled. Any questions or comments should be directed to either Susan Sampson or Liesel Gross.

SOLICITOR'S COMMENTS

Solicitor Gaul stated that the amount of work that the Authority Board and management staff do for the benefit of the community is incredible. He said he feels the public spirit of the Authority is excellent.

PUBLIC COMMENTS / OTHER COMMENTS

None.

BOARD MEMBER COMMENTS

Chairman Nagle thanked Solicitor Mike Gaul for his service to the Authority, and stated that the Authority Board has been very happy with his performance over the years.

EXECUTIVE SESSION

None.

ADJOURNMENT

There being no further business, the Vice Chairman adjourned the meeting at 1:26 p.m.

Linda A. Rosenfeld
Secretary

LCA Strategic Plan (2022-2027)

2023 Quarterly Progress Report: November 2023

Overview

Lehigh County Authority (LCA) adopted an updated Strategic Plan in December 2021, which included a refreshed look at our Mission, Vision, Values and Priorities. An ambitious list of strategies, activities, and tasks were developed to support the achievement of LCA's plan over the next five years. This progress report was developed to help our employees and Board of Directors keep a sharp focus on the plan and, specifically, the work we plan to achieve in the current year. While not all inclusive, milestones outlined in this report describe the breadth of activities LCA will focus on in 2022 and 2023. A dashboard of key performance indicators is included on the last page of this report. Any questions about this report should be directed to LCA's Chief Executive Officer, Liesel Gross.

Asset Management

2022-2023 Focus:

1. Develop multi-year approach / roadmap to developing LCA's Asset Management (AM) program
2. Track all maintenance activities in a standard Computerized Maintenance Management System (CMMS) platform

2022 Milestones & Activities (completed):

- ✓ Conduct staffing assessment & develop organization structure for AM
- ✓ Define consultant work scope for the development of an AM roadmap
- ✓ Recruit and hire a Director of Engineering & Asset Management
- ✓ Conduct trial period for capital project management using MS Project
- ✓ Kick-off identification and definition of Preventive Maintenance (PM) and Corrective Maintenance (CM) programs within CMMS

2023 Milestones & Activities:

- **Develop new Board report on capital program progress (on time / on budget)**
 - 1st Quarter 2023 Status: Capital plan development process reviewed and recommendations provided by Hazen & Sawyer. Preliminary review of project management software system completed.
 - 2nd Quarter 2023 Status: RFP for project management software is under development. An interim project performance metrics report to be presented to the Board in Q3.
 - 3rd Quarter 2023 Status: Internal project reporting system developed and will be presented to the Board in December, along with concepts for new project management software.
- **Strategic AM Plan (SAMP) documented including multi-year AM program roadmap**
 - 1st Quarter 2023 Status: AM Maturity Assessment and draft LCA AM Policy completed.
 - 2nd Quarter 2023 Status: Project is on schedule with AM roadmap drafted and lifecycle workshops conducted.
 - 3rd Quarter 2023 Status: Draft SAMP document expected in December 2023 for staff review.

- **Identify and define all critical / key Preventive Maintenance (PM) and Corrective Maintenance (CM) programs within CMMS**
 - 1st Quarter 2023 Status: Ongoing progress by maintenance staff, with additional support expected following full AM Technology staff transition (see below).
 - 2nd Quarter 2023 Status: Hazen & Sawyer conducting review of LCA use of CMMS and developing recommendations for PM strategies by asset class.
 - 3rd Quarter 2023 Status: PM strategy recommendations expected to be delivered by Hazen & Sawyer in December 2023 for staff review.

- **Complete staffing transition for new AM Technology group, with refinements made to AM technology roadmap**
 - 1st Quarter 2023 Status: Two AM Technology Analysts hired in January with strong experience in geographic information systems (GIS). Additional program definition required to address CMMS and other AM technology needs.
 - 2nd Quarter 2023 Status: Actively recruiting for additional analyst to build team's CMMS capabilities. RFP being developed to secure additional CMMS implementation support.
 - 3rd Quarter 2023 Status: Asset management technology roadmap has been refined, and new staff are evaluating needs for additional internal or external support to implement.

Process Improvement

2022-2023 Focus:

1. Evaluate long-term viability of current Enterprise Resource Planning (ERP), Munis, and implement next steps for enhancement
2. Process improvements in Customer Care and Finance/Accounting areas

2022 Milestones & Activities (completed):

- ✓ Conduct ERP needs assessment & road map, and initiate next steps as determined
- ✓ Review and document current processes for capturing various delinquency types (e.g. waste haulers, sewer-only customers)
- ✓ Upgrade to Munis version 2021.3 if/when all technical barriers are removed

2023 Milestones & Activities:

- **Munis Reimplementation Project milestones achieved**
 - 1st Quarter 2023 Status: Draft new General Ledger string and chart of accounts developed by LCA staff. Tyler Technologies engaged, partial completion of investment analysis sessions to support scoping of implementation project. Full project schedule under development, dependent on Tyler resource availability in 2023/2024.
 - 2nd Quarter 2023 Status: Significant challenges encountered in developing implementation sequence and schedule. Direct engagement with Tyler has improved understanding of project scope. Anticipate go-live date will move to mid- to late-2024.
 - 3rd Quarter 2023 Status: Contract with Tyler Technologies developed and approved in October, with updated project schedule developed for July 2025 "go live" date.

- **Implement Paymentus upgrade to improve secure account access & add real time API**
 - 1st Quarter 2023 Status: Not started.
 - 2nd Quarter 2023 Status: Implementation plan developed for security improvements including two-factor authentication for customer account access. Awaiting scheduling support from Paymentus.
 - 3rd Quarter 2023 Status: Real-time API connections have been configured and are up and running. Remainder of project on pause until migration of Munis to cloud-based environment.

- **Adopt updated Board resolution for delegation of duties and purchasing authorizations**
 - 1st Quarter 2023 Status: Board discussion under way regarding committee structure to support additional discussion of delegated responsibilities.
 - 2nd Quarter 2023 Status: Board discussions continuing on committee structure and assignments.
 - 3rd Quarter 2023 Status: No additional work completed on this item, pending review with new Solicitor and Board discussion.

- **Implement universal ACH payments for accounts payable**
 - 1st Quarter 2023 Status: Vendor communication to collect ACH data prepared, with final data security measures being reviewed prior to release.
 - 2nd Quarter 2023 Status: No update – lower priority for team members who are also actively engaged in Munis Reimplementation Project.
 - 3rd Quarter 2023 Status: Currently working with the bank’s IT department regarding format of a file upload for automatic payments.

Water & Wastewater Capacity

2022-2023 Focus:

1. Advancing regional Act 537 Plan development for regulatory submission in 2025
2. Improve water supply resiliency for Central Lehigh Division (CLD) & North Whitehall Division (NWD)

2022 Milestones & Activities (completed):

- ✓ Kickoff of specific water projects (system interconnection, storage evaluation)
- ✓ Complete Water Filtration Plant master plan update
- ✓ Complete Pretreatment Plant (PTP) master plan (presented Q1 2023)
- ✓ Develop inflow & infiltration source removal plan for the Allentown Division collection system, the Western Lehigh Interceptor, and three collection systems owned and operated by LCA (Upper Milford, Weisenberg, and Lowhill Township)
- ✓ Complete preliminary design of pumping improvement projects at KIWWTP
- ✓ Initiate financial / institutional evaluation required for Act 537 Plan

2023 Milestones & Activities:

- **Commence construction phase of Upper Western Lehigh Pump Station & Force Main project**
 - 1st Quarter 2023 Status: Project design at >60%, with permits submitted to Pa. Department of Environmental Protection (DEP). Easement acquisition process ongoing.
 - 2nd Quarter 2023 Status: DEP permit received, and easement acquisition is ongoing. Construction bid package under development.
 - 3rd Quarter 2023 Status: Construction bid documents prepared and authorizations expected to be requested by year-end 2023.

- **Initiate additional CLD / NWD water supply evaluations and/or projects (scope TBD)**
 - 1st Quarter 2023 Status: CLD / NWD water master plan in final stage of completion, to be presented to LCA Board in May.
 - 2nd Quarter 2023 Status: Plan summary presented to Board in May. Selected alternatives to increase emergency supply resiliency are under review.
 - 3rd Quarter 2023 Status: A comprehensive final draft Water Supply Report is undergoing final review by the consultant. Final submission to LCA is anticipated by year end.

- **Complete design phase of pumping improvement projects at KIWWTP**
 - 1st Quarter 2023 Status: Design work ongoing. Initial evaluation of KIWWTP main pump station configuration complete.
 - 2nd Quarter 2023 Status: Pump modeling and first phase of preliminary design completed. Conceptual Design phase expected to be complete in Q3.
 - 3rd Quarter 2023 Status: Preliminary engineering and physical modeling authorized by the Board in September 2023.

- **Act 537 Plan analysis narrowed down to three final alternatives**
 - 1st Quarter 2023 Status: Preliminary Screening of Alternatives (PSOA) stage complete with results presented to municipalities and LCA Board in March. Authorization for Final Alternatives Analysis (FAA) phase to be requested in April.
 - 2nd Quarter 2023 Status: FAA initiated in April with three primary alternatives selected for deeper review. DEP meeting conducted in May to solicit regulatory feedback on progress to date. Key decision point relates to finalizing municipal sewer rehab programs. Stakeholder engagement program kicked off in June.
 - 3rd Quarter 2023 Status: FAA completed, and final technical solutions to be decided by January 2024. Significant additional work completed toward developing financial analysis and review of pretreatment plant alternatives.

Employee Engagement & Safety

2022 & 2023 Focus:

1. Employee & supervisory onboarding and ongoing development
2. Safety program enhancements

2022 Milestones & Activities (completed):

- ✓ Develop remote work / flexible work arrangements policy and procedures
- ✓ Hire human resources staff member to support employee development / succession planning
- ✓ Create Environmental, Health & Safety (EHS) Steering Committee

2023 Milestones & Activities:

Employee Engagement Milestones:

- 2023 Status:
Previously established goals are listed below but will be evaluated / refined following full onboarding of new Human Resources (HR) staff.
 - Standardize employee onboarding: develop standard human resources processes, work with managers on department-specific processes
 - Standardize onboarding process for new supervisors
 - Roll out stay interview and new-employee check-in / mentoring processes
 - Update LCA retirement risk profile / near-term succession plan

Additional work completed in 2023 while HR staffing transition is under way, including:

- Expansion of internal “LCA Academy” program
- Employee surveys conducted on key engagement topics
- Managers workshop conducted on employee engagement topics

Employee Safety Milestones:

■ Evaluate needs for external support for standardizing / improvement of EHS program

- 1st Quarter 2023 Status: Staffing needs, external resources, and staff succession planning needs to be reviewed by EHS Steering Committee.
- 2nd Quarter 2023 Status: This milestone will be a Q3 focus area.
- 3rd Quarter 2023 Status: External support needed will be focused on developing training protocols for key areas such as confined space entry.

■ Improve root cause analysis process to enhance understanding and tracking of safety incidents

- 1st Quarter 2023 Status: Existing process for conducting root cause analysis and incident investigations reviewed by EHS Steering Committee.
- 2nd Quarter 2023 Status: EHS Steering Committee is reviewing new forms and examples from other agencies to support more robust incident investigation.
- 3rd Quarter 2023 Status: Team has initiated root cause analysis and corrective action steps and have developed a monitoring program.

■ Enhance safety metrics

- 1st Quarter 2023 Status: Initial draft of new incident reporting metrics reviewed by EHS Steering Committee.
- 2nd Quarter 2023 Status: Draft of safety metrics to be presented to Board in July, with additional metrics to be developed as improved incident reporting is implemented.
- 3rd Quarter 2023 Status: Monthly Board report updated to reflect additional details regarding safety incident types, root causes, and corrective actions.

■ Create standardized safety training requirements for new employees

- 1st Quarter 2023 Status: Not started.
- 2nd Quarter 2023 Status: Not started. Initial EHS Steering Committee review has revealed other high-priority training areas (confined space).
- 3rd Quarter 2023 Status: Preliminary review completed, and to be incorporated into broader onboarding program for new employees in 2024.

Operational Excellence

2022-2023 Focus:

1. Completion of specific operational projects/programs that support Operational Excellence goals
2. Small systems compliance review and operational enhancements to achieve compliance

2022 Milestones & Activities (completed):

- ✓ Large diameter valve maintenance & replacement program development
- ✓ Suburban Water Supervisory Control and Data Acquisition (SCADA) upgrade, 2022 work scope (3:4 completed)
- ✓ Small systems process control & instrumentation plan development
- ✓ Develop root cause analysis and reporting process for compliance excursion events

- ✓ Regulatory and water quality monitoring program for PFAS (will be ongoing)
- ✓ Standardize Field Services resource sharing protocols (equipment, emergency response, other)
- ✓ Kline's Island Wastewater Treatment Plant (KIWWTP) belt filter press optimization program
- ✓ Initiate Heidelberg Heights private-side sewer system inspection program (will be ongoing into 2023)

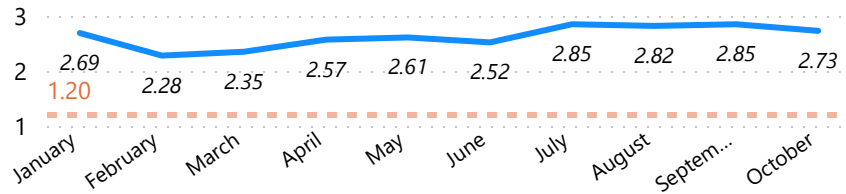
2023 Milestones & Activities:

- **Begin implementation of Sand Spring WWTP permit compliance plan**
 - 1st Quarter 2023 Status: External engineering support retained to assist with evaluation. Compliance plan being drafted for submission to DEP in April.
 - 2nd Quarter 2023 Status: Compliance plan submitted to DEP, awaiting feedback. Review of potential treatment system enhancements for piloting is complete.
 - 3rd Quarter 2023 Status: Design of treatment process enhancement is under way, and will need to bid and permitted in early 2024.
- **Implement small systems process control & instrumentation plan**
 - 1st Quarter 2023 Status: Compliance Technician job description drafted and standard operating procedures (SOP) developed to support plan.
 - 2nd Quarter 2023 Status: Actively recruiting for Compliance Technician. Additional instrumentation being installed to improve process monitoring at remote stations.
 - 3rd Quarter 2023 Status: Compliance Technician hired and additional process control monitoring implemented.
- **Lead service line replacement program kickoff & compliance planning for lead and copper rule revision (LCRR)**
 - 1st Quarter 2023 Status: Draft SOP prepared to address customer risk mitigation measures required following lead service line disruption. Pennvest grant application on track for May submission deadline. Lead service line inventory work slowed due to AM Technology staff transition period.
 - 2nd Quarter 2023 Status: Pennvest grant application submitted in May with award decision and project kickoff expected in July. External support for lead service line inventory will be required, with consultant engaged in Q3.
 - 3rd Quarter 2023 Status: Partial Pennvest grant awarded in July. Project is currently in design with door-to-door service line inventory program kicking off in December. Predictive modeling program for broader compliance effort authorized in November.
- **Other operational projects as determined by staff**
 - 1st Quarter 2023 Status: Design for phase 1 large diameter valve replacement project authorized in March. Supervisory Control and Data Acquisition (SCADA) upgrade for Suburban Water on track to complete 2022/2023 work scope – 6 stations upgraded.
 - 2nd Quarter 2023 Status: Two additional stations upgraded via SCADA program, and standards developed for future installations. Reservoir 1 and South Mountain Reservoir rehab projects complete. Significant activity related to PFAS: regulatory and legislative comments prepared, litigation counsel selected, RFP for water treatment issued.
 - 3rd Quarter 2023 Status: Significant effort dedicated this quarter to emergency response and follow-up actions related to solids handling at the Pretreatment Plant and Kline's Island WWTP. Follow-up projects expected to be defined to improve system resiliency in these areas.

LCA Strategic Plan Metrics

Financial

2023 Debt Service Coverage Ratio - Total LCA



Debt Service Coverage Ratio - Current

City Division	Suburban Wastewater	Suburban Water
2.54	8.16	2.39

Unrestricted Days Cash On Hand

City Division	Suburban Wastewater	Suburban Water
289	314	314

* Target of 180 days.

Customer Care

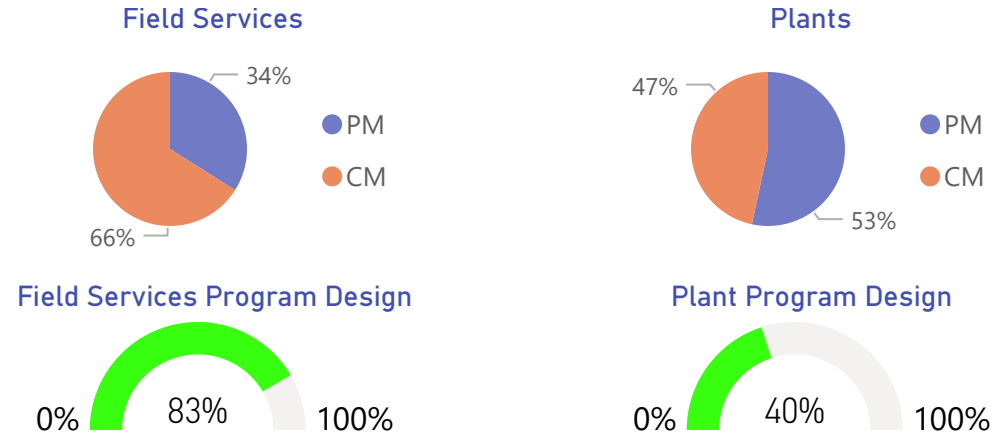
DEVELOPING
METRIC

Capital Program

DEVELOPING
METRIC

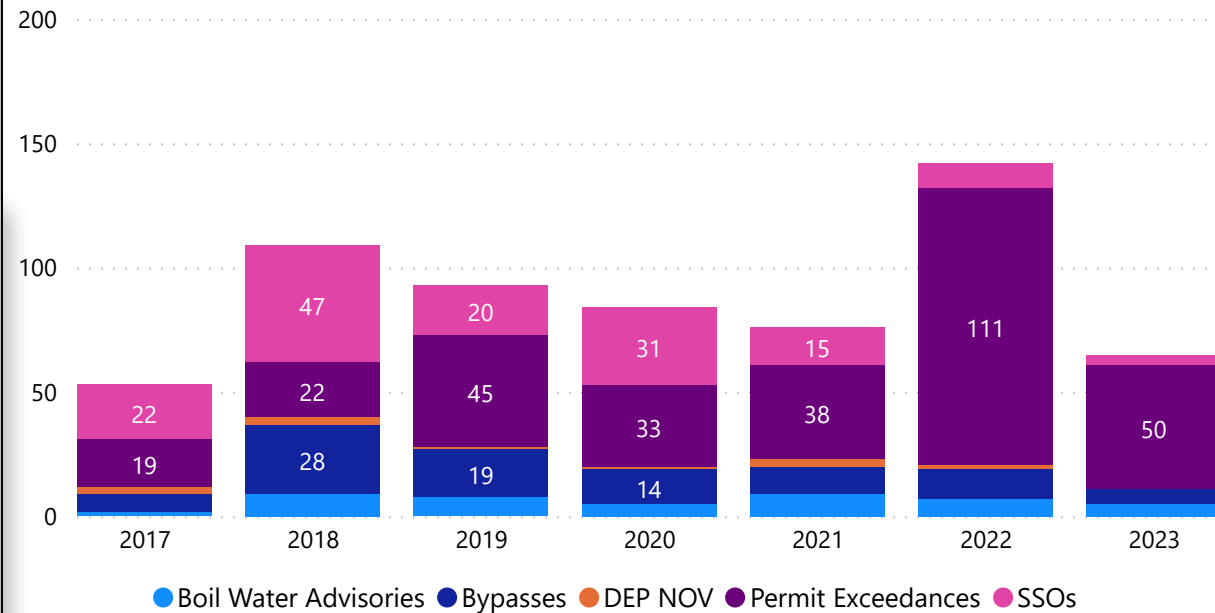
Asset Management

2023 Corrective Maintenance vs. Preventative Maintenance Hours



*Metric to show 2023 progress on preventative maintenance program redesign and implementation

Environmental Compliance



Safety

Days No Vehicle Accident

50

Days No Lost Time

0

Of Recordable Injuries YTD

18

Employees

Total Employees

165

Average Age

47.0

Average Yrs of Service

11.0

Total Vacancies

8

MEMORANDUM

Date: November 28, 2023

To: LCA Board of Directors

From: Matthew Dorner, Capital Works Project Manager

Subject: LCA – Capital Works Planning Room Organizing, Secure Storage and Digitizing, Phase 2

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Professional Services Authorization – Reynolds Business Systems	\$90,000

PROJECT OVERVIEW:

Reynolds Business Systems is working with LCA to digitize the existing plan storage room in the Capital Works Department at the main office. Reynolds will provide plan storage boxes to aid in the organization and proper secure storage of the plans. Once packaged, the plans will be transported to Reynolds secure storage facility at their main office.

Reynolds will begin scanning and QCing the plans for readability based upon an agreed upon schedule with the Capital Works team. In the event there is a need for review of the original paper documents before scanning is completed, Reynolds has a process in place to allow someone to go onsite and view the plans.

The final output will be PDF files of all the documents that will have undergone a QC process. In the event of low quality/resolution/visibility issues, Reynolds has the ability to reprocess with different options to enhance the overall image quality. These final digital documents will be delivered to LCA through a secure hosted site.

This is the second phase of our plan digitizing efforts. Under the First Phase, Reynolds has scanned approximately 18,000 plans and we will complete the remaining approximately 14,000 plans along with manual indexing. At that point all of our plans will be scanned, saved, and indexed.

FINANCIAL:

This project will be paid from LCA Suburban Division.

PROJECT STATUS:

This is the second phase of work to have all of LCA's plans scanned.

THIS APPROVAL:

This authorization is for scanning of our remaining plans. The scope of services for this phase of work includes the following tasks:

Professional Services
1. Organize, transport and securely store plans.
2. Scan and QC plans according to agreed upon schedule.
3. Manual indexing of all scanned plans.
4. Deliver digitally back to LCA for secure storage.

PROJECT SCHEDULE:

Pending Board approval, this work is anticipated to begin immediately. The tasks in the proposal are anticipated to be completed by mid-2024.

FUTURE AUTHORIZATIONS:

None anticipated.



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: Reynolds Business Systems
682 N. Brookside Rd
Allentown, PA 18106
CoStars# - 009-E22-082

Date: 11/28/23

Requested By: Matthew Dorner

Approvals

Department Head: _____

Chief Executive

Officer: _____

LCA – Capital Works Planning Room Organizing, Secure Storage and Digitizing – Phase 2

Reynolds Business Systems will continue to organize and box up plans in our existing plan storage room. Once packaged up, Reynolds will store the plans securely on site at their main office and subsequently scan the plans and deliver digitized documents on an agreed upon timeline. Approximately 18,000 plans have been scanned to date and we will complete the remaining approximately 14,000 plans along with manual indexing in Phase 2.

The scope of services include, but are not limited to, the following:

Professional Services ⁽¹⁾
1. Organize, transport and securely store plans.
2. Scan and QC plans according to agreed upon schedule.
3. Manual indexing of all scanned plans.
4. Deliver digitally back to LCA for secure storage.

Previous Authorizations:

\$79,640.93 in December 2022

This authorization (December 2023): \$90,000

Approval Amount (not to be exceeded without further authorization): \$169,640.93

Timetable and Completion Deadline: This work is expected to be completed by mid 2024.

(For Authority Use Only)

Authorization Completion:

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

RESOLUTION No. 12-2023-1

(Duly adopted 11 December 2023)

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

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

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

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

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

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

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

1. The capital recovery fees for wastewater and water service in various of the Authority's wastewater and water systems as indicated and shown on Attachment A, *LCA Customer Facilities Fees and Connection Fees, Allentown and Suburban Divisions - Water and Wastewater*, attached hereto and made a part hereof, are adopted effective 1 January 2024.

2. The Authority's Schedules of Rates and Charges shall be amended to reflect the fees hereby adopted, which fees shall be effective as of 1 January 2024.

3. All other Authority cost recovery fees, customer facilities fees, connection fees, and tapping fees, not contained in Attachment A hereto, continue in place, and are unaffected hereby.

On motion of _____, seconded by _____, this Resolution was adopted the 11th day of December 2023.

Tally of Votes: Yeas _____ Nays _____



I, Linda A. Rosenfeld, Secretary of the Lehigh County Authority Board of Directors, do hereby certify that the foregoing is a true, correct and complete copy of a resolution which was duly adopted by the Authority at a public meeting of the Authority held on 11 December 2023, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting and which resolution No. 12-2023-1 is now in full force and effect on the date of this certification.

Linda A. Rosenfeld
Secretary
Lehigh County Authority Board of Directors

Attest:

Lisa J. Miller
Executive Administrative Support Specialist

ATTACHMENT A
LCA CUSTOMER FACILITIES FEES AND CONNECTION FEES
ALLENTOWN AND SUBURBAN DIVISIONS - WATER AND WASTEWATER

Suburban Division - Water System - Customer Facilities Fees

Meter Component - With DC Backflow

<u>Meter Size</u>	<u>2024 Supply Cost</u>	<u>2024 Labor Cost</u>	<u>2024 Rate</u>
5/8"	\$372	\$114	\$486
5/8" Pit	\$394	\$114	\$508
3/4"	\$391	\$114	\$505
3/4" Pit	\$410	\$114	\$524

Meter Component - With No Backflow

<u>Meter Size</u>	<u>2024 Supply Cost</u>	<u>2024 Labor Cost</u>	<u>2024 Rate</u>
5/8"	\$338	\$114	\$452
5/8" Pit	\$360	\$114	\$474
3/4"	\$357	\$114	\$471
3/4" Pit	\$376	\$114	\$490
1"	\$462	\$114	\$576
1" Pit	\$439	\$114	\$553
1 1/2" Displacement	\$813	\$50	\$863
1 1/2" Turbine	\$1,278	\$50	\$1,328
1 1/2" Compound	\$1,770	\$50	\$1,820
2" Displacement	\$1,078	\$50	\$1,128
2" Turbine	\$1,359	\$50	\$1,409
2" Compound	\$2,031	\$50	\$2,081

Suburban Division - Wastewater System - Customer Facilities Fees

Meter Purchase Only (Plumber Install)

<u>Meter Size</u>	<u>2024 Supply Cost</u>	<u>2024 Inspection Fee</u>	<u>2024 Rate</u>
5/8"	\$338	\$50	\$388
5/8" Pit	\$360	\$50	\$410
3/4"	\$357	\$50	\$407
3/4" Pit	\$376	\$50	\$426
1"	\$462	\$50	\$512
1" Pit	\$439	\$50	\$489
1 1/2" Displacement	\$813	\$50	\$863
1 1/2" Turbine	\$1,278	\$50	\$1,328
1 1/2" Compound	\$1,770	\$50	\$1,820
2" Displacement	\$1,078	\$50	\$1,128
2" Turbine	\$1,359	\$50	\$1,409
2" Compound	\$2,031	\$50	\$2,081

Allentown Division - Water System - Customer Facilities Fees

<u>Meter Size</u>	<u>2024 Meter Price</u>	<u>Components</u>	<u>2024 Labor Cost</u>	<u>2024 Rate</u>
5/8"	\$98	\$164.54	\$126	\$388
3/4"	\$167	\$164.54	\$126	\$457
1"	\$154	\$162.96	\$126	\$442
1 1/2"	\$331	\$321.70	\$126	\$778
2"	\$431	\$425.10	\$126	\$982
3" Compound	\$2,252	\$118.60	\$50	\$2,421
3" Turbine	\$1,572	\$118.60	\$50	\$1,740
4" Compound	\$3,880	\$118.60	\$50	\$4,048
4" Turbine	\$3,019	\$118.60	\$50	\$3,188
6" Compound	\$6,670	\$118.60	\$50	\$6,839
6" Turbine	\$5,401	\$118.60	\$50	\$5,570
6" Fireline	\$12,138	\$118.60	\$50	\$12,306
8" Compound	\$10,748	\$118.60	\$50	\$10,917
8" Turbine	\$9,137	\$140.32	\$50	\$9,324
8" Fireline	\$19,235	\$140.32	\$50	\$19,423
<u>Other Components</u>		<u>2024 Price</u>		
5/8" Meter Horn		\$65.51		
3/4" Meter Horn		\$76.69		
Curb Box - Metal		\$115.00		

Allentown Division - Water System - Water Connection Fees

Water Taps 3/4 inch - 2 inch

	<u>Corporation</u>	<u>Tail Piece</u>	<u>Saddle Clamp</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2024 Rate</u>
Size 3/4 "	\$37	\$30	\$0	\$339	\$79	\$485
Size 1 "	\$55	\$43	\$0	\$339	\$79	\$517
Size 1 1/2"	\$170	\$114	\$63	\$339	\$79	\$765
Size 2 "	\$290	\$182	\$63	\$339	\$79	\$953

Water Sleeve and Valve Connectors

	<u>Valve</u>	<u>Casing</u>	<u>Tapping Fitting</u>	<u>Employee Wages</u>	<u>Equipment</u>	<u>2024 Rate</u>
Size 4"x 4"	\$1,035	\$165	\$571	\$1,001	\$331	\$3,104
Size 6"x 4"	\$1,035	\$165	\$613	\$1,001	\$331	\$3,146
Size 6" x 6"	\$1,461	\$165	\$678	\$1,001	\$331	\$3,637
Size 8"x 4"	\$1,035	\$165	\$672	\$1,001	\$331	\$3,205
Size 8"x 6"	\$1,461	\$165	\$748	\$1,001	\$331	\$3,706
Size 8"x 8"	\$2,157	\$165	\$1,006	\$1,001	\$331	\$4,661
Size 12"x 4"	\$1,035	\$165	\$792	\$1,001	\$331	\$3,324
Size 12"x 6"	\$1,461	\$165	\$871	\$1,001	\$331	\$3,830
Size 12"x 8"	\$2,157	\$165	\$1,117	\$1,001	\$331	\$4,771
Size 12"x 12"	\$4,942	\$165	\$1,797	\$1,001	\$331	\$8,237

MEMORANDUM

Date: December 11, 2023

To: Lehigh County Authority Board of Directors
From: Amy B. Rohrbach, Project Manager
Subject: Allentown Division - WFP Filter Upgrade Project: Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$8,447,978
2 ⁽¹⁾	Professional Services Authorization – Hazen & Sawyer	\$499,378
3 ⁽¹⁾	General Construction Contract Award -	\$6,968,600
4 ⁽¹⁾	Electrical Construction Contract Award -	\$455,000

(1) Included in the Capital Project Authorization

PROJECT BACKGROUND

LCA operates the Allentown Division Water Filtration Plant (WFP), located at 1300 Martin Luther King Jr. Drive in Allentown, Pennsylvania. The WFP utilizes coagulation, flocculation, clarification, filtration, and disinfection to treat a daily production range of 14 to 17 mgd. The finished water from the treatment process is augmented by flows from Schantz Spring and Crystal Spring, which only receive disinfection in the clearwell.

The filtration process consists of eight (8) dual media gravity filters constructed in the 1950s. Major filter components have exceeded their useful service life, including the existing clay tile underdrains. This project was identified as a “near term” project in the 2017 Allentown Water System Master Plan.

Hazen & Sawyer (Hazen) was retained to perform design and bidding phase services for the filter rehabilitation project, based on the firm’s significant experience in water treatment engineering and familiarity with the WFP. The recommendation from Hazen was to upgrade the filter underdrain, replace media and installation of an air scour filter backwash system.

FINANCIAL

The City has reviewed and approved this project as Major Capital Improvement with funding from the City of Allentown through American Rescue Plan Act grant funds. The engineer’s construction cost estimate at the time of substantial completion, and submittal to the City, was \$5,650,479 (July 2023). At the time of final design, LCA’s consultant engineer, Hazen, revised the estimate based on current vendor quotes and market rates, and the construction cost estimate increased to \$8.7 million. This increase is a result of increased equipment and material vendor

costs due to escalations. The total of the low bids received for the General and Electrical Contracts came in under this as shown below.

THIS APPROVAL – CONSTRUCTION PHASE

BIDDING SUMMARY

The project consists of two contracts, General and Electrical. The project was advertised for bid on October 17, 2023 and a mandatory pre-bid meeting was held on October 24, 2023. Bids were received and publicly opened, via PennBID, on November 22, 2023. The results of which are as follows:

General Construction Contract	
Bidder	Bid Amount
Eastern Environmental Contractors, Inc.	\$6,968,600
Pact Two LLC	\$7,300,000
DESCCO	\$7,415,927
Stone Hill Contracting	\$8,721,162
LB Industries, Inc.	\$9,344,352
Electrical Construction Contract	
Bidder	Bid Amount
Orlando Diefenderfer Electrical Contractors	\$455,000
Brendan Stanton Inc.	\$737,000

The low bid for the General Contract is Eastern Environmental Contractors, Inc. (Eastern) with a bid amount of \$6,968,600. The low bid for the Electrical Contract is Diefenderfer Electrical Contractors (Diefenderfer) with a bid amount of \$455,000. The total project cost of the lowest bids for both contracts is \$7,426,600; this is significantly less than the final design engineer's estimate of \$8.7 million. This may be attributed to very competitive GC bidding following the mandatory pre-bid meeting (which was well attended). This may also reflect a current bidding climate of more contractors looking for work.

LCA staff and our consultant, Hazen, have reviewed the references and qualifications and experience statement provided by both Eastern and Diefenderfer and have determined that both are well qualified to complete this project. Eastern, based in Green Lane, PA, has significant experience in the water and wastewater industry and has recently completed a filter upgrade for the Reading Area Water Authority using the same underdrain specified in this project. Eastern also recently completed a project at LCA's pretreatment plant to install two mechanical fine screens in the plant headworks and their performance was very good. Likewise, Diefenderfer, located in Allentown, PA, has significant experience and has completed multiple projects for LCA, most recently the Boiler Replacement project at KIWWTP.

LCA staff recommends the award of the General Construction contract to Eastern Environmental Contractors, Inc., and the Electrical Construction Contract to Orlando Diefenderfer Electrical Contractors, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES:

Hazen has been LCA's design consultant on this project and will provide construction engineering services for the construction phase of the project. Hazen will utilize Water Services Professionals (WSP) as a sub-consultant to perform construction supervision and filter inspection during critical points of construction. WSP has existing knowledge of the plant and considerable experience with the installation of the specified underdrain. Hazen's work will include the following tasks:

1. General Construction Administration
2. Schedule Review
3. Shop Drawing Review
4. Review of contractor Requests for Information
5. Attendance at Project meetings, including preparation of minutes
6. Site Visits to observe construction progress and quality of work
7. Review and approval of contractor payment applications
8. Review and approval of change order requests
9. Review and approval of Operations & Maintenance manuals
10. Substantial completion inspection and punch list preparation
11. Completion of PaDEP Engineer's Certificate of construction
12. Structural inspections
13. WSP Part Time Inspection
14. Final completion and project closeout administration

PROJECT SCHEDULE

Assuming approval of construction phase at the December 11, 2023 Board meeting, contracts will be executed in early 2024. Final completion is anticipated for mid-summer 2026.

FUTURE AUTHORIZATIONS – CONSTRUCTION PHASE

No future authorizations are anticipated for this project.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-W-22	BUDGET FUND:	Allentown Div\Water\Capital
PROJECT TITLE:	Allentown Division – WFP Filter Upgrade Project: Design and Bid Phase		PROJECT TYPE:
THIS AUTHORIZATION:	\$8,447,978	<input checked="" type="checkbox"/>	Construction
TO DATE (W/ ABOVE)	\$8,687,660	<input type="checkbox"/>	Engineering Design
		<input type="checkbox"/>	Equipment Purchase
		<input type="checkbox"/>	Amendment No. 1

DESCRIPTION AND BENEFITS:

The Allentown Water Filtration Plant (WFP) filtration process consists of eight (8) dual media gravity filters constructed in the 1950s. Major filter components have exceeded their useful service life, including the existing clay tile underdrains. This project was identified as a “near term” project in the 2017 Allentown Water System Master Plan. Hazen and Sawyer (Hazen) completed preliminary design in the first half of 2022 and Capital Authorization was approved by the Board on June 27, 2022, for Hazen to complete final design and bid phase services. Approval was granted by the City, August 11, 2023 at which time LCA directed Hazen to make all final revisions to the bid documents. The project was bid October 17, 2023 and bids were received November 20, 2023. Please see attached LCA Board Memo for additional project details.

Notice to Proceed shall be issued in January 2024 and substantial completion is expected in summer 2026.

AUTHORIZATION STATUS:

Prior Authorizations	
<i>Design Phase – Hazen and Sawyer</i>	<i>\$239,682</i>
Requested This Authorization – Construction Phase	
General Construction Contract: Eastern Environmental Contractors, Inc.	\$6,968,600
Electrical Construction Contract: Orlando Diefenderfer Electrical Contractors	\$455,000
Construction Phase Engineering Services: Hazen and Sawyer	\$499,378
Staff	\$120,000
Other (permits, inspections, etc.)	\$5,000
Contingencies	\$400,000
Total This Authorization	\$8,447,978

Future Authorizations	
none	

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: HAZEN AND SAWYER
One South Broad Street
Philadelphia, PA 19107

Date: December 11, 2023

Requested By: Amy Rohrbach

Approvals

Department Head:

Chief Executive

Officer:

Allentown Division – Water Filtration Plant Filter Upgrade Project: Design and Bid Phase

Hazen and Sawyer (Hazen) will perform the constructions administration services for the Filter Upgrade project in accordance with their proposal dated November 29, 2023, including the following major items of work:

Professional Services ⁽¹⁾
1. General Construction Administration
2. Review of Schedules
3. Shop Drawing Review
4. Review of contractor Requests for Information
5. Attendance at Project meeting, including preparation of minutes
6. Site Visits to observe construction progress and quality of work
7. Review and approval of contractor payment applications
8. Review and approval of Change Orders
9. Review of equipment O&M manuals
10. Substantial Completion Inspection and Punch List preparation
11. Completion of PaDEP Engineer's Certificate of construction
12. Structural Inspection
13. On site filter inspection by Water Service Professionals
14. Final Completion and Project closeout administration

(1) See attached proposal from Hazen and Sawyer for more details.

Construction Phase Services

This Authorization (not to exceed without prior authorization): \$499,378

Prior Authorization (preliminary engineer, design and bidding phases): \$239,682

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

(For Authority Use Only)

Authorization Completion:

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

November 29, 2023

Mr. Charles Volk
Lehigh County Authority
1300 Martin Luther King Drive
Allentown, PA 18102

**Re: Proposal for
Design Services During Construction
Filter Rehabilitation at the City of Allentown Water Treatment Plant**

Dear Mr. Volk:

Hazen and Sawyer (Hazen) is pleased to present this proposal for the above referenced project that details our proposed engineering services, task descriptions, and not-to-exceed fee.

OVERVIEW

The Allentown Water Treatment Plant (AWTP) is a conventional drinking water treatment facility rated for 30 million gallons per day (MGD). The plant includes eight dual media gravity filters which were constructed in the 1950s and major components have exceeded their expected useful service life. The existing underdrains are constructed of clay tiles, a material that is not commonly used in new or reconstructed filter construction due to advances in materials and filtration technology.

Hazen was previously retained by LCA to perform engineering development of a design for the rehabilitation of the filter underdrains and ancillary upgrades. The project includes:

- Removal of the existing clay tile underdrains and replacement with new underdrains (AWI Phoenix SST underdrains)
- Replacement of filter media
- Installation of an air scour system including blowers
- Filter basin structural repairs as necessary
- Instrumentation and controls and electrical improvements and integration

CONSTRUCTION DURATION

Per the Contract Documents, the construction has a duration of 900 days for substantial completion and 930 days for final completion.

SCOPE OF SERVICES

This proposal is for Design Services During Construction as well as limited part-time inspection by Water Service Professionals (WSP) as detailed below.

Task 1 – General Construction Administration

Coordinate with LCA, General and Electrical Prime Contractors, and WSP on a regular basis to stay abreast of construction activity and progress.

For the first 12 months of the project, we have allocated 24 hours / month for Mark Bottin.

For the remaining 19 months of the project, we have allocated 12 hours / month for Lorraine Salamanca.

Task 2 – Review of Schedules

Review and approve of the Contractor's construction progress schedule, schedule of submittals, and schedule of values during the initiation of the construction phase. We have allocated 40 hours for this task.

Task 3 – Shop Drawing Review

Maintenance of the shop drawing log and review and approval of shop drawings submitted by the General and Electrical Contractors. We anticipate creating a SharePoint site for the transfer of shop drawings. We have assumed:

- 180 hours – based on 30 initial shop drawings (approximately 1.5 shop drawings per contract drawing) with an initial review time of six hours per shop drawing.
- 60 hours – based on 50% of shop drawings (15 shop drawings) requiring a secondary review at 4 hours per shop drawing.

Task 4 – Request For Information (RFI)

Maintain log of RFIs submitted by both the General and Electrical Contractors and provide review and written response. We anticipate creating a SharePoint site for the transfer of RFIs. We have assumed:

- 120 hours – based on 20 initial RFIs (approximately 1 RFI per contract drawing) with an initial review time of six hours per RFI.
- 20 hours – based on 25% of RFIs (5 RFIs) requiring a secondary review of four hours per RFI.

Task 5 – Project Meetings

Facilitate and lead monthly job meetings and preparation of minutes. We have assumed:

- 240 hours – 30 meetings at 8 hours per meeting to cover prep time and compiling minutes.
 - For the first 15 meetings, we have allocated 8 hours / meeting for Mark Bottin.
 - For the remaining 15 meetings, we have allocated 8 hours / meeting for Lorraine Salamanca.

Task 6 – Site Visits

Periodic visits to the site to observe construction progress/quality of each Contractor's work and identify if work is in conformance with the contract documents. We have assumed:

- 120 hours – 30 inspections at 4 hours per visit to coincide with construction progress meetings.
 - For the first 15 site visits, we have allocated 4 hours / visit for Mark Bottin.
 - For the remaining 15 meetings, we have allocated 4 hours / visit for Lorraine Salamanca.
- 64 hours – 8 inspections at 8 hours per day by an Electrical Engineer.

Task 7 – Payment Applications

Review and approve applications for payment and make recommendations to LASA.

- 90 hours – assumed 30 applications at 3 hours per review for the General Contractor
- 45 hours – assumed 15 applications at 3 hours per review for the Electrical Contractor

Task 8 – Change Order and Time Extension Requests

Review change order and time extension requests and make recommendations to LCA. We have allocated 40 hours for this task.

Task 9 - Review Equipment Operation and Maintenance Manuals

- We have allocated 40 hours for this task.

Task 10 - Inspect the project for substantial completion, prepare and update punch lists

- We have assumed two trips at 8 hours per trip for the Associate VP, and two Assistant Engineers (one mechanical / process engineer and one electrical engineer) for this task.

Task 11 - Provide Engineer's certificate of construction for PADEP public water supply permit

- We have assumed 4 hours for this task.

Task 12 – Structural Inspection

The contractor documents include structural repair bid items with estimated quantities as the quantities could not be determined in advance and require a completely empty filter box. As such, upon the completion of the demolition work, each filter should be inspected by a structural engineer to determine if any of the filters have deficiencies needing repair.

We have allocated 16 hours per filter for this task, or 128 hours total.

Task 13 – WSP – Part-time Inspection

LCA has requested part-time inspection services being conducted by Water Service Professionals (WSP) as a subconsultant to Hazen and Sawyer. As such we have attached WSP's proposal to Hazen and Sawyer that details their assumptions and costs for inspection services.

PROJECT FEE

We propose to perform these services for the total not-to-exceed budget of \$499,378. Hazen will invoice monthly by task at the direct labor rate for staff involved utilizing a multiplier of 3.1, with all direct expenses invoiced at cost. WSP services will also be invoiced at cost. The table below provides the proposed budget by task.

The total not to exceed budget for the proposed design services during construction is \$423,378 which is 5.7% of the capital cost. As identified in the table, \$76,000 is allocated to WSP for part-time inspection. It is our understanding that LCA will be monitoring the construction when WSP is not on site. LCA should be aware that this proposal does not include inspections and observations above what is stipulated above.

Proposed Budget (Tasks 1 - 13)

Task No.	Description	Hours	Labor	Expenses	WSP	Total
1	General Construction Administration	516	\$ 128,040	\$ -	\$ -	\$ 128,040
2	Review of Schedules	40	\$ 12,400	\$ -	\$ -	\$ 12,400
3	Shop Drawing Review	240	\$ 48,232	\$ -	\$ -	\$ 48,232
4	Request For Information (RFI)	140	\$ 30,936	\$ -	\$ -	\$ 30,936
5	Project Meetings	240	\$ 57,600	\$ 3,000	\$ -	\$ 60,600
6	Site Visits	184	\$ 38,720	\$ 3,000	\$ -	\$ 41,720
7	Payment Applications	135	\$ 29,250	\$ -	\$ -	\$ 29,250
8	Change Order and Time extension Requests	40	\$ 12,400	\$ -	\$ -	\$ 12,400
9	Review Equipment Operation and Maintenance Manual	40	\$ 6,800	\$ -	\$ -	\$ 6,800
10	Punchlist and inspect for substantial completion	48	\$ 10,160	\$ 1,200	\$ -	\$ 11,360
11	Certificate of construction for PADEP	4	\$ 1,240	\$ -	\$ -	\$ 1,240
12	Structural Inspection	128	\$ 38,400	\$ 2,000	\$ -	\$ 40,400
	DSDC Total	1,755	\$ 414,178	\$ 9,200	\$ -	\$ 423,378
13	WSP Inspection				\$ 76,000	\$ 76,000
	Total	1,755	414,178	9,200	\$76,000	\$499,378

SUMMARY

We look forward to working with you and your staff on this important assignment.

Please let us know if this proposal meets your expectations and do not hesitate to contact me at 610-592-4614 or mbottin@hazenandsawyer.com should you require any additional information.

PROPOSAL AGREED & ACCEPTED BY:



Mark Bottin, PE
Associate Vice President
Hazen and Sawyer

Signature: _____

Print Name: _____

Title: _____

Lehigh County Authority

Date: _____

c: E. Feldman



October 10, 2023

Hazen
One South Broad Street, Suite 900
Philadelphia, PA 19107

Attention: Mr. Mark Bottin, PE
Associate Vice President

Reference: LCA Water Filtration Plant – Allentown Division
Allentown, Pennsylvania

Subject: Construction Supervision and Construction
WSP Proposal AT23-0926

Gentlemen:

Water Service Professionals of PA, Inc. ("WSP") is pleased to submit for your review and consideration the below proposal for providing technical services associated with the filter rehabilitation project being completed at the Lehigh County Authority's Water Filtration Plant in Allentown, PA.

SCOPE OF PROFESSIONAL SERVICES

1.0 Construction Supervision

Water Service Professionals of PA proposes to provide both scheduled and on-call construction supervision, technical support, and client coordination during the rehabilitation of EACH of the eight (8) dual bay filters. At a minimum, the proposed work in each filter would include:

1.1 Demolition / Filter Preparation

- 1.1.1 Evaluate Demolition of Existing Underdrain
- 1.1.2 Inspect filter box after demolition, including flume, troughs, air scour system
- 1.1.3 Coordinate and supervise backwash flushing of empty filter boxes.
Estimate one (1) day on-site per filter, one (1) round trip.

1.2 Underdrain Installation Supervision / Coordination

- 1.2.1 Coordinate with the general contractor and underdrain supplier at major milestones during installation
- 1.2.2 Coordinate required backwashes, pressure testing and other filter operations with plant personnel.
Estimate three (3) days onsite per filter, three (3) round trips.

- 1.3 Air Scour Installation
 - 1.3.1 Inspect and verify proper air scour reinstallation during filter reconstruction.
Estimate one (1) day onsite per filter, one (1) round trip.
- 1.4 Filter Media Installation
 - 1.4.1 Verify proper media placement, including backwashing and skimming.
 - 1.4.2 Collect media samples following installation for baseline testing. Verify media installed depths and media effective size and uniformity.
Estimate two (2) days onsite per filter, two (2) round trips.
- 1.5 Summary Report
 - 1.5.1 Generate a report summarizing our observations for each dual-bay filter as it is completed.

FEES

To complete the Professional Services required for the Project, we propose the following fees for Tasks 1.0 above:

Technical Services:

(448) hours @ \$135/hour: \$60,480.00

Travel Expenses:

(112) hours @ \$100/hour: \$11,200.00

Media sieve analyses (item 1.4.2)

Thirty-two (32) samples at \$135/test: \$4,320.00

Estimated Fee:


\$76,000.00

Terms:

1. Additional hours, beyond the 448 hours included here, will be billed at WSP's standard rate of \$135.00/hour. Travel time will be billed at our standard rate of \$100/hour.
2. WSP is providing inspection services only. WSP's responsibility for providing field inspection service is limited to informing the Customer of our opinion only of the existing conditions noted at the time of the inspection/supervision. WSP assumes no responsibility for subsequent failure of the equipment or structure.
3. The WSP Technical Services Representative shall not be responsible for any acts of omission, commission, or quality of workmanship of other than WSP's field employees. The representative shall not be responsible for any deficiencies caused by the Customer failing to follow the instructions or advice of the representative.

We thank you for the opportunity of submitting our proposal for your consideration. Should you have any questions or require any additional information, please do not hesitate to contact the writer or our sales representative copied below.

Respectfully yours,
WATER SERVICE PROFESSIONALS, INC.

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

Andrew S. Taylor
President

AST:ldm

CC: Amy B. Rohrbach, Lehigh County Authority
Matt D. Seeker, Water Service Professionals of PA, Inc.

MEMORANDUM

Date: December 11, 2023

To: Authority Board
From: Amy Kunkel, Chuck Volk
Subject: Suburban Division – Upper Western Lehigh Pump Station and Force Main – Force Main Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$2,271,335
2	Construction Contract – Force Main*: Pact One LLC	\$1,940,050
3	Professional Services Authorization*: Construction Phase Engineering – Entech Engineering	\$85,000
4	Professional Services Authorization*: Construction Phase Inspection – Keystone Consulting Engineers	\$72,777
5	Professional Services Authorization – Amendment 1* (Design Phase) - _Entech Engineering	\$53,508

**Included in the Capital Project Authorization.*

PROJECT BACKGROUND:

The Kline's Island Sewer System Interim Act 537 Plan was approved by DEP in June 2021 and included construction of interim improvements in the Trexlertown area until a long-term solution is developed as part of completion and submission of a regional Act 537 Plan in March 2025. The Trexlertown Special Study (TSS) was prepared in late 2021 to evaluate improvement alternatives to temporarily resolve the capacity deficiencies. The alternative recommended in the study consisted of a 2.5 million gallons per day (MGD) capacity pump station located near LCA's Industrial Pre-Treatment Plant (PTP) and 1.52 miles of 18" diameter force main connecting to the Upper Macungie Trunk Line (UMTL) at MH PH3034A, located north of Rt 222 and west of Grange Rd. in the Township park area.

PROJECT OBJECTIVE:

The purpose of the pump station and force main will be to divert dry day flow from the Western Lehigh Interceptor (downstream of the LCA PTP) to a sanitary trunk line owned by Upper Macungie Township. The existing Township trunk line runs south from Grange Road under Rt 222 and ties into the Western Lehigh Interceptor (WLI) just upstream of the Spring Creek Pump Station. The proposed pump station, to be located adjacent to the LCA PTP, will convey up to 2.5 MGD of treated effluent from the plant via force main to the Upper Macungie Trunk Line manhole, thereby bypassing the Trexlertown and Ancient Oaks areas of the Western Lehigh Interceptor that have capacity limitations (the "bottleneck" sections). The force main will partially utilize the route of the previously designed Iron Run Force Main. A level sensor in one of the Township's downstream

manholes (TBD) will be used to shut the proposed pump station down during high flow events to avoid surcharging and SSOs in the Township line.

FUNDING:

This Project will be funded by the LCA Suburban Division

BUDGET AMENDMENT

Not required for this approval

PROJECT STATUS:

Construction Phase of the force main will begin upon Board approval. Design phase of the pump station is nearing completion, as are outstanding permits and easements. The pump station portion of the project will be bid in the first quarter of 2024 as a General/Mechanical contract and an Electrical contract. In order to keep the project on schedule, the decision was to proceed with bidding the force main while remaining items associated with the pump station site are being finalized.

A request for an amendment to the Design Phase PSA is included in the Capital Project Authorization for additional engineering tasks that were unforeseen during the planning phase and not included in the original request for proposal. These changes include the following:

1. Permit application fees that were paid for by the consultant to expediate submission to Rail Pros for the Norfolk Southern railroad crossing and to DEP and the Lehigh County Conservation District for the NPDES construction permit.
2. Upper Macungie Township interceptor hydraulics confirmation: Additional surveying of the interceptor downstream of the force main connection point was done as well as hydraulic calculations to confirm that the force main discharge would not create hydraulic issues in the Township's interceptor. The design engineer met with and communicated extensively with the Township engineer and Arcadis to resolve all concerns.
3. Stormwater and County Permitting: It was determined during design that the easement area reserved for the pump station on Jaindl property was not large enough to accommodate the stormwater requirements under the National Pollutant Discharge Elimination System (NPDES). In order to solve this problem, it was decided to use the facilities installed as part of the recent warehouse development on the property as a co-permittee. This required extra design effort and coordination with the property owner, their engineer, and the permitting agencies.
4. Final alignment changes as requested by Upper Macungie Township: The Township requested revisions to the alignment of the force main and easement which included replacing a portion of the interceptor and other changes to accommodate their master plan for the park.
5. Contract Separation: The Engineer was directed to separate the pump station and force main contracts in the bidding documents in order to expediate bidding of the force main while the pump station permitting and access easement acquisitions were being finalized.

THIS APPROVAL-CONSTRUCTION PHASE

BIDDING SUMMARY

The force main contract was advertised for bid on October 16, 2023. A mandatory pre-bid meeting was held on November 1, 2023. Bids were received via PennBid on November 17, 2023, the results of which are as follows:

Force Main Contract	
Bidder	Bid Amount
Pact One LLC	\$1,940,050.00
Barrasso Excavation, Inc.	\$1,973,600.00
RIII Construction Inc.	\$1,995,885.00
Joao & Bradley Construction Co., Inc.	\$2,384,850.00
DOLI Construction Corporation	\$2,488,825.00
Linde Corporation	\$3,093,280.00
C&R Directional Boring, LLC	\$3,797,480.00
James T. O'Hara, Inc.	\$3,977,750.00

PACT ONE, LLC (PACT) from Ringoes, NJ is low bidder for the contract. PACT specializes in site work and installation of water, sanitary sewer and storm sewer systems and has successfully completed numerous municipal utility projects in eastern Pennsylvania. They were recently awarded the contract for the Suburban Division Cycle 7 Water Main Replacement Program. PACT's bid was below the \$2,956,000 Engineer's construction cost estimate. The bid documents are in order and the firm appears qualified to perform the work.

PROFESSIONAL SERVICES:

Construction engineering is to be performed by Entech Engineering, the design engineer for the project. Full time inspection services are to be performed by Keystone Consulting Engineers.

PROJECT SCHEDULE:

Assuming approval at the December 11, 2023 Board meeting, it is anticipated that the project will be completed in August 2024.

FUTURE AUTHORIZATIONS- CONSTRUCTION PHASE:

Award of the Pump Station Contracts (General/Mechanical and Electrical) and corresponding professional services.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.: SD-S-23-1 **BUDGET FUND:** Suburban Div\Wastewater\Capital

PROJECT TITLE: Upper Western Lehigh Pump Station and Force Main **PROJECT TYPE:**

THIS AUTHORIZATION: \$ 2,271,335

TO DATE (W/ ABOVE) \$ 2,519,935

- ☒ Construction
☐ Engineering Design
☐ Equipment Purchase
☐ Amendment

DESCRIPTION AND BENEFITS:

Upper Western Lehigh Pump Station and Force Main - Construction Phase:

This Capital Project Authorization is for construction phase of the Upper Western Lehigh Force Main Project. This project includes the installation of an 18" diameter HDPE force main from the Upper Western Lehigh Pump Station (to be constructed under separate contracts) to a discharge manhole on the Upper Macungie Township interceptor located in Grange Park. The objective of the project is to provide an interim solution to dry day overflows in the Trexlertown area of the Western Lehigh Interceptor. This Authorization includes only the Force Main Contract (see Board Memo for details).

Previous Authorizations	
Design Phase	\$248,600

REQUESTED THIS AUTHORIZATION	
Design Phase PSA Amendment 1 – Entech Engineering	\$53,508
Construction Phase	
Staff	\$20,000
Professional Services:	
Construction Engineering - Entech Engineering	\$85,000
Construction Inspection – Keystone Consulting Engineers	\$72,777
Contract 1 – Force Main Construction – Pact One LLC	\$1,940,050
Contingency	\$100,000
Total This Authorization	\$2,271,335

Future Authorizations	
Contract 2 and 3 – Pump Station Construction (General and Electrical)	\$2,500,000

Total Estimated Project	\$5,019,935
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REVIEW AND APPROVALS:

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



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION Construction Phase

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

Date: December 11, 2023

Requested By: Amy Kunkel

Approvals

Department Head:

Chief Executive

Officer:

Suburban Division- Upper Western Lehigh Force Main

Previous Authorizations- Design: \$248,600

This Authorization – Construction Phase: \$85,000

Entech Engineering, Inc. will provide construction engineering related services including the following tasks:

Professional Services
1. Attend Pre-construction and Progress meetings and prepare/distribute minutes.
2. Respond to design related requests for information (RFIs).
3. Log, review, and process shop drawing submittals.
4. Review and approve monthly payment applications.
5. Attend Substantial and Final Completion Inspections and prepare punchlists.
6. Perform site visits as required.
7. Prepare project record drawings and contract closeout documents.

Cost Estimate (not to be exceeded without further authorization):

\$333,600

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

(For Authority Use Only)

Authorization Completion:

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



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION
Construction Phase

Professional: Keystone Consulting Engineers, Inc.
5012 Medical Center Circle
Allentown, PA 18106

Date: December 11, 2023

Requested By: Amy Kunkel

Approvals

Department Head: _____

Chief Executive

Officer: _____

Suburban Division- Upper Western Lehigh Force Main

This Authorization - Construction Phase: \$72,777

Keystone Consulting Engineers, Inc. will provide full-time construction inspection related services including the following tasks:

Professional Services
1. Attend Pre-Construction Meeting
2. Attend Progress Meetings and site meetings
3. Provide Full-Time Inspection Services, including daily inspection reports.
4. Review contractor applications for payment; recommend applications for payment.
5. Review proposed changes to the plans with Engineer and LCA.
6. Attend substantial and final completion inspections; prepare punchlists of outstanding work items
7. Compile and review as-built drawings from Contractors

Cost Estimate (not to be exceeded without further authorization): **\$72,777**

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

(For Authority Use Only)

Authorization Completion:

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



Lehigh County Authority

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

PROFESSIONAL SERVICES AUTHORIZATION

Design Phase Amendment 1

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

Date: December 11, 2023

Requested By: Amy Kunkel

Approvals

Department Head:

Chief Executive

Officer:

Suburban Division- Upper Western Lehigh Pump Station and Force Main

Previous Authorizations- \$248,600

This Authorization – Design Phase: \$53,508

Entech Engineering, Inc will provide additional out of scope design engineering related services for the aforementioned project that includes the following tasks:

Professional Services
1. Permitting application fees paid for by consultant to Rail Pros, Lehigh Co. Conservation District, and DEP on behalf of LCA (Total Fees = \$13,368).
2. Additional surveying and hydraulic calculations of the UMT interceptor downstream of the force main connection.
3. Coordination of NPDES and County permitting with property owner's existing permits due to lack of space for independent facilities.
4. Adjustments to the final alignment of the force main and easements as requested by UMT.
5. Separation of contracts in the bidding documents as directed by LCA to expediate bidding of the force main while finalizing pump station easement acquisition.

Cost Estimate (not to be exceeded without further authorization):

\$ 302,108

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

(For Authority Use Only)

Authorization Completion:

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

MEMORANDUM

Date: December 11, 2023

To: Lehigh County Authority Board of Directors
From: Amy B. Rohrbach, Project Manager
Subject: Allentown Division - Kline's Island WWTP Electrical Substation No. 1 & Primary Switchgear Replacement – Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$6,561,934
2 ⁽¹⁾	Professional Services Authorization – Construction Engineering and Administration – Keystone Engineering Group	\$136,858
3 ⁽¹⁾	Professional Services Authorization – Construction Inspection - Borton Lawson	\$102,300
4 ⁽¹⁾	Electrical Construction Contract Award – Philips Brothers Electrical Contractors, Inc.	\$4,974,999
5 ⁽¹⁾	General Construction Contract Award – Philips Brothers Electrical Contractors, Inc.	\$892,777

(1) Included in the Capital Project Authorization

PROJECT OVERVIEW

The Kline's Island Wastewater Treatment Plant's (WWTP) electrical service is supplied by one of two 12.4 kV power transmission line feeds from the electric utility, PPL. The 12.4 kV transmission lines enter Substation No. 1 and connect to the 12.4 kV Switchgear, which distributes the 12.4 kV to the 480V Substation No. 1 and to the 480V Substation No. 2. The 480V Substation No. 1 & 2 then distribute the power to various Motor Control Centers and loads throughout the WWTP. The replacement of Substation No. 2 was completed in 2019. Substation No. 1 has reached the end of its useful life and is not adequate to accommodate a future increase in equipment loads from planned capacity improvements projects. The switchgear is an old technology "air-magnetic circuit breaker" that was phased out in favor of "vacuum breaker" type switchgear in the early 1980s. Due to the critical function of the 12.4 kV Switchgear and the fact that it has been in service for approximately 45 years, Substation No. 1 and Primary Switchgear will be replaced during this project.

FINANCIAL

The City of Allentown has reviewed and approved this project as a Major Capital Improvement, thereby allowing the cost to be recovered via a capital cost recovery charge (CCRC) in the LCA Allentown Division and applied to municipal sewer signatories via their sewer rates.

THIS APPROVAL - CONSTRUCTION PHASE

The contract time for this work is 719 days from Notice to Proceed to substantial completion. Assuming construction phase authorization at the 12/11/2023 Board meeting, construction is anticipated to conclude in early 2026.

BIDDING SUMMARY

The project consists of two contracts. The project was advertised for bid on October 2, 2023 and a mandatory pre-bid meeting was held on October 11, 2023. Bids were received and publicly opened, via PennBid, on November 10, 2023. The results of which are as follows:

Electrical Construction Contract	
Bidder	Bid Amount
Philips Brothers Electrical Contractors, Inc.	\$4,974,999
Albarell Electric, Inc.	\$5,190,000
Orlando Diefenderfer Electrical Contractors	\$5,421,000
BSI Electrical Contractors	\$6,337,000
General Construction Contract	
Bidder	Bid Amount
Philips Brothers Electrical Contractors, Inc.	\$892,777

LCA staff has reviewed the references and qualifications and experience statement provided by Philips Brothers Electrical Contractors, Inc, and has determined that the contractor is well qualified to complete this project. In fact, the contractor has recently completed the Substation #2 replacement KIWWTP. The combined bid of \$5,867,776 is below the Engineer's estimate of \$6.7 million. Based on the above, LCA staff recommends the award of both the Electrical Construction and General Construction Contracts to the lowest bidder, Philips Brothers Electrical Contractors, Inc., subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES

Construction Administration Services

Keystone Engineering Group has been LCA's design consultant on this project and will provide construction engineering services for the construction phase of the project. Their work will include:

1. Facilitate completion of the Agreement and other elements of the construction contracts with LCA.
2. Prepare for and attend a pre-construction and pre-mobilization meetings and prepare meeting minutes.
3. Prepare for and attend regular job conference meetings and prepare meeting minutes.
4. Review and approve contractors' submittals
5. Review project schedule updates
6. Review and monitor MOPO and temporary facilities
7. Respond to Contractors' Requests for Information (RFIs)
8. Review weekly inspection reports provided by Resident Project Representative (RPR) and coordinate with RPR.
9. Process any necessary change orders.
10. Perform substantial completion inspection.

11. Administer equipment start-up and training.
12. Conduct final project close-out and certify final payments to contractors.

Resident Project Representative (RPR) Construction Phase Services

Borton Lawson has performed RPR services for LCA on a prior project with positive feedback. Therefore, due to their electrical knowledge and location to the plant, it was requested that Borton Lawson provide RPR services for the construction phase of the project. Their work will include:

1. Attend pre-construction and pre-mobilization meetings (NTP anticipated January 2024 with expected one year lead time on equipment).
2. Review executed shop drawings.
3. Review and approve payment applications.
4. Review any necessary Change orders prior to approval by Keystone Engineering.
5. Provide on-site, part time inspection services.
6. Prepare weekly reports for distribution to LCA and Keystone Engineering.
7. Attend regular job conference meetings.
8. Conduct substantial completion inspection and prepare punchlists (EC & GC)
9. Conduct final completion inspection and prepare final punchlist.

PROJECT SCHEDULE

Assuming approval of construction phase at the December 11, 2023 Board meeting, contracts will be executed in early 2024. Major construction expected to commence in early 2025 when equipment is expected to be delivered and final completion is anticipated for early 2026.

FUTURE AUTHORIZATIONS

No future authorizations are anticipated for this project.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-5	BUDGET FUND:	Allentown Div\WW\Capital
PROJECT TITLE:	Allentown Division – KIWWTP Electrical Substation No. 1 Replacement		PROJECT TYPE:
		<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment No. 1	
THIS AUTHORIZATION:	\$6,561,934		
TO DATE (W/ ABOVE)	\$6,723,209		

DESCRIPTION AND BENEFITS:

The Kline’s Island Wastewater Treatment Plant’s electrical service is supplied by one of two 12.4 kV power transmission line feeds from the electric utility PP&L. The 12.4 kV transmission lines enter Substation No. 1 and connect to the 12.4 kV Switchgear, which distributes the 12.4 kV to the 480V Substation No. 1 and to the 480V Substation No. 2. The 480V Substation No. 1 & 2 then distribute the power to various MCC’s and loads throughout the WWTP. The replacement of Substation No. 2 was completed in 2019 and Substation No. 1 has reached the end of its useful life and is not adequate to accommodate a future increase in equipment loads from planned capacity improvements projects. The switchgear is an old technology “air-magnetic circuit breaker” that was phased out in favor of “vacuum breaker” type switchgear in the early 1980s. Due to the critical function of the 12.4 kV Switchgear and the fact that it has been in service for approximately 45 years, substation No. 1 and primary switchgear will be replaced during this project.

Notice to Proceed shall be issued in January 2024 and substantial completion is expected in February 2026.

AUTHORIZATION STATUS:

Prior Authorizations	
<i>Design Phase – Keystone Engineering Group</i>	<i>\$161,275</i>
Requested This Authorization – Construction Phase	
Electrical Contract: Philips Brothers Electrical Contractors, Inc.	\$4,974,999
General Contract: Philips Brothers Electrical Contractors, Inc.	\$892,777
Construction Phase Engineering Services: Keystone Engineering Group	\$136,858
Resident Project Representative Services: Borton Lawson	\$102,300
Staff	\$50,000
Other (permits, inspections, etc.)	\$5,000
Contingencies	\$400,000
Total This Authorization	\$6,561,934

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: KEYSTONE ENGINEERING GROUP
590 Lancaster Ave, Suite 200
Frazer, PA 19355

Date: December 11, 2023

Requested By: Amy Rohrbach

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – KIWWTP Substation No. 1 and Switchgear Replacement Project – Construction Administration

Keystone Engineering will perform construction administration services for the KIWWTP Substation No. 1 and Switchgear Replacement Project. The following professional services are included in this authorization:

Professional Services ⁽¹⁾
1. Facilitate completion of agreement and other elements of the contract.
2. Conduct pre-construction, pre-mobilization and progress meetings and prepare meeting minutes
3. Review and approve contractor shop drawings
4. Review project schedule updates
5. Review and monitor MOPO and temporary facilities
6. Review weekly inspection reports provided by RPR and coordinate with RPR
7. Review and respond to contractor RFIs
8. Review and approve contractor change orders
9. Perform substantial completion inspection & punchlist preparation
10. Attend equipment start-ups and training
11. Provide final inspection and contract closout including As-built drawings

(1) Reference the Keystone proposal dated November 15, 2023, for additional information.

Cost Estimate (not to be exceeded without further authorization): \$136,858

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

(For Authority Use Only)

Authorization Completion:

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



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: BORTON LAWSON
3897 Adler Place
Bethlehem, PA 18017

Date: December 11, 2023

Requested By: Amy Rohrbach

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – KIWWTP Substation No. 1 and Switchgear Replacement Project – Resident Project Representative Services

Borton Lawson will perform on site resident project representative services for the KIWWTP Substation No. 1 and Switchgear Replacement Construction Project. The following professional services are included in this authorization:

Professional Services ⁽¹⁾
1. Pre-Construction and Pre-Mobilization Meetings
2. Review Approved Shop Drawings
3. Review contractor applications for payment
4. Review Change orders prior to approval by Engineer of Record
5. Part-time Inspection
6. Weekly Progress Reports
7. Progress Meetings
8. Substantial Completion Inspection & Punchlist
9. Final Completion Inspection & Punchlist

(1) Reference the Borton Lawson proposal dated November 10, 2023, for additional information.

Cost Estimate (not to be exceeded without further authorization): \$102,300

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

(For Authority Use Only)

Authorization Completion:

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



November 15, 2023

Amy Rohrbach
Lehigh County Authority
1053 Spruce Road
PO Box 3348
Allentown, PA 18106

RE: Proposal for Engineering Services
Lehigh County Authority
KIWWTP Substation #1 & SWGR Replacement CPS
Keystone Proposal No. 2023-0395

Dear Amy,

Keystone Engineering Group, Inc. (Keystone) appreciates the opportunity to present this proposal to Lehigh County Authority (LCA) for the above referenced project.

1.0 INTRODUCTION

LCA is proposing to enter into a construction agreement for the Kline's Island Wastewater Treatment Plant Switchgear and Substation No. 1 replacement project, located in Lehigh County, Pennsylvania. This proposal is for Keystone to work directly for LCA to provide engineering services for the construction management phase of the project.

2.0 SCOPE OF WORK

We understand the scope to be:

- Conduct pre-construction meeting and prepare meeting minutes
- Conduct pre-mobilization meeting and prepare meeting minutes
- Attend up to 10 site/progress meetings & prepare meeting minutes
- Review and approve shop drawings
- Review project schedule updates
- Review and monitor MOPO and temporary facilities
- Review weekly inspection reports provided by part-time inspector
- Coordination with part-time inspector
- Answer contractor RFIs
- Review and approve any contractor change orders
- Perform substantial completion inspection
- Attend equipment start-ups and training
- Provide final inspection and contract closeout tasks

2.1 Construction Phase Services

Keystone will provide the following services during the construction phase of the project:

Submittal Review

Keystone will review all submittals as required by the contract.

Our submittal review will include:

- Shop drawings
- Product Data Sheets and Samples
- Operations and Maintenance Manuals

We assume shop drawings for these disciplines will be emailed to our office or made available for online download. We will review, markup, stamp, and sign submitted shop drawings and return them as directed by LCA. We strive to turn around shop drawing submittals in one week or less. We will alert LCA if a submittal review may extend beyond one week due to the amount of information to be reviewed, or coordination with other submittals or technical questions that need to be resolved.

Keystone's level of effort under this task is based on an assumed overall average time of five (5) hours to log, review, process, and return an initial submittal, and three (3) hours to log, review, process and return a re-submittal. Keystone is anticipating twenty-eight (28) submittals and twelve (12) resubmittals as part of this project. The required effort can vary, depending upon several 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".

Clarifications and Interpretations

In addition to shop drawing reviews, Keystone will provide technical assistance by interpreting the contract documents and answering Requests for Information (RFIs). Keystone will be available by phone, cell phone, and email during the project. We assume all requests for technical assistance will be funneled through LCA.

To estimate this level of effort required under this task, it is assumed that an average of one (1) RFI per two (2) contract drawings will be received, resulting in a total of fourteen (14) RFIs. The average effort per RFI to log, review, prepare a written response, and transmit the response to LCA is assumed to be five (5) hours.

Change Order Assistance

Keystone will prepare change orders and the review of change order requests for project. We assume LCA will process and submit requests associated with issuing any change orders.

Keystone will review and advise LCA on potential issues involved with a PCO request. For the purposes of establishing a level of effort, it is assumed that a total of four (4) PCO's will be evaluated at an average effort of eight (8) hours per PCO.

Meeting and Site Visits

Keystone will conduct site visits as requested by LCA to ensure work is being completed in accordance with the contract documents. These visits can be used for meetings, progress inspections, review of Contractor red-line record drawings, startup assistance/observation, working with vendors, and punchlist generation. For pricing this proposal, we have included seventeen (17) site visits during the project, with each site visit including travel time and up to six (6) hours on site.

Keystone will also chair virtual progress meetings during periods of the contract where the contractor is off site such as the beginning stages during submittal review and equipment fabrication. For pricing this proposal, we have included twelve (12) virtual meetings during the project.

Record Drawings

Keystone will prepare record drawings at the completion of the project based on the mark-ups of the contract drawings maintained by the contractor. We assume LCA will manage the paperwork associated with record drawings completion. Keystone's cost estimate for this task is based on an assumed effort of two (2) hours average per drawing sheet.

Project Administration and Contract Management

Keystone will provide the following with this task:

1. Keystone will provide general communication with LCA throughout the duration of construction regarding progress, submittal status, construction challenges and their resolution.
2. Review monthly invoicing and contractor pay application requests.
3. Perform the internal project administration functions required to effectively manage the project, such as budget control and staff resource allocation.

2.2 Proposal Assumptions

For pricing our services, we have made the following assumptions:

- The work described in this proposal is bid as multiple contracts.
- SCADA system design and Programming are not included.
- Each site visit will include travel time for one employee and up to six hours on site.
- Each virtual meeting will include two employees and up to two hours via teleconference.
- Building permits, if required, will be handled by LCA in coordination with the City of Allentown.
- The contract will begin with shop drawing and submittals but the contractors will not mobilize until closer to delivery of the main switchgear equipment which is expected to have a 52 week lead time.

3.0 BUSINESS TERMS

3.1 Compensation

We propose to provide the services indicated above for the following T&M Not To Exceed amount:

2.1	Construction Phase Services	\$ 136,858
	Total	\$ 136,858

This fee is firm and cannot be changed unless both parties agree to changes in the scope. This proposal is valid for 90 days. Invoicing will be done on a monthly T&M basis. Payment to Keystone shall not be contingent upon payment to LCA by others.

Additional services beyond the scope of this proposal can be provided based on negotiated lump sum amounts or on a per diem basis.

3.2 Schedule

Keystone can start work on this project immediately upon your authorization to proceed. We will coordinate our schedule closely with the construction schedule. We expect the construction schedule to commence in January 2024 and run for 780 days as outlined in the contract times concluding in February 2026.

3.3 Business Conditions

Keystone's Standard Business Conditions (attached) apply.

If you should have any questions concerning this proposal, please feel free to contact us. Thank you for the opportunity to submit this proposal.

Respectfully,



Adam C. Menko, P.E., CESP
Engineering Manager

AUTHORIZATION TO PROCEED
Engineering Services

Lehigh County Authority
KIWWTP Substation #1 & SWGR Replacement CPS

I have reviewed Keystone Engineering Group, Inc. Proposal No. 2023-0395, agree to the terms and conditions, and hereby authorize Keystone to proceed with the outlined services.

Date

Authorized Representative for LCA

Name (print or type)

Title (print or type)

KEYSTONE ENGINEERING GROUP, INC

GENERAL TERMS & CONDITIONS

1. Proposals are valid for a period of ninety (90) days from the date appearing thereon. After ninety (90) days, the proposal is void and Keystone Engineering Group, Inc. (hereinafter "KEYSTONE") reserves the right to submit a revised proposal.
2. Any and all information contained in the proposal is confidential and proprietary property of KEYSTONE and is not to be disclosed or made available to third parties without the written consent of KEYSTONE.
3. Invoices will be submitted on a monthly basis, unless stated otherwise in writing by KEYSTONE, and are due upon receipt. All balances past due will be charged an interest rate of 1.5% per month past due. KEYSTONE may, after mailing written notice of its intention to do so, suspend services and refuse to release any documents or other work-product until Client has paid in full all amounts due, including interest charges. Client will be responsible for all costs of KEYSTONE in collecting past due balances from Client, including but not limited to, reasonable attorney's fees.

Client must submit, in writing, to KEYSTONE within ten (10) days of the date of any invoice, any dispute on the invoice, otherwise the invoice will be considered to be correct.

4. All documents and/or plans, whether physical or contained on magnetic disk or any other data storage media (hereinafter collectively referred to as "documents"), prepared by KEYSTONE shall be the sole property of KEYSTONE until payment is made in full. Client agrees that if payment is not made in full, Client shall have no proprietary interest in any document prepared by KEYSTONE and KEYSTONE reserves the right to require the return of any document(s) submitted to the Client or others.
5. The proposed fees and schedule constitute KEYSTONE's best estimate of the charges and time required to complete the project. Except as provided in Paragraph 6, the project scope will not be altered without written mutual agreement between KEYSTONE and Client.
6. Fee and schedule commitments will be subject to change for delays caused by Client's failure to provide specified facilities or information, or for delays caused by unpredictable occurrences or force majeure, such as fires, floods, riots, strikes, unavailability of labor and materials, delays or defaults by suppliers of materials or services, process shutdown, acts of God or of the public enemy, or acts or regulations of any governmental agency.
7. Where method of payment is based on time-and-material, the Client agrees that the following will apply:
 - a. The minimum time segment for charging field work is one (1) hour. All field time is charged on a portal to portal basis. The minimum time segment for charging office work is one-half (1/2) hour. Overtime is charged at one hundred fifty percent (150%) of regular rate unless otherwise specifically agreed upon in writing. Overtime is considered any time billed by KEYSTONE employees over 40 hours per week.
 - b. Expenses which are reimbursable include travel and living expenses of personnel when away from the home office on business connected with the project; identifiable communication, reproduction and shipping costs; identifiable drafting and stenographic supplies; expendable materials and supplies purchased specifically for the project. A fifteen (15) percent administrative charge will be added.
 - c. Emergency response rates shall be 2 x Standard Rates and will be applied for services, on-site, or via remote support provided outside the normal working times of weekdays 7:00AM till 6:00PM, Saturday, Sunday, and Holidays.

8. No cancellation of this contract by the Client will be effective unless seven (7) days prior notice thereof has been received by KEYSTONE, together with the reasons and details and an opportunity for consultation has been given. If canceled, a final invoice will be calculated on the first or fifteenth of the month, whichever comes first, following receipt of such cancellation notice and the lapse of the seven day cancellation period (the effective date of cancellation).

Where the method of payment is "Lump Sum," Client agrees that the final invoice will be based on the percentage of work completed to the effective date of cancellation, plus an equitable adjustment to provide for costs KEYSTONE incurred for commitments made prior to cancellation.

Where the method of payment is time-and-materials, Client agrees that the final invoice will include all services and direct expenses incurred up to the effective date of cancellation plus an equitable adjustment to provide for costs KEYSTONE incurred for commitments made prior to cancellation.

9. KEYSTONE will maintain, at its own expense, Workman's Compensation insurance, Comprehensive General Liability insurance and Professional Liability insurance and upon request will furnish the Client with a certificate to verify the same.

10. If, subsequent to the execution of an agreement to provide professional services, KEYSTONE finds that specialized equipment must be obtained to perform the services, the Client will be notified of the cost of such equipment and, if agreed, the cost will be added to the project fee as a reimbursable expense or the equipment will be obtained by the Client.

11. Client and KEYSTONE have discussed the risks, rewards and benefits of the project and the total fee for services, and agree that to the fullest extent permitted by law, the total liability, in the aggregate, of KEYSTONE and its officers, directors, employees, agents and independent professional associates and consultants, to the Client and anyone claiming by, through or under the Client for any and all injuries, claims, losses, expenses or damages whatsoever related to KEYSTONE services, including but not limited to the negligence, errors, omissions, strict liability or breach of contract, shall not exceed the total compensation received by KEYSTONE, to date, under this agreement.

A request by the Client to increase the limit of liability must be made to KEYSTONE in writing at the time of the client's acceptance of the proposal. KEYSTONE may agree to increase the limit of liability in consideration of additional payment by the client. The increased limit of liability will become effective upon agreement on the fee and execution of the contract.

12. KEYSTONE warrants that its work will be performed in accordance with generally accepted professional standards. Our services often require decisions which are not based upon exact science, but rather, skilled judgment. We will use that degree of care and skill normally exercised under similar circumstances in the profession at the time the services are rendered. This standard of care shall not be judged according to later standards. **THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED.** This warranty is solely for the benefit of the Client and its successors. It gives no rights to any other third-party beneficiary and KEYSTONE contemplates that there will be no third-party beneficiary of any agreement between KEYSTONE and the Client unless specifically agreed to, in writing, by KEYSTONE.

KEYSTONE does not represent or warrant that any permit or approval will be issued by any governmental body. Should the Client and KEYSTONE agree in this contract that KEYSTONE will be responsible for the preparation of any application for approval or permit, KEYSTONE will endeavor to prepare any application for any such permit or approval in conformance with all applicable requirements, but, in view of the complexity and the frequent changes in applicable rules and regulations and interpretations by the authorities, KEYSTONE cannot guarantee that such application will be complete or will conform to all applicable requirements. Clients desiring further assurance regarding their applications for permits or approvals are advised to obtain legal or other appropriate counsel.

13. The Client agrees to indemnify, defend and hold harmless KEYSTONE and its subcontractors, consultants, agents, officers, directors and employees from and against all losses, claims, damages, expenses or liability whatsoever, whether direct, indirect, economic or consequential, including, but not limited to, reasonable attorney's fees and other costs of defense, arising out of reliance by KEYSTONE on information provided to it by the Client.

KEYSTONE is not responsible for and the Client agrees to indemnify KEYSTONE from any loss, damage, or liability arising from the negligent acts, errors, or omissions of the Client, its staff, employees, agents, consultants, or contractors.

14. This agreement represents the entire agreement between the parties and can only be modified in writing by both parties.
15. This agreement is governed under the laws of the Commonwealth of Pennsylvania.
16. Any provisions of this agreement found upon judicial interpretation or construction to be prohibited by law shall be ineffective to the extent of such prohibition, without invalidating the remaining provisions of this agreement.
17. Neither Client nor KEYSTONE will assign, sublet, or transfer any rights or interest in this agreement without the prior written consent of the other.
18. This agreement contains all of the understandings, promises and undertakings of the parties to it. All prior understandings and agreements, oral or written, previously entered into between the parties to this agreement are merged in this instrument.
19. The parties acknowledge that each has had the opportunity to receive independent legal advice from counsel of his or her own selection, that each is familiar with and fully understands this Agreement and that each has been fully informed as to, and understands, his or her legal rights. Each of the parties further acknowledges and agrees that, after having the opportunity to receive such advice and with such knowledge, and after having read this Agreement carefully and fully, this Agreement is fair, reasonable and equitable, that it is being entered into freely, voluntarily, and in good faith, and that its execution is not the result of any duress, undue influence, coercion, collusion and/or improper or illegal agreement.
20. For purposes of contract interpretation and for the purpose of resolving any ambiguity in this Agreement, the parties agree that this Agreement was prepared jointly by them and/or their respective attorneys.



November 10, 2023

Amy Rohrback
Lehigh County Authority
1053 Spruce Road
P.O. Box 3348
Allentown, PA 18106-0348

RE: Proposal for KIWWTP Switchgear/Substation 1 RPR Services

BL No.: 031.P000020437

Dear Ms. Rohrback:

We are pleased to submit a proposal for Resident Project Representative Services associated with the KIWWTP Switchgear/Substation 1 Project. Borton-Lawson, LLC, a Verdantas company (BLV) currently has three (3) Master Electricians on staff that are available to perform the RPR service.

Robert Peters has more than 40 years of experience and has been involved in the several LCA projects including the following:

- Allentown Water Filtration Plant High Service Pump VFD Replacement
- Allentown Water Filtration Plant Power Study and Arc Flash Analysis
- Spring Creek Pump Station Upgrades (currently in design)

Dean Avillion has more than 30 years of experience in construction services for industrial, pharmaceutical, and commercial projects.

Greg Zukosky has 9 years of experience in electrical design and project management for public utility, industrial, health care, and commercial projects.

Enclosed is our scope of work time and material fee proposal. Resumes can be provided upon request. If this proposal is acceptable to you, we will work to finalize a contract.

Please reach out to me via phone (570 881-0253, or via email cmccue@borton-lawson.com if you have any questions.

Lehigh Valley
Pittsburgh
Wilkes-Barre

Sincerely,

Chris McCue
Water Department Manager

cc: David Wieller

Wilkes-Barre
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

P: 570.821.1999
F: 570.821.1990

EXHIBIT A

Engineer Scope of Services

Based on the Request for Proposal received via email on October 5, 2023, our scope of work and assumptions are provided below.

A. Scope of Services:

1. Project Management

- a. Project Setup/Invoicing/Contract maintenance
- b. Internal Team Coordination

2. Attendance at Pre-Construction and Pre-Mobilization Meetings

- a. One (1) Pre-Construction Meeting will be attended.
- b. One (1) Pre-Mobilization Meeting will be attended.

3. Review Executed Shop Drawings

- a. Review of Contract Documents to get familiarized the project.
- b. Review of executed shop drawings to ensure proper equipment is incorporated into construction.

4. Review and Approve Payment Applications

- a. Provide recommendations to the Keystone Engineering Group regarding work completed to date and stored materials received.
- b. This effort is included in the 400 hours for part-time inspection services.

5. Part-Time Inspection Services

- a. As stated in the Request for Proposal, a maximum of 400 hours is included for this task.
- b. RPR will be present when substantial/critical components of the work are being performed.

6. Weekly Inspection Reports

- a. Inspection reports will be prepared on a weekly basis and distributed to LCA and Keystone Engineering Group.
- b. It is assumed that a total of 52 weekly inspection reports will be prepared.

7. Progress Meetings

- a. As stated in the Request for Proposal, up to ten (10) progress meetings are to be attended.



- b. It is assumed that the meetings will be held during times the RPR is onsite. As such, this effort is included in the 400 hours for part-time inspection services.

8. Substantial Completion Inspection

- a. A Substantial Completion inspection will be conducted once requested by the Contractors.
- b. A punchlist will be prepared.
- c. It is assumed that Substantial Completion inspections for both Contracts will be performed concurrently.

9. Final Completion Inspection

- a. A Final Completion inspection will be conducted once requested by the Contractors.
- b. A punchlist will be prepared.
- c. It is assumed that Final Completion inspections for both Contracts will be performed concurrently.

B. Summary of Hours and Fees

The following is a summary of estimated hours and fees to be billed on a Time and Materials basis. At this time, we do not have enough project information to provide a fixed fee. Our final costs will be based on actual work performed. Reimbursable expenses will be billed at cost.

Summary of Estimated Hours

Task No.	Task Description	Hours	Notes
1	Project Management	80	
2	Pre-Construction & Pre-Mobilization	16	
3	Review Shop Drawings	40	
4	Review Pay Apps		Included in Task 5
5	Part-Time Inspection	400	
6	Weekly Progress Reports	104	
7	Progress Meetings		Included in Task 5
8	Substantial Completion Inspection and Punchlist	12	
9	Final Completion Inspection and Punchlist	12	

Total Hours 664



Summary of Estimated Fees

Task 1 - Project Management	\$14,400
Task 2 - RPR Services	\$81,900
Reimbursable Expenses	\$6,000
TOTAL	\$102,300

Rates:

- Project Management: \$180 per hour
- RPR Services: \$140 per hour



MEMORANDUM

Date: December 11, 2023

To: LCA Board of Directors
Liesel Gross, CEO

From: Phil DePoe, Senior Planning Engineer

Subject: Kline's Island Sewer System: Selection of Solution (SOS) - Planning Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Plan Authorization: KISS Act 537 – Selection of Solution (SOS)	\$165,000
1A	Professional Services Authorization: Arcadis – SOS	\$125,000*

**Included in the Capital Project Authorization*

1. Selection of Solution (SOS)

AUTHORIZATION OVERVIEW:

As Arcadis concludes work on the Final Alternatives Analysis (FAA) authorization, the final phase of Act 537 planning for the Kline's Island Sewer System (KISS) includes the "Selection of Solution" (SOS) activity. This final phase of major planning covers work from completion of the FAA through final selection of the Act 537 solutions to be implemented. Some of the planned SOS work has been accomplished under the FAA authorization.

See attached for clear identification of proposal goals, objectives, and deliverables.

FINANCIAL:

Costs associated with the execution of the Selection of Solution (SOS) proposal will be paid by the City of Allentown and reimbursed through existing intermunicipal agreements and by City customers through the use of the Administrative Order Fee. The one exception is Task 2 below, related to analysis of options for segregating flows for Pretreatment Plant configurations, which will be paid by LCA via the Allentown Division.

CURRENT STATUS:

- Authorization to create the KISS model and an authorization to commence the flow characterization study occurred in early 2021
- As the flow characterization study ended in the fourth quarter of 2021, the model calibration commenced on schedule and concluded in early July 2022
- The Capacity Problem Definition phase of work occurred from July through September of 2022
- The Preliminary Screening of Alternatives phase of work occurred from October 2022 through April of 2023
- The Final Alternatives Analysis phase of work occurred from April 2023 through November 2023

This next critical phase of Act 537 Plan preparation will begin upon approval of this authorization.

THIS APPROVAL – PLANNING PHASE TASKS:

Lehigh County Authority (LCA) intends to retain the services of an engineering consulting firm to provide these services. These services include, but are not limited to, the following:

Professional Services
1. Signatories' Source Reduction Programs Support
2. Pretreatment Plant Flow Segregation Analysis
3. On-Call Simulations
4. "Flow Miles" Determination
5. Act 537 Plan Write-ups
6. Stakeholder Meeting Support
7. Cost and Schedule Support
8. Meetings, Presentations, Workshops, and Project Management

See attached proposal for further details.

CONSULTANT SELECTION PROCESS:

In addition to serving as LCA's engineering consultant for annual ongoing sewer program support services, Arcadis has worked with the City of Allentown since the 2009 EPA Administrative Order. They are also a critical Act 537 Partner and are developing crucial elements related to the Plan's development.

SCHEDULE:

Services listed in this proposal will conclude by the end of September 2024, unless otherwise directed by LCA.

FUTURE AUTHORIZATIONS:

A final draft version of the Act 537 Plan is expected to be ready for review upon completion of this authorization. Additional authorizations related to specific conveyance system projects are anticipated during the Act 537 implementation.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-12	BUDGET FUND:	Allentown Div\Wastewater\Capital
PROJECT TITLE:	Kline's Island Sewer System Selection of Solution (SOS) – Planning Phase		PROJECT TYPE:
THIS AUTHORIZATION:	\$165,000	<input type="checkbox"/>	Construction
TO DATE (W/ ABOVE)	\$165,000	<input checked="" type="checkbox"/>	Engineering Study
		<input type="checkbox"/>	Equipment Purchase
		<input type="checkbox"/>	Amendment

DESCRIPTION AND BENEFITS:

As Arcadis concludes work on the Final Alternatives Analysis (FAA) authorization, the final phase of Act 537 planning includes the "Selection of Solution" (SOS) activity. This final phase of major planning covers work from completion of the FAA through final selection of the Act 537 solution to be implemented. Some of the planned SOS work has been accomplished under the FAA authorization. See proposal for further details.

Prior Authorizations: None related to this specific authorization. To date, Arcadis has been granted multiple authorizations throughout this Act 537 planning process, including the recently completed FAA.

This Authorization: Completion of the work associated with this "Selection of Solution" proposal. See attached Board Memo for further project details.

Authorization Status:

Requested This Authorization (Selection of Solution)	
<i>Design Phase</i>	
Staff	\$20,000
Contractor	\$0
Engineering Consultant	\$125,000
Contingency	\$20,000
Total This Authorization	\$165,000

Prior Act 537 Authorizations (2019-present)	Various
Subtotal	\$165,000
<i>Future Authorizations</i>	<i>To be determined</i>

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: ARCADIS U.S., INC.
1600 Market Street
Suite 1810
Philadelphia, PA 19103

Date: December 11, 2023

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division: Kline's Island Sewer System Selection of Solution (SOS) – Planning Phase

As Arcadis concludes work on the Final Alternatives Analysis (FAA) authorization, the final phase of Act 537 planning includes the "Selection of Solution" (SOS) activity. This final phase of major planning covers work from completion of the FAA through final selection of the Act 537 solution to be implemented. Some of the planned SOS work has been accomplished under the FAA authorization.

The services of the proposal include, but are not limited to, the following:

Professional Services ⁽¹⁾
1. Signatories' Source Reduction Programs Support
2. PTP Segregation
3. On-Call Simulations
4. Flow Miles Determination
5. 537 Plan Write-ups
6. Stakeholder Meeting Support
7. Cost and Schedule Support
8. Meetings, Presentations, Workshops, and Project Management

(1) Planning phase only

This Approval: \$125,000 (see attached proposal)

Total Amount (not to be exceeded without further authorization): \$125,000

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:** _____

Mr. Philip DePoe
Capital Works Program 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:
KISS Selection of Solution Proposal

Date:
November 30, 2023

Dear Mr. DePoe:

Arcadis U.S., Inc. (Arcadis) is pleased to submit this proposal to provide engineering and modeling activities to support the Selection of Solution (SOS) to address the long-term capacity improvement goals for the KISS service area. This scope and budget cover work from the completion of the final alternatives analysis (FAA) through final selection of the solution to be implemented. Some of the planned SOS work has been accomplished under the FAA authorization, but several additional tasks were also added. This proposed scope and budget covers the current remaining tasks.

Contact:
Jim Shelton
Phone:
302.723.1450
Email:
James.Shelton@arcadis.com

SCOPE OF WORK

Task 1 – Signatories’ Source Reduction Programs Support

Arcadis will provide on-call support to the Signatories in support of their SRPs focused on each Signatory’s unique interceptor problems.

Task 2 – PTP Segregation

This task includes modeling various pretreatment plant flow segregation and sizing and costing of pump stations and force mains to abet minimizing PTP refurbishment and expansion costs.

Task 3 – On-call Simulations

Arcadis will model and cost flow simulations of requested alternative solutions to support 537 Plan preparation as requested by LCA.

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.

Task 4 – Flow Miles Determination

Arcadis will determine the quantity and percentage of flows from each Signatory carried in common interceptors and pump stations for average dry day and for 5-year design event to support Raftelis' estimate of costs distributions using the Flow-Mile technique.

Task 5 – 537 Plan Write-ups

Arcadis will draft sections of the 537 Plan as directed by LCA.

Task 6 – Stakeholder Meeting Support

Arcadis will support LCA in developing materials to support various stakeholder meetings for 537 Plan review and ratification.

Task 7 – Cost and Schedule Support

Arcadis will develop program costs and schedules to support LCA and Raftelis in the development of financing, rate setting, tapping fee, and cost allocation efforts.

Task 8 – Meetings, Presentations, Workshops, and Project Management

During the course of this work, Arcadis will prepare for and lead meetings, presentations, and workshops to LCA staff, the KISS Signatories, and regulators. For the purposes of this scope and budget, we have assumed regular monthly meetings. This task will also account for project management costs.

SCHEDULE

Arcadis has begun work under our remaining budget for the Final Alternatives Analysis (FAA) project which was completed under budget. We anticipate completion of these tasks on schedules to be dictated by LCA.

BUDGET ESTIMATE

We estimate the cost and level of effort of this work as shown in the below table. As some of this work is ill-defined, these are broad estimates. The requested budgets have been reduced to reflect work completed under the FAA project.

Task No.	Task Name	Hours	Cost
1	Signatories' Source Reduction Programs Support	36	\$ 6,000
2	PTP Segregation	19	\$ 4,000
3	On-call Simulations	235	\$ 38,000
4	Flow Miles Determination	54	\$ 9,000
5	537 Plan Write-ups	110	\$ 21,000

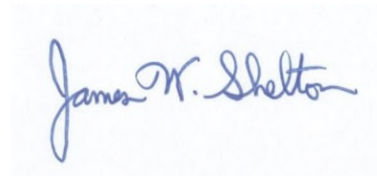
6	Stakeholder Meeting Support	19	\$ 4,000
7	Cost and Schedule Support	31	\$ 7,000
8	Meetings, Presentations, Workshops, and Project Management	145	\$ 36,000
		472	\$ 125,000

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

Cc: Tony Dill

Lehigh County Authority – Monthly Report to Board of Directors

Upcoming Board Agenda Items & Project Updates – December 2023

Published: December 4, 2023

PART 1 – Upcoming Agenda Items – Action & Discussion Items

FINANCE & ADMINISTRATION

Project Title: LCA Strategic Plan - 2023 Quarterly Progress Reporting

Division / Funding: All Divisions

Board Action Date: 12/11/2023

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: A quarterly report of staff progress on key initiatives outlined in LCA's Strategic Plan will be presented for Board review and discussion. Staff Responsibility: Liesel Gross

Project Title: Capital Works Planning Room Organizing, Secure Storage and Digitizing - Phase 2

Division / Funding: All Divisions

Board Action Date: 12/11/2023

Status or Action Desired: Approval

Project Phase: Planning Phase

Project Notes: Reynolds Business System has been working with LCA to digitize paper plans stored in the capital works department. Approximately 18,000 drawings were digitized in Phase 1 of this effort, which was authorized in early 2023. The final Phase of this effort includes approximately 14,000 drawings and authorization will be requested at the 12/11/23 LCA Board meeting. Staff Responsibility: Matt Dorner

Project Title: Resolution 12-2023-1: Customer Facility Fees & Connection Fees

Division / Funding: n/a

Board Action Date: 12/11/2023

Status or Action Desired: Approval

Project Phase: n/a

Project Notes: Resolution No. 12-2023-1 is presented for Board consideration to update certain tapping fees including customer facilities and connection fees. The 2024 Customer Facilities Fees and Connection Fees reflect actual costs for LCA purchase and installation of required metering equipment and other installation details for each connection size for water and sewer service. Staff Responsibility: Liesel Gross

Project Title: Monthly Financial Review

Division / Funding: n/a

Board Action Date: n/a

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: The November 2023 monthly financial report will be presented. Staff Responsibility: Ed Klein

SYSTEM OPERATIONS

Project Title: Monthly Operations Report

Division / Funding: n/a

Board Action Date: n/a

Status or Action Desired: Discussion

Project Phase: n/a

Project Notes: The November 2023 monthly operations report will be presented. Staff Responsibility: Andrew Moore & Chris Moughan

WATER PROJECTS

Project Title: Water Filtration Plant: Filter Upgrade Project

Division / Funding: Allentown Division

Board Action Date: 12/11/2023

Status or Action Desired: Approval

Project Phase: Construction Phase

Project Notes: The WFP filter underdrains and associated mechanical equipment are approximately 60 years old and have reached the end of their useful life. This near-term Master Plan project is intended to improve reliability, extend service life, maintain high level of service and insure regulatory compliance. Preliminary engineering was completed in Spring 2022, and the basis of design includes replacement of the filter underdrains, installation of an air scour backwash system, replacement of old control panels and SCADA integration, and media replacement. The Conceptual Design was submitted to the City in May 2022 and approved in June 2022. Substantially complete design was approved by the City in August 2023, and the project is currently out to bid with bids due November 22, 2023. LCA staff anticipate authorization for construction request at the 12/11/2023 Board Meeting. Staff Responsibility: Amy Rohrbach

WASTEWATER PROJECTS

Project Title: Upper Western Lehigh Pump Station & Force Main

Division / Funding: Suburban Division

Board Action Date: 12/11/2023

Status or Action Desired: Approval

Project Phase: Construction Phase

Project Notes: Per the DEP-approved Interim 537 Plan, action is required to alleviate the current sanitary sewer interceptor system hydraulic bottleneck in the Trexlertown area. The Upper Western Lehigh Pump Station and Force Main is the recommended alternative identified in the Special Act 537 Study being prepared as part of the Trexlertown Area Capacity Solution Alternatives project, and is supported by both Upper and Lower Macungie townships. Project implementation is required in order to meet the compliance timeline in the Interim Act 537 Plan. Design phase authorization was granted at the February 14, 2022 LCA Board meeting. Permit applications have been submitted to various regulatory agencies, including the DEP for a Part II Water Quality Management Permit. The pump station contract will be bid in the spring of 2024, after permitting and easement acquisition are finalized. The force main contract was advertised for bid on October 16 with a bid opening date of November 17, 2023. Board authorization for the construction phase of the force main contract is requested at the 12/11/2023 meeting. Staff Responsibility: Amy Kunkel

Project Title: Kline's Island WWTP: Substation No. 1 and Switchgear ReplacementDivision / Funding: Allentown DivisionBoard Action Date: 12/11/2023Status or Action Desired: ApprovalProject Phase: Construction Phase

Project Notes: The KIWWTP electrical service is supplied by two 12.4 kV power feeds from PPL, which enter Substation No. 1 and connect to the 12.4 kV switchgear, which distributes the 12.4 kV power to 480v Substation No. 1 and Substation No. 2. The substations distribute power to the various MCCs and loads throughout the plant. Per prior electrical condition assessments performed by consultants, the substations and primary switchgear (which are from the 1970s) are at the end of their useful life and in need of replacement. Substation No. 2 was replaced in 2019. This project will replace Substation No. 1 with a new 480v, 3,000 KVA walk-in type enclosure and replace the switchgear with new vacuum breaker technology equipment with automatic transfer capability designed to accommodate future plant upgrade loads. The preliminary basis of design was submitted to the City of Allentown as part of Major Capital Improvement approval process, with approval received in October 2022. Design phase approval was authorized at the 11/14/2022 Board meeting, and the project will be bid in Q3 of 2023. The Substantially Complete Design package was submitted to the City of Allentown on 7/13/2023 for review and comment. Approval was received from the City of Allentown on 8/1/2023. A third party QA/QC review was performed and comments provided to the consultant. Final bid documents were approved by LCA on 9/19/2023 and the bid is scheduled to advertise 10/2/2023 with bids due 11/8/2023. A request for construction authorization is anticipated at the December 11, 2023 Board Meeting. Staff Responsibility: Amy Rohrbach

Project Title: KISS System Selection of Solution (SOS)Division / Funding: City of Allentown (AO)Board Action Date: 12/11/2023Status or Action Desired: ApprovalProject Phase: Planning Phase

Project Notes: As Arcadis concludes work on the Final Screening of Alternatives (FFA) authorization, the final phase of Act 537 planning includes the "Selection of Solution" (SOS) activity. This final phase of major planning covers work from completion of the FAA through final selection of the solution to be implemented. Some of the planned SOS work has been accomplished under the prior FAA authorization. Board authorization is requested at the December 11, 2023 Meeting. Staff Responsibility: Phil DePoe

PART 2 – Project Updates – Information Items

None for December

PART 3 – Open Project List – No Updates

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Finance & Administration	LCA Munis ERP System Planning & Re-Implementation	All Divisions	Planning Phase	Chris Moughan & Brooke Neve
Finance & Administration	Asset Management Roadmap & Strategic Asset Management Plan (SAMP)	All Divisions	Planning Phase	Albert Capuzzi
System Operations	Suburban Water Facilities - SCADA System Upgrade	Suburban Division	Construction Phase	Chris Moughan
System Operations	Watershed Monitoring Program	Suburban Division	Ongoing	Andrew Moore
Water - Suburban	Water Main Replacement Program Cycle 7	Suburban Division	Construction Phase	Jason Peters
Water - Suburban	Central Lehigh and North Whitehall Systems – Water Supply Study	Suburban Division	Planning Phase	Phil DePoe
Water - Suburban	2022 Commercial Meter Replacement Project	Suburban Division	Construction Phase	Amy Kunkel
Water - Suburban	Fixed Base Meter Reading Stations	Suburban Division	Planning Phase	Amy Kunkel
Water - Suburban	Upper System Pump Station and Main Extension	Suburban Division	Design Phase	Amy Kunkel
Water - Suburban	North Whitehall Meter Replacement	Suburban Division	Construction Phase	Amy Kunkel
Water - Suburban	Water Main Replacement Program Cycle 7 & 8	Suburban Division	Design Phase	Jason Peters
Water - Allentown	Lead Service Line Replacement Project Cycle 1	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Allentown Division Lead Service Line Inventory Program & Compliance Planning	Allentown Division	Planning Phase	Matt Dorner
Water - Allentown	30" & 36" East Side Transmission Main Repair Project	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Large Meter Chamber Replacement	Allentown Division	Construction Phase	Amy Kunkel

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Water - Allentown	Water Filtration Plant: PFAS Compliance Study	Allentown Division	Planning Phase	Albert Capuzzi
Water - Allentown	Water Main Replacement Program Cycles 7 & 8	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Large Diameter Valve Rehabilitation & Replacement Program	Allentown Division	Design Phase	Chuck Volk
Water - Allentown	Lead Service Line Replacement Program Planning	Allentown Division	Planning Phase	Andrew Moore
Water - Allentown	Water Filtration Plant: 2022-2023 Indenture Upgrades	Allentown Division	Construction Phase	Chuck Volk
Water - Suburban	Suburban Division Lead Service Line Inventory Program & Compliance Planning	Suburban Division	Planning Phase	Matt Dorner
Sewer - Act 537	Kline's Island WWTP - High-Rate Wet-Weather Treatment Pilot Study	Allentown Division	Planning Phase	Phil DePoe
Sewer - Act 537	Sanitary Sewer Collection System: City of Allentown Manhole Inspections	Allentown Division	Planning Phase	Phil DePoe
Sewer - Act 537	Sanitary Sewer Collection System: City of Allentown Interceptor Inspections	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Regional Sewer Capacity & Wet-Weather Planning - Regional Act 537 Plan Preparation	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	KISS System Modeling - Final Alternatives Analysis (FAA)	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	KISS Act 537 Planning - Financial & Institutional Evaluation, Phase 2	City of Allentown (AO)	Planning Phase	Liesel Gross
Sewer - Act 537	KISS System Modeling - Preliminary Screening of Alternatives (PSOA)	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Kline's Island WWTP: Phase 1 AO Design Improvements	City of Allentown (AO)	On Hold	Phil DePoe
Sewer - Act 537	KISS System Modeling - Sewage Billing Meter QA/QC Data Analytics and 2021 Flow Metering Preparation	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Regional Sewer Capacity & Wet-Weather Planning: Engineering & Program Support	Suburban Division	Planning Phase	Phil DePoe

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Sewer - Act 537	Industrial Pretreatment Plant Master Plan	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Western Lehigh Interceptor Municipalities Test & Seal Lateral Grouting Project	Suburban Division	Construction Phase	Jason Peters
Sewer - Act 537	Western Lehigh Service Area - Engineering & Program Support	Suburban Division	Planning Phase	Phil DePoe
Sewer - Suburban	Lynn Township WWTP Final Clarifier Project	Suburban Division	Design Phase	Chuck Volk
Sewer - Suburban	Pretreatment Plant (PTP) Near-Term Facility Improvements	Suburban Division	Preliminary Design Phase	Albert Capuzzi
Sewer - Suburban	Western Lehigh Manhole Rehabilitation Project - Phase 4	Suburban Division	Construction Phase	Jason Peters
Sewer - Suburban	Park Pump Station Phase 2 Upgrade	Suburban Division	Construction Phase	Amy Kunkel
Sewer - Suburban	North Whitehall Township Act 537 Plan	Suburban Division	Planning Phase	Phil DePoe
Sewer - Suburban	Heidelberg Heights Sanitary Sewer Consent Order & Agreement	Suburban Division	Construction Phase	Jason Peters
Sewer - Suburban	Spring Creek Pump Station Upgrades	Suburban Division	Design Phase	Amy Kunkel
Sewer - Suburban	Pretreatment Plant (PTP) Electrical Study	Suburban Division	Planning Phase	Albert Capuzzi
Sewer - Suburban	Heidelberg Heights Wastewater Treatment Plant - Mechanical Screen Project	Suburban Division	Construction Phase	Chuck Volk
Sewer - Suburban	Spring Creek Force Main Relocation - PA Turnpike Commission	Suburban Division	Design Phase	Amy Kunkel
Sewer - Suburban	Lynn Township Corrective Action Plan	Suburban Division	Ongoing	Jason Peters
Sewer - Allentown	Kline's Island WWTP: 2023-2024 Architectural and Structural Upgrades	Allentown Division	Construction Phase	Amy Rohrbach
Sewer - Allentown	Kline's Island WWTP: Main and Auxiliary Pump Station Improvements	Allentown Division	Preliminary Design	Amy Rohrbach

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (LCA Year 1)	Allentown Division	Design Phase	Albert Capuzzi
Sewer - Allentown	Kline's Island WWTP: Effluent Disinfection and Dechlorination System Improvements	Allentown Division	Construction Phase	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Solids Process Boiler and HVAC System Upgrade Project	Allentown Division	Construction Phase	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Wet Weather Capacity Enhancements - Tertiary Bypass	Allentown Division	Preliminary Design	Chuck Volk
Sewer - Allentown	Kline's Island WWTP: Intermediate Pump Station Improvements	Allentown Division	Preliminary Design	Chuck Volk
Sewer - Allentown	Lehigh Street (Rte. 145) Water and Sewer Main Relocation Project	Allentown Division	Construction Phase	Jason Peters
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (City Year 4)	City of Allentown (AO)	Construction Phase	Phil DePoe