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Agendas & Minutes Posted:
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LEHIGH COUNTY AUTHORITY

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BOARD MEETING AGENDA – March 11, 2024 – 12:00 p.m.

In-Person or Virtual Meeting Attendance Options Available: Meetings of the LCA Board of Directors will be held at LCA's Main Office as well as online using the Zoom Meetings application, which includes a telephone option. Public participation is welcomed both in-person or virtually. Instructions for joining the meeting online or by phone are posted on the LCA website in the morning on the day of the meeting, prior to the start of each meeting. You may also issue comment to LCA via email to LCABoard@lehighcountyauthority.org in advance of any meeting or view the meeting at a later time by visiting the LCA website. Please visit <https://www.lehighcountyauthority.org/about/lca-board-meeting-videos/> for specific instructions to join the meeting if you are attending virtually. If attending in-person at LCA's Main Office, please follow all safety and sanitation protocols posted.

1. Call to Order

- **NOTICE OF MEETING RECORDINGS**

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

- *Public Participation Sign-In Request*

2. Review of Agenda / Executive Sessions

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

3. Approval of Minutes

- *February 26, 2024 Board Meeting minutes*

4. Public Comments

5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *Authorization for Additional Legal Action Regarding PFAS Litigation*
- *LCA Strategic Plan – Quarterly Progress Reporting – Discussion (yellow) (digital Board packet, pages 7-17)*

WATER

WASTEWATER

- *Kline's Island WWTP: Master Plan (Approval) (blue) (digital Board packet, pages 18-21)*
- *Kline's Island WWTP – Primary Sludge System Upgrades (Approval) (green) (digital Board packet, pages 22-30)*

6. Monthly Project Updates / Information Items (1st Board meeting per month) (digital Board packet, pages 31-38) – **March report attached**

7. Monthly Financial Review (2nd Board meeting per month) (digital Board packet pages)

8. Monthly System Operations Overview (2nd Board meeting per month) (digital Board packet, pages)

9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments
12. Board Member Comments
13. Executive Sessions
14. Adjournment

UPCOMING BOARD MEETINGS		
March 25, 2024	April 8, 2024	April 22, 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

February 26, 2024

The Regular Meeting of the Lehigh County Authority Board of Directors was called to order at 12:00 p.m. on Monday, February 26, 2024, Chairman Brian Nagle presiding. The meeting was hybrid via in-person and video and audio advanced communication technology ("ACT"), using the Zoom internet application, including telephone option. Each Board member and other attendees of the meeting were able to hear each other attendee and be heard by each other attendee. The public could also participate in the meeting in-person or via ACT, using the Zoom internet application, including telephone option. A Roll Call of Board members present was taken. Brian Nagle, Linda Rosenfeld, Norma Cusick, Jeff Morgan, Sean Ziller, and Marc Grammes were present for Roll Call, and remained for the duration of the meeting.

Attorney Kevin Reid, the Authority's Solicitor, was present along with Authority Staff, Liesel Gross, Ed Klein, Chris Moughan, Andrew Moore, AJ Capuzzi, Phil DePoe, Chuck Volk, Susan Sampson, and Lisa Miller.

Chairman Nagle announced that there was an Executive Session prior to the start of the regular meeting to discuss potential litigation.

Chairman Nagle 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. He also noted that the agenda was updated with an additional item and emailed to the Board.

REVIEW OF AGENDA

Liesel Gross announced that there was an Executive Session prior to the regular meeting and no additional Executive Session is planned. There is a minor change to the agenda. The item under Finance and Administration, Authorization for Additional Legal Action Regarding PFAS Litigation will not require action or discussion today.

APPROVAL OF MINUTES

February 12, 2024 Meeting Minutes

On a motion by Sean Ziller, seconded by Linda Rosenfeld, the Board approved the minutes from the February 12, 2024 meeting as presented (6-0).

PUBLIC COMMENTS

None.

Board of Directors – Election of Officers

Chairman Nagle reported that Norma Cusick served as the Nominating Committee and had provided a report prior to the meeting detailing the following slate of nominations for 2024 officers:

Brian Nagle, Chair
Amir Famili, Vice Chair
Jeff Morgan, Secretary

Ted Lyons, Treasurer
Kevin Baker, Assistant Treasurer
Norma Cusick, Assistant Secretary

Chairman Nagle asked if there were any other nominations, which there were not. On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board elected the officers for 2024 as nominated:

Brian Nagle as Chair, Amir Famili as Vice Chair, Ted Lyons as Treasurer, Kevin Baker as Assistant Treasurer, Jeff Morgan as Secretary, and Norma Cusick as Assistant Secretary (6-0).

Water Main Replacement Program Cycles 9 – 11

Jason Peters presented an overview of the Water Main Replacement Program. Cycles 9 through 11 of the project include a total of six miles of water main replacements over the next three years, to be designed and bid as required in the Operating Standards of the Allentown Water & Sewer Lease Agreement. He described the complex nature of this project, which entails replacing mains in a densely populated urban area with many underground facilities and continuous traffic and work restrictions, and coordination with the City of Allentown, outside agencies and private utilities. The project scope also includes the annual Pipe Prioritization Program.

The Board asked about the amount budgeted for the contingencies. Mr. Peters explained that this cost includes subsurface investigations such as geo-tech work, soft digs, ground penetrating radar if required, permit fees, and other miscellaneous costs.

On a motion by Linda Rosenfeld, seconded by Marc Grammes, the Board approved the Capital Project Authorization – Design Phase & Pipe Prioritization Assessment Program Cycles 9 – 11 in the amount of \$775,000.00 which includes the Professional Services Authorization to Gannett Fleming, Inc. in the amount of \$525,000.00 (6-0)

Lead Service Line Replacement Project Cycle 2

Jason Peters provided an overview of the Cycle 2 project to replace 1,000 service lines as developed by the Authority's Lead Service Line Replacement (LSLR) plan and required by the US EPA's Lead and Copper Rule Improvements (LCRI). The Authority will be requesting \$15 million in grant funding from PennVEST for this project. Albert Capuzzi described the process used to select the consultants for this project.

There was some discussion regarding the potholing technique that would be utilized for both the public and private side of the service line. Liesel Gross clarified that a full potholing investigation will not be completed prior to the grant application being submitted.

On a motion by Sean Ziller, seconded by Linda Rosenfeld, the Board approved the Capital Project Authorization – Lead Services Replacement Program Cycle 2: Design, Bid, and Construction phase engineering in the amount of \$1,222,207.00 which includes the Professional Services Authorization – funding Application Services: Gannett Fleming in the amount of \$38,600.00, and the Professional Services Authorization – Design, Bid and Construction Phase Services: CDM Smith in the amount of \$933,607.00 (6-0).

Sanitary Sewer Collection System: I&I Source Reduction Program (LCA Year 1)

Jason Peters described the the 2021 Kline's Island Sewer System (KISS) Flow Characterization Study and the 2022 Rainfall Derived Inflow & Infiltration (RDII) analysis, which were used by the City of Allentown to develop a 10-year I&I Source Reduction Program (SRP). This project request is for the construction phase of the I&I Source Reduction Improvements Year 1. Under the terms of the Allentown Water & Sewer Lease, the Authority will provide the initial \$650,000 of funding annual for the SRP from its Allentown Division revenues and reserves, and the remaining project cost will be paid through a capital cost recovery charge applied to customer bills.

On a motion by Jeff Morgan, seconded by Norma Cusick, the Board approved the Capital Project Authorization for Construction Phase, SRP Year 1 in the amount of \$2,717,297.50. which includes the General Construction Contract to Vortex Services LLC in the amount of \$2,492,297.50 (6-0).

MONTHLY FINANCIAL REVIEW

Ed Klein gave an overview of the December 2023 unaudited financial statements, highlighting variances between actual expenses and budgeted or forecasted expenses. Mr. Klein reported that all three funds finished the year in a positive position; however, the Suburban Wastewater operating revenues were unfavorable compared to budget due to an error in how the interfund transfers were captured in the 2023 budget document. This error was disclosed to the Board in early 2023, and has been corrected in the 2024 budget.

Marc Grammes asked questions about the municipality designations shown in the Development Activity report, as the abbreviations used are not clear. Liesel Gross clarified the municipal designations shown in the current month's report and stated that the abbreviations will be cleaned up for future reporting.

MONTHLY SYSTEM OPERATIONS OVERVIEW

Andrew Moore reviewed the January 2024 report and reported there were no recordable safety incidents in January; however, there were two vehicle incidents recorded. Water production has slightly decreased in January, and wastewater flows significantly increased last month due to the 6.32 inches of rain received. Due to the significant amount of rainfall and rising groundwater levels, the Authority experienced numerous compliance issues, which were detailed on a summary reported attached to the operations report. He also reviewed the Notice of Violation received for the Arcadia West Wastewater Treatment Plant in January.

There was some discussion regarding how large development projects will affect the Kline's Island Wastewater Treatment Plant, considering the challenges during wet-weather events. Liesel Gross explained that the focus of the regional Act 537 Plan development work that is currently under way is to address the wet-weather flows. The current development activity falls within the existing Connection Management Plan and can be accommodated by the system during normal weather conditions. There was some additional discussion about the effectiveness of programs to address inflow and infiltration.

There was additional Board discussion regarding a boil water advisory in North Whitehall Township that occurred recently. Chris Moughan provided an overview of the situation and how it was resolved.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

None.

PUBLIC COMMENTS / OTHER COMMENTS

None.

BOARD MEMBER COMMENTS

None.

EXECUTIVE SESSION

None.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 1:03 p.m.

Jeffrey J. Morgan
Secretary

MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross, CEO
DATE: March 4, 2024
RE: Strategic Plan: 2023 Year-End Report & 2024 Initiatives

Attached: 2023 Year-End Progress Report

Background

In December 2021, the Lehigh County Authority (LCA) Board of Directors adopted a new Strategic Plan, intended to cover the years of 2022 through 2027. The full plan is available for viewing on the LCA website and is summarized below. Fundamental components of the plan include updated mission, vision, and values statements:

Our Mission is to protect public health and the environment by providing high-quality, safe, and reliable water and wastewater services.

Our Vision is to be a trusted and engaged community partner, advancing the vitality of our region through exceptional water and wastewater services.

Our Shared Values

Service – We take pride in our role as public servants. We focus on serving customers and each other.

Engagement – We enjoy learning, exploring new ideas, solving problems, and embracing changes that support continuous improvement.

Dedication – We give our best effort every day and seek ways to contribute to achieving LCA's goals.

Positivity – We face challenges with optimism and foster trust, teamwork, and collaboration.

Excellence – We strive to make LCA the best utility it can be!

LCA's plan also outlines six key priorities that guide our efforts:

Our Priorities

Operational Excellence – To proactively ensure safe and reliable service delivery, regulatory compliance, and resilient operations through streamlined processes, best practices, and data-driven decision-making.

Financial Stewardship – To cost-effectively serve our community, now and in the future, by managing funds effectively and responsibly to support debt commitments, operational needs, and asset management.

Customer Engagement & Support – To create an exceptional customer experience and build trust and understanding of LCA’s essential services.

Regional Collaboration & Leadership – To help our region to thrive by growing community confidence in LCA, advancing collaborative efforts, and demonstrating operational excellence.

System Capacity & Reliability – To dependably meet current and future community needs and achieve optimal levels of service by effectively managing assets and implementing projects to ensure sufficient system capacity.

Employee Engagement & Safety – To build a safe, cohesive, and engaging workplace in which employees feel personally connected to their work, each other, and LCA’s commitment to excellence.

During 2022 and 2023, LCA staff have remained focused on several key strategic initiatives that were derived from this planning effort. A report on 2022 and 2023 progress on those initiatives is attached for Board review at the upcoming March 11, 2024 meeting.

Looking Ahead: 2024 Strategic Initiatives

The 2023 Year-End Progress Report attached illustrates significant progress has been made on each of the initiatives outlined in the report. Looking ahead, as our projects and programs expand, the number of reportable activities and milestones in each area is rapidly expanding as well. New priorities are also coming to the forefront as the world around us changes, such as through new regulatory requirements or changing operational conditions. As a result, the LCA staff recommend a more simplified reporting approach in 2024, focusing on the following seven key goals or strategic initiatives:

1. **KISS Act 537 Plan:** Final draft of the regional Kline’s Island Sewer System Act 537 Plan developed by September 2024
2. **Munis Implementation:** New system configured and ready for January 1, 2025 go-live
3. **Lead Program:** Phase 1 & 2 lead service line replacement projects under way, and regulatory compliance plan in place
4. **Asset Management:** Facility-specific asset management plans developed in accordance with team priorities (2024 Focus: Kline’s Island & Lynn Township WWTPs)
5. **Employee Safety:** Onboarding of new Safety Manager, enhanced incident reporting, reduction in recordable incidents
6. **Employee Engagement:** Enhanced onboarding and internship programs developed
7. **Staffing & Building Plan:** Identify future staffing needs and develop building plan (office space optimization and/or development) to support the staffing plan

We believe these seven initiatives represent LCA’s top priorities for 2024, but invite Board discussion on these areas at the March 11, 2024 meeting. If it is acceptable to the Board, we propose to continue reporting quarterly on these areas, but with a more in-depth review of selected areas throughout the year.

Quick Note About Metrics: The Key Performance Indicators (KPIs) shown on the last page of the 2023 Year-End Progress Report continue to serve a valuable purpose of keeping our focus on measures that speak directly to LCA’s Strategic Plan. The areas outlined on the KPI dashboard tie directly to our mission, vision, values, and key priorities. However, throughout the year as new processes are developed to measure progress in these areas, the KPI dashboard may be adjusted from time to time. Board feedback on the dashboard is also welcomed at any time.

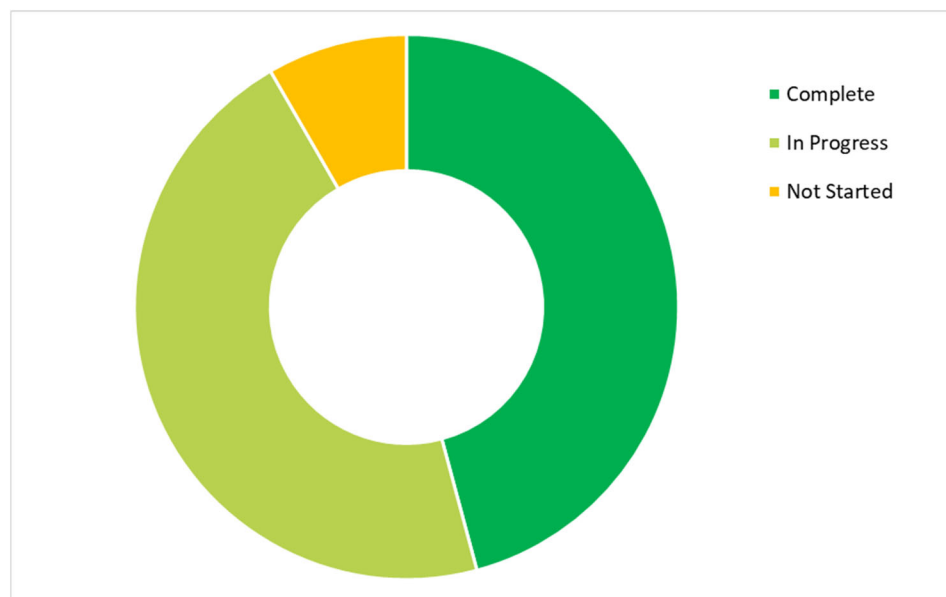
LCA Strategic Plan (2022-2027)

2023 Year-End Progress Report: March 2024

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.

Figure 1 – 2023 Strategic Initiatives – Year-End Milestone Report (24 Activities / Milestones)



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.
 - 4th Quarter 2023 Status: Internal project reporting system presented to Board. Required refinement for rollout in 2024. New project management software implementation project kicked off.
- **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.
 - 4th Quarter 2023 Status: SAMP completed, reviewed with Board and staff in December.
- **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.
 - 4th Quarter 2023 Status: PM strategy recommendations incorporated into SAMP roadmap for implementation by the LCA team.
- **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.
 - 4th Quarter 2023 Status: AM Technology staff realigned with other technology functions, with additional evaluation ongoing through normal staffing procedures.

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.
- 4th Quarter 2023 Status: Initial focus placed on migrating to SaaS environment to be completed Q1 2024.

■ 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.
- 4th Quarter 2023 Status: On hold pending Munis system migration to SaaS.

■ 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.
- 4th Quarter 2023 Status: New Solicitor is reviewing and will develop draft documents for staff and Board review in 2024.

■ 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.
- 4th Quarter 2023 Status: On hold pending Munis system migration to SaaS.

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.
 - 4th Quarter 2023 Status: Construction of force main portion of project approved in December, with pump station portion to follow. Grant awarded from H2O PA program to support this project.
- **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.
 - 4th Quarter 2023 Status: Final comprehensive water supply report submitted to LCA for staff review.
- **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.
 - 4th Quarter 2023 Status: Design is under way, to be completed in 2024.
- **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.
- 4th Quarter 2023 Status: All major project components to be included in the Act 537 Plan have been finalized, with exception of Pretreatment Plant upgrade approach.

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.
 - 4th Quarter 2023 Status: No additional / new external support needed, except for identified training and assessment work included in 2024 budget.
- **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.
- 4th Quarter 2023 Status: Enhanced tracking and reporting, including review of root causes and corrective actions, included in safety metrics now being reported.

■ 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.
- 4th Quarter 2023 Status: Completed initial improvements to safety metrics reporting.

■ 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.
- 4th Quarter 2023 Status: On hold for new staff to come on board for HR and Safety functions.

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.
- 4th Quarter 2023 Status: No change – early 2024 kickoff on schedule.

■ **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.
- 4th Quarter 2023 Status: Implementation complete, with additional monitoring ongoing for process enhancements.

■ **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.
- 4th Quarter 2023 Status: Pilot project design phase well under way. More detailed reporting to follow.

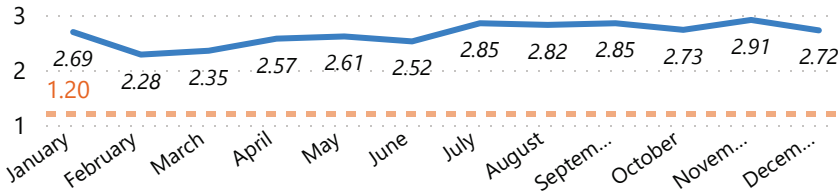
■ **Other operational projects as determined by staff**

- 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.
- 4th Quarter 2023 Status: Several major projects kicked off in 4th quarter 2023 to enhance system resiliency include Pretreatment Plant near-term enhancements and Water Filtration Plant redundant power project design.

LCA Strategic Plan Metrics

Financial

2023 Debt Service Coverage Ratio - Total LCA



Debt Service Coverage Ratio - Current

City Division	Suburban Wastewater	Suburban Water
2.48	9.94	2.34

Unrestricted Days Cash On Hand

City Division	Suburban Wastewater	Suburban Water
240	283	328

* Target of 180 days.

Customer Care

DEVELOPING
METRIC

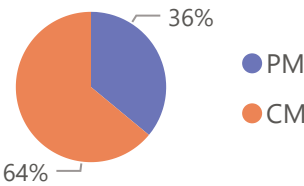
Capital Program

DEVELOPING
METRIC

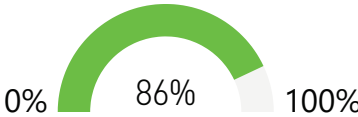
Asset Management

2023 Corrective Maintenance vs. Preventative Maintenance Hours

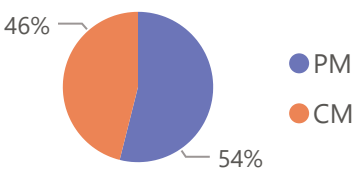
Field Services



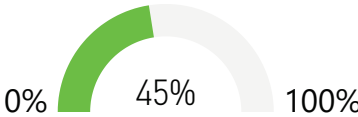
Field Services Program Design



Plants

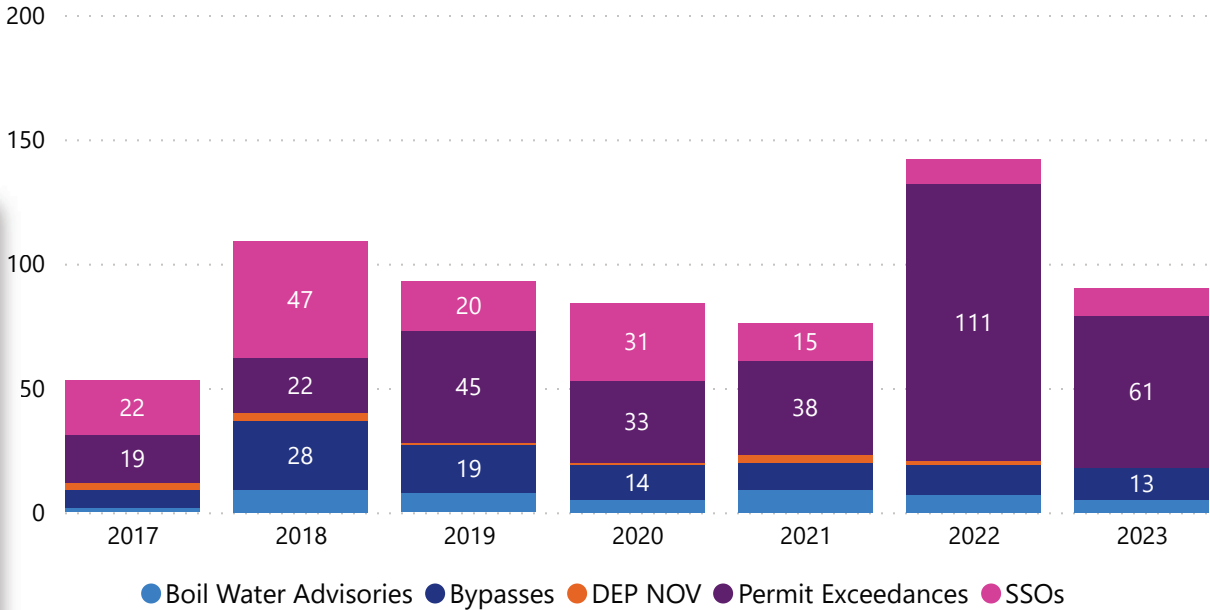


Plant Program Design



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

Environmental Compliance



Safety

Days No
Vehicle Accident

15

Days No Lost
Time

121

Of Recordable
Injuries YTD

0

Employees

Total Employees

165

Average Age

46.5

Average Yrs of Service

11.4

Total Vacancies

8

MEMORANDUM

Date: March 11, 2024

To: Lehigh County Authority Board of Directors
From: Amy Rohrbach, Project Manager
Subject: Allentown Division – KIWWTP Master Plan

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – KIWWTP Master Plan Development	\$314,602
2	Professional Services Authorization – Black & Veatch (1)	\$279,602

(1) Included in the Capital Project Authorization

PROJECT BACKGROUND

Pursuant to the lease agreement with the City of Allentown, LCA is required to implement a long-term master planning/capital improvement planning process. A comprehensive planning study is required to be performed at 5-year intervals for the Kline's Island Wastewater Treatment Plant (KIWWTP). The last Master Plan was completed in 2019, and a new Master Plan must be completed by the end of 2024.

This project will include the following:

- Basis of Planning – Reconnaissance effort including review & understanding of current & planned projects, review of prior reports/studies, understanding of current and future plant limits, assessment of plant and meeting with staff.
- Preparation of Recommendations – Based on assessment and LCA's prioritization to create a capital plan for near-term (0-5 years), mid-term (6-10 years) and long-term (>10 years) projects.
- Compilation of Final Master Plan Report

FINANCIAL

This project will be funded by the Allentown Division, and was included in the 2024 Capital Budget.

CONSULTANT SELECTION PROCESS

Four (4) consulting firms including AECOM, Black & Veatch, Brown & Caldwell, and Kleinfelder were invited to submit proposals for developing the KIWWTP Master Plan. All firms were offered tours of the facilities and the opportunity to ask questions. The proposals are summarized below:

Consultant	Cost	Man-hours
AECOM	\$273,463	969
Black & Veatch	\$279,602	1,319
Brown & Caldwell	No Response	-
Kleinfelder	Partnered with AECOM	-

Proposals were evaluated and ranked by LCA staff based on the applicants' Qualifications, Team, Approach, Scope Clarifications, Schedule, and Overall Proposal. After the rankings, the cost proposals were evaluated, and a final selection was made. Based on the evaluation, it is recommended that a Professional Services Authorization be awarded to Black & Veatch. Black & Veatch prepared a proposal with a solid team and well-defined approach. Being a newcomer to the KIWWTP provides a fresh perspective allowing focus on areas that may be outside those previously captured. Therefore, it is recommended an award be made to Black & Veatch.

THIS APPROVAL – MASTER PLAN DEVELOPMENT

It is recommended an award be made to Black & Veatch at their proposed cost of \$279,602.

PROJECT SCHEDULE

Assuming approval of the Detailed Design & Bidding Services at the March 11, 2024 Board meeting, it is anticipated that the work will be completed by end of September 2024.

FUTURE AUTHORIZATIONS

None

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-9	BUDGET FUND:	Allentown Div\WW\Capital
PROJECT TITLE:	Allentown Division – KIWWTP Master Plan	PROJECT TYPE:	<input type="checkbox"/> Construction <input checked="" type="checkbox"/> Engineering Design <input type="checkbox"/> Equipment Purchase <input type="checkbox"/> Amendment No. 1
THIS AUTHORIZATION:	\$314,602		
TO DATE (W/ ABOVE)	\$314,602		

DESCRIPTION AND BENEFITS:

Pursuant to the lease agreement with the City of Allentown, LCA is required to implement a long-term master planning/capital improvement planning process. A comprehensive planning study is required to be performed at 5-year intervals and the last Master Plan was completed in 2019, therefore, a new Master Plan must be completed by the end of 2024. The Master Plan will address short-term, mid-term, and long-term capital planning. The plan shall be completed by fall of 2024.

AUTHORIZATION STATUS:

Prior Authorizations	
None	\$0
Requested This Authorization	
Engineering Consultant: Black & Veatch	\$279,602
Staff	\$25,000
Contingencies	\$10,000
Total This Authorization	\$314,602

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: BLACK & VEATCH CORP.
489 5th Avenue, 24th Floor
New York, NY 10017

Date: March 11, 2024

Requested By: Amy Rohrbach

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – KIWWTP Master Plan

Pursuant to the lease agreement with the City of Allentown, LCA is required to implement a long-term master planning/capital improvement planning process. A comprehensive planning study is required to be performed at 5-year intervals and the last Master Plan was completed in 2019, therefore, a new Master Plan must be completed by the end of 2024.

Black & Veatch will provide Master Planning Services for the Kline's Island Wastewater Treatment Plant. The following professional services are included:

Professional Services ⁽¹⁾
1. Project Management, Kick-off Meeting
2. Recon Effort: Review, Understand Current Planned Work, Summarize Current & Future Limits, Review and Summarize Plant Design Criteria, Meet with Plant staff
3. Prepare Recommendations
4. Final Master Plan Report

(1) Per Black & Veatch's proposal letter dated February 20, 2024

Planning Phase:

This Authorizations: \$279,602

Time Table and Completion Deadline: Work will be completed by fall of 2024 for submission and approval by the City of Allentown by the end of 2024.

(For Authority Use Only)

Authorization Completion:

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

MEMORANDUM

Date: March 11, 2024

To: Lehigh County Authority Board of Directors
From: Amy Rohrbach, Project Manager
Subject: Allentown Division – KIWWTP Primary Sludge Upgrades – Detailed Design & Bidding Services

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Detailed Design & Bidding Phase	\$173,800
2	Professional Services Authorization – D’Huy Engineering, Inc. (1), (2)	\$153,800

(1) *Included in the Capital Project Authorization*

(2) *Does not include construction phase related engineering services*

PROJECT BACKGROUND

As part of the plan to improve efficiency and reduce maintenance at the Kline’s Island Wastewater Treatment Plant (KIWWTP), upgrades are needed to the primary sludge system. These upgrades will improve pumping capabilities and reduce the need for frequent and labor-intensive maintenance. Work will include pipe replacement within the Primary Sludge Pump Station (PSPS), installation of two (2) new glass-lined primary sludge force mains to replace the existing mains, and modifications to piping and instrumentation within the Digester Control Building (DCB) utilizing the former boiler room. The new force mains will be larger diameter than existing to allow for future increased sludge collection. Work in the PSPS and DCB includes complex pipe layouts to accommodate existing conditions while still maintaining operations. The PSPS work also includes coating and repairs to the 54” primary effluent piping and replacement of a pipe coupling which may require the need for bypass pumping. The work in the DCB will include new magnetic flow meters and a valve tree that will allow isolation of the flow to each digester which will be beneficial during maintenance and cleanings. The design will also focus heavily on maintenance of plant operations as the work must be strategically sequenced to avoid prolonged shutdowns so as not to disrupt plant processes.

D'Huy Engineering, Inc. was retained to perform the preliminary engineering report, and they have proven experience and familiarity with the KIWWTP so it is recommended they perform the final design.

FINANCIAL

This Project has received conceptual design approval from the City, and is considered a Major Capital Improvement project, therefore costs will be recovered in Capital Cost Recovery Charges (CCRC).

THIS APPROVAL – DESIGN AND BIDDING PHASE SERVICES

Lehigh County Authority (LCA) intends to retain the services of D’Huy Engineering, Inc. to provide the detailed design and bidding phase services for the project. The following table summarizes the professional services to be performed under this approval:

Professional Services ⁽¹⁾	
1.	Attend kick-off meeting with LCA staff
2.	Attend review meetings at 60% and 90% submittals
3.	Pipe routing evaluation and selection based on existing and future conditions
4.	Pipe plan and Profile
5.	Site visit to perform pipe corrosion assessment
6.	Piping plans, sections, and details for PSPS and DCB
7.	Preparation of LCA standard front end bid documents
8.	Preparation of technical specifications
9.	Construction sequencing documents
10.	Preparation of AACE Class 2 opinion of probable cost
11.	Bid phase services including posting to PennBID, attendance at a pre-bid meeting, responding to contractor questions, issuing required addenda, reviewing bids, and issuing award recommendation letter.

(1) See D'Huy Engineering, Inc. proposal dated 2/20/2024

PROJECT SCHEDULE

Assuming approval of the Detailed Design & Bidding Services at the March 11, 2024 Board meeting, it is anticipated that the work will be completed by end of August 2024.

FUTURE AUTHORIZATIONS – FINAL ENGINEERING DESIGN & BIDDING PHASE

Following detailed design and bidding services, authorization will be requested from the Board for a construction phase.



February 20, 2024

Ms. Amy Rohrbach
Project Manager
Lehigh County Authority
1053 Spruce Road
Wescosville, PA 18106

Subject: LCA Klines Island Wastewater Treatment Plant (KIWWTP)
Primary System Upgrades Detailed Design and Bidding – Updated

Dear Ms. Rohrbach:

Thank you for providing D'Huy Engineering, Inc. (DEI) with the opportunity to assist LCA with detailed design and bidding services associated with sludge piping replacement and associated upgrades to the primary treatment and conveyance system at the KIWWTP. Based on the preliminary engineering effort performed by DEI, the scope of the project consists of three work areas:

1. **Primary Sludge Pumping Station (PSPS):** Completion of pipe replacement, pipe repairs, coupling replacement and pipe coating within the PSPS to improve operations and replace corroded components.
2. **Parallel Primary Sludge Force Mains:** Installation of approximately 1,500 linear feet of parallel 8" glass-lined, ductile iron sludge force mains (3,000 total feet of pipe) to replace the existing 6" parallel sludge lines.
3. **Digestion Control Building (DCB) Piping Modifications:** Installation of new glass-lined piping and flow meters to connect the new sludge force mains to the existing digesters within the DCB.

The specific construction scope of work for the project will be as described in the KIWWTP Primary Sludge System Improvements Conceptual Design Memorandum dated January 9, 2024 and approved by the City of Allentown on February 9, 2024.

DETAILED DESIGN SERVICES

The detailed design scope of work will include the following items:

- Kickoff meeting with LCA and review meetings after the 60% and 90% submittals.
- Pipe routing evaluation and selection of preferred route based on existing buried utilities and anticipated future construction projects.
- Pipe plan and profile sheets at 1"=20' scale.

- Site visit to perform a pipe corrosion assessment and determine required coupling replacements and pipe support modifications.
- Piping plans, sections and details for the PSPS and the DCB.
- Preparation of LCA standard front end documents.
- Preparation of technical specifications.
- Construction sequencing documents.
- AACE Class 2 opinion of probable construction cost for the project.

BIDDING ASSISTANCE SERVICES

Once the set of Contract Documents has been assembled, DEI will post the final set of signed and sealed electronic documents to PennBid. Two representatives from DEI will attend a pre-bid meeting at the KIWWTP. During the bid phase DEI will respond to contractor questions, issue any required addenda, review bids and issue an award recommendation letter.

ASSUMPTIONS

1. No formal site survey will be performed.
2. Project will generally be completed per the milestone dates below.
3. No state or local building permits are required.
4. No erosion and sediment control (E&SC) permitting is required. Standard E&SC notes and details will be included.
5. The design will be implemented using a single General Contract.
6. No HVAC improvements are included.
7. Design fees are based on the drawing list attached to this proposal.
8. No construction phase services are included.

SCHEDULE

The following is the anticipated milestone schedule for completion of the design and bidding phases of the project:

Milestone	Date
Design Notice to Proceed	March 12, 2024
60% Submittal to LCA	April 26, 2024
Review Meeting with LCA	Week of May 6, 2024
90% Submittal to LCA	May 30, 2024
Review Meeting with LCA	Week of June 10, 2024
City Approval of 90% Submittal	July 16, 2024
Post 100% Documents to PennBid	July 18, 2024
Receive Bids	August 22, 2024
LCA Board Approval	September 11, 2024
Contractor Notice to Proceed	November 2024
Substantial Completion	July 2025



FEE

DEI proposes to complete the work required on a lump sum basis for a proposed fee of \$153,800. A summary of these fees by task is as follows:

Task	Fee
Task 1 - Detailed Design	\$145,800
Task 2 - Bidding	\$8,000
TOTAL	\$153,800

The fees above include all expenses. A breakdown of hours and fees by task is attached to this proposal.

We are prepared to begin work on this project immediately upon authorization. We thank you for the opportunity to help LCA complete this important capital project.

Respectfully submitted,

D'HUY ENGINEERING, INC.



Craig W. Murray, PE
Principal

C: Charles Volk, LCA
Bryan Geissel, LCA

enclosures



PROPOSED DRAWING LIST

Sheet	Dwg #	Title
1	G-1	Cover Sheet and General Notes
2	G-2	Construction Sequencing
3	C-1	Overall Site Plan
4	C-2	Plan and Profile (Sheet 1 of 4)
5	C-3	Plan and Profile (Sheet 2 of 4)
6	C-4	Plan and Profile (Sheet 3 of 4)
7	C-5	Plan and Profile (Sheet 4 of 4)
8	C-6	Partial Plans and Sections
9	C-7	E&SC Notes and Details
10	C-8	Typical Details
11	D-1	PSPS Demolition Plan and Notes
12	D-2	DCB – Demolition Plan and Notes
13	M-1	PSPS – Plan
14	M-2	PSPS – Partial Plans
15	M-3	PSPS – Sections
16	M-4	PSPS – Sections and Details
17	M-5	DCB – Plan
18	M-6	DCB – Partial Plans
19	M-7	DCB – Sections
20	M-8	DCB – Sections and Details
21	M-9	Typical Details
22	E-1	Legend and Notes
23	E-2	DCB – Plan and Details
24	E-3	Schedules, Schematics and Details
25	I-1	P&ID Legend
26	I-2	Primary Sludge P&ID
27	I-3	Digester Feed P&ID



**LCA KIWWTP SLUDGE LINE REPLACEMENT
DESIGN AND BIDDING PHASES
D'HUY ENGINEERING FEE BREAKDOWN**

TOTAL PROJECT HOURS AND FEE									
		Craig M	Dave W	Herb V	Chad D	Multiple			
Task		Principal & QA/QC	Project Manager	Structural	Electrical and I&C	Engineer in Training	CAD	Admin	Total Labor Hours Total Task Labor Fee
1.1	Meetings	6	12			12		3	33 \$ 4,647
1.2	Pipe routing determination	2	12			24			38 \$ 4,746
1.3	Construction Sequence & Demo	4	12			20	20		56 \$ 6,896
1.4	Pipe plans and profiles	4	36			160	60		260 \$ 28,888
1.5	Structural Evaluation		2	16		12			30 \$ 4,156
1.6	PSPS Drawings	4	48	8		120	150		330 \$ 37,554
1.7	DCB Drawings	4	48		16	160	150		378 \$ 42,874
1.8	Tech specs and front end prep	8	12	6	6	40		12	84 \$ 10,480
1.9	Cost Estimating	4	12			22			38 \$ 4,996
2.0	Bidding Services	6	24			24		6	60 \$ 7,944
TOTAL HOURS		42	218	30	22	594	380	21	1307 153,181
Hourly Rate		\$ 225	\$ 158	\$ 165	\$ 165	\$ 100	\$ 105	\$ 67	- -
Total Labor Category Fee		\$ 9,450	\$ 34,444	\$ 4,950	\$ 3,630	\$ 59,400	\$ 39,900	\$ 1,407	- \$ 153,181
Reimbursible Expenses									\$ 619
TOTAL PROJECT FEE									\$ 153,800

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	AD-S-23	BUDGET FUND:	Allentown Div\WW\Capital
PROJECT TITLE:	Allentown Division – KIWWTP Primary Sludge Upgrades Detailed Design and Bidding Phase		PROJECT TYPE:
		<input type="checkbox"/>	Construction
		<input checked="" type="checkbox"/>	Engineering Design
THIS AUTHORIZATION:	\$173,800	<input type="checkbox"/>	Equipment Purchase
TO DATE (W/ ABOVE)	\$192,700	<input type="checkbox"/>	Amendment No. 1

DESCRIPTION AND BENEFITS:

The purpose of this project is to upgrade the primary sludge system at the KIWWTP to improve reliability and reduce maintenance. The existing system is prone to clogging and requires regularly scheduled labor-intensive maintenance. The new design will reduce maintenance and improve operations of the system with new valving and metering. D'Huy Engineering will provide final design and bidding phase services for the project. D'Huy Engineering, Inc. has worked with LCA on the preliminary engineering memo which has been reviewed by the City of Allentown and is considered a Major Capital Improvement project.

AUTHORIZATION STATUS:

Prior Authorizations	
Conceptual Design Phase – D'Huy Engineering, Inc.	\$18,900
Requested This Authorization – Detailed Design & Bidding Phase	
Detailed Design & Bidding Phase: D'Huy Engineering, Inc.	\$153,800
Staff	\$10,000
Contingencies	\$10,000
Total This Authorization	\$173,800

Future Authorizations	
Construction Phase	

Total Estimated Project	\$2,500,000
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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 Street * P.O. Box 3348 * Allentown, PA 18106-0348
(610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

PROFESSIONAL SERVICES AUTHORIZATION

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

Date: March 11, 2024

Requested By: Amy Rohrbach

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – KIWWTP Primary Sludge Upgrades Design & Bid Phase Services

The purpose of this project is to upgrade the primary sludge system at the KIWWTP to improve reliability and reduce maintenance. The existing system is prone to clogging and requires regularly scheduled labor-intensive maintenance. The new design will reduce maintenance and improve operations of the system with new valving and metering. D'Huy Engineering will provide final design and bidding phase services for the project. D'Huy Engineering, Inc. has worked with LCA on the preliminary engineering memo which has been reviewed by the City of Allentown and is considered a Major Capital Improvement project.

The following professional services are included:

Professional Services ⁽¹⁾
1. Attendance at Meetings
2. Pipe Routing Determination
3. Construction Sequence and Demo
4. Pipe Plans and Profiles
5. Structural Evaluation
6. Primary Sludge Pumping Station Drawings
7. Digester Control Building Drawings
8. Technical Specs & Front End
9. Cost Estimating
10. Bidding Services

Design and Bidding Phase:

This Authorizations: \$153,800

Preliminary Engineering Authorizations: \$18,900

Time Table and Completion Deadline: As outlined in the proposal to satisfactorily complete the design and bidding phase services. Anticipated completion of design and bidding phase services is August 31, 2024.

(For Authority Use Only)

Authorization Completion:

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

Lehigh County Authority – Monthly Report to Board of Directors

Upcoming Board Agenda Items & Project Updates – March 2024

Published: March 4, 2024

PART 1 – Upcoming Agenda Items – Action & Discussion Items

FINANCE & ADMINISTRATION

Project Title: LCA Strategic Plan - Quarterly Progress Reporting

Division / Funding: All Divisions

Status or Action Desired: Discussion

Board Action Date: 3/11/2024

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: Monthly Financial Review

Division / Funding: n/a

Status or Action Desired: Information

Board Action Date: 3/25/2024

Project Phase: n/a

Project Notes: The February 2024 monthly financial report will be presented. Staff Responsibility: Ed Klein

SYSTEM OPERATIONS

Project Title: Monthly Operations Report

Division / Funding: n/a

Status or Action Desired: Discussion

Board Action Date: 3/25/2024

Project Phase: n/a

Project Notes: The February 2024 monthly operations report will be presented. Staff Responsibility: Andrew Moore & Chris Moughan

WATER PROJECTS

Project Title: Lehigh River Pump Station Upgrades

Division / Funding: Allentown Division

Status or Action Desired: NEW

Board Action Date: 3/25/2024

Project Phase: Planning Phase

Project Notes: The Lehigh River Pump Station is infrequently utilized due to taste and odor concerns as well as operations issues with the existing pumps and intake screens. This preliminary engineering evaluation will identify treatment plans for taste and odor control as well as pump upgrades and intake screening modifications. The goal is to be able to utilize the Lehigh River source fully in the event the Little Lehigh Creek intake has to be taken out of service for any reason. A request for proposal was distributed to four firms on 1/23/2024 and proposals are scheduled to be received 2/21/2024. Board authorization will be requested at the March 25, 2024 meeting. Staff Responsibility: Amy Rohrbach

Project Title: Lead Service Line Replacement Program Documents & AgreementsDivision / Funding: n/aBoard Action Date: 3/25/2024Status or Action Desired: ApprovalProject Phase: n/a

Project Notes: As LCA's lead service line replacement program progresses, several documents and agreement are under development that require Board review and approval. These include customer authorization forms and agreements to allow LCA to replace private-side service lines, updates to LCA's Rules & Regulations for Water Service, and an overarching policy statement related to removal of lead service lines throughout LCA's service area. These documents will be presented to the Board for review and potential approval at the 3/25/2024 meeting. Staff Responsibility: Liesel Gross

WASTEWATER PROJECTS – KISS ACT 537**Project Title: Industrial Pretreatment Plant Master Plan**Division / Funding: Suburban DivisionBoard Action Date: 3/25/2024Status or Action Desired: DiscussionProject Phase: Planning Phase

Project Notes: This project involves the preparation of a Master Plan for the LCA Industrial Pretreatment Plant, the first of its kind for this facility. The Master Plan process included full-scale condition assessments, review of treatment process optimization, and development of short-term and long-term capital plans. The Master Plan will be incorporated into the ongoing regional Act 537 Plan that is due to DEP in 2025. As part of the Act 537 planning process that is currently under way, a detailed upgrade analysis was recently completed by the plant operator (Jacobs). That analysis was incorporated into the Master Plan as well. Board authorization for the Master Plan was approved on December 13, 2021. The project will be funded by the LCA Suburban Division. A preliminary draft report was submitted in December of 2022 and a final report was delivered in April of 2023. A Board presentation of the Master Plan was provided by Jacobs at the March 27, 2023 meeting. Value engineering and external stakeholder discussions are ongoing with recommended solutions forthcoming by March 2024. An update to the Board is slated for the second Board meeting in March. Staff Responsibility: Phil DePoe

Project Title: Regional Sewer Capacity & Wet-Weather Planning: Engineering & Program SupportDivision / Funding: Suburban DivisionBoard Action Date: 3/25/2024Status or Action Desired: ApprovalProject Phase: Planning Phase

Project Notes: As defined at the November 8, 2021 Board meeting, consultants were assigned various roles for the region's Act 537 planning process. As program manager, AECOM is assisting LCA in numerous engineering and coordination tasks to help achieve the region's current DEP deadline for submission. These periodic authorization requests are an extension of ongoing engineering and program support that AECOM provided in 2013-2016 and 2019-2021. In addition to coordinating and evaluating the efforts of other consultants, AECOM will also focus on continued analysis of the Pretreatment Plant, regulatory review of the alternatives, and continued financial analysis through the cost-revenue benefit tool. Authorization approval of Professional Services Authorization for Act 537 Plan Program Management support in 2022 and 2023 was granted at the 2/14/22, 6/27/22, and 5/8/23 Board meeting. An additional Program Management authorization for the remainder of 2024 is being requested at 3/25/24 Board meeting. Staff Responsibility: Phil DePoe

WASTEWATER PROJECTS

Project Title: Kline's Island WWTP: Master Plan

Division / Funding: Allentown Division

Board Action Date: 3/11/2024

Status or Action Desired: Approval

Project Phase: Planning Phase

Project Notes: Per the Concession Lease Agreement with the City, LCA is required to perform a Master Plan of the KIWWTP every 5 years. The first Master Plan was completed in 2019. The Master Plan objectives are to assess the current condition of the KIWWTP infrastructure and identify and prioritize capital projects to enable continued permit compliance, address operational issues, address high risk processes and equipment, and enhance efficiencies. The Master Plan is to include a short term, near term and long term capital improvement plan. A Master Plan update is to be performed in 2024. Planning phase authorization is to be requested at the 3/11/2024 LCA Board meeting. Staff Responsibility: Chuck Volk & Amy Rohrbach

Project Title: Kline's Island WWTP - Primary Sludge System Upgrades

Division / Funding: Allentown Division

Board Action Date: 3/11/2024

Status or Action Desired: Approval

Project Phase: Design Phase

Project Notes: The existing KIWWTP primary sludge system is in need of upgrades to extend longevity and improve maintenance and reliability. D'Huy Engineering performed preliminary engineering services and the City has approved the project as a Major Capital Improvement. A final design and bidding service proposal was received from D'Huy Engineering, Inc. on 2/20/2024 and we are requesting Capital Project Authorization from the Board for design and bidding phase services at the 3/11/2024 meeting. Staff Responsibility: Amy Rohrbach

WASTEWATER PROJECTS – KISS ACT 537

Project Title: KISS Act 537 Planning - Financial & Institutional Evaluation, Phase 3

Division / Funding: City of Allentown (AO)

Board Action Date: n/a

Status or Action Desired: Updated

Project Phase: Planning Phase

Project Notes: One of the Act 537 Plan requirements is to complete a financial evaluation of the selected alternative, including rate impacts, cost-sharing, and financing approach. Another key requirement is to evaluate the institutional / governance approach to completing the projects, operating and maintaining the facilities, and monitoring performance. In December 2022, authorization was granted to retain a professional consultant (Raftelis) to conduct phase 1 of this work, which included a preliminary financial evaluation focused on gathering data from all municipalities and conducting preliminary analyses on system costs and user rates. Phase 2 work was authorized in July 2023 and included more detailed analysis of existing agreements and cost-sharing mechanisms, and workshops with the municipalities to develop updated cost-sharing methods and alternatives. The results of Phases 1 and 2 will be incorporated into a financial model for further analysis of rate impacts and system capacity to fund the projects included in the Act 537 Plan. Phase 3 work, to be focused on finalizing the analysis and preparation of financial and institutional sections of the Act 537 Plan, has been placed on hold due to the need for additional targeted financial analysis. Raftelis has been engaged to conduct additional financial analyses related to the Pretreatment Plant and the Allentown Water & Sewer Lease agreement, which are necessary components to consider prior to completing the full Act 537 analysis. Staff Responsibility: Liesel Gross

PART 3 – Open Project List – No Updates

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Finance & Administration	Project Management / Construction Management Software Installation & Setup	All Divisions	Planning Phase	Matt Dorner
Finance & Administration	Capital Works Planning Room Organizing, Secure Storage and Digitizing - Phase 2	All Divisions	Planning Phase	Matt Dorner
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	Planning Phase	Andrew Moore
Water - Suburban	Central Lehigh and North Whitehall Systems – Water Supply Study	Suburban Division	Planning Phase	Phil DePoe
Water - Suburban	Water Main Replacement Program Cycle 7	Suburban Division	Construction Phase	Jason Peters
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	Suburban Division Lead Service Line Inventory Program & Compliance Planning	Suburban Division	Planning Phase	Matt Dorner
Water - Suburban	Water Main Replacement Program Cycle 7 & 8	Suburban Division	Design Phase	Jason Peters
Water - Allentown	Water Main Replacement Program Cycles 9 - 11	Allentown Division	Design Phase	Jason Peters
Water - Allentown	Lead Service Line Replacement Project Cycle 2	Allentown Division	Design Phase	Albert Capuzzi

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Water - Allentown	Water Filtration Plant: Emergency Power Design	Allentown Division	Design Phase	Amy Rohrbach
Water - Allentown	Water Filtration Plant: Filter Upgrade Project	Allentown Division	Construction Phase	Amy Rohrbach
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
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	Matt Dorner
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
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	Regional Sewer Capacity & Wet-Weather Planning - Regional Act 537 Plan Preparation	City of Allentown (AO)	Planning Phase	Phil DePoe
Sewer - Act 537	Legal Services: Development of New Intermunicipal Agreement(s)	City of Allentown (AO)	Planning Phase	Liesel Gross
Sewer - Act 537	KISS Act 537 Planning - Financial & Institutional Evaluation, Phase 2	City of Allentown (AO)	Planning Phase	Liesel Gross

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
Sewer - Act 537	Sanitary Sewer Collection System: City of Allentown Interceptor Inspections	City of Allentown (AO)	Planning Phase	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	KISS Relief Interceptor Pre-Design Study	Suburban Division	Planning Phase	Phil DePoe
Sewer - Act 537	Upper Western Lehigh Pump Station & Force Main	Suburban Division	Construction Phase	Amy Kunkel
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	Arcadia WWTP Screening System Project	Suburban Division	Design Phase	Matt Dorner
Sewer - Suburban	Lynn Township WWTP Final Clarifier Project	Suburban Division	Design Phase	Matt Dorner
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	Matt Dorner
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

Project Category	Project Title	Division / Funding	Project Phase	Staff Responsibility
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	Planning Phase	Jason Peters
Sewer - Suburban	LCA Meter Stations 1 and 2 Upgrades	Suburban Division	Design Phase	Phil DePoe
Sewer - Allentown	Kline's Island WWTP - Septage Receiving and Vacuum Truck Unloading Modifications	Allentown Division	Construction Phase	Amy Rohrbach
Sewer - Allentown	Kline's Island WWTP: Substation No. 1 and Switchgear Replacement	Allentown Division	Construction Phase	Amy Rohrbach
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
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	Kline's Island WWTP: Secondary Digester Cleaning	Allentown Division	Construction Phase	Amy Rohrbach
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (LCA Year 1)	Allentown Division	Construction Phase	Jason Peters
Sewer - Allentown	Sanitary Sewer Collection System: I&I Source Reduction Program (City Year 4)	City of Allentown (AO)	Project Closeout	Phil DePoe
Sewer - Allentown	KISS Act 537 Planning - Selection of Solution (SOS) Phase	City of Allentown (AO)	Planning Phase	Phil DePoe