

County of Lancaster
Request for ARPA Funding

Organization Ephrata Borough Authority Date 7/13/22
Submitted By Michael McKenna Authorized Signature 
Email Address: _____ Phone #: _____

Please attach any supporting documentation for consideration. Submission should be in PDF Format.

Project/Item Description

The Ephrata Borough Authority (Authority) operates two wastewater treatment plants (WWTP) that serve six Lancaster County municipalities – Akron Borough, Clay Township, Denver Borough, Ephrata Borough, East Cocalico Township, and Ephrata Township. The Authority is proposing to **upgrade the Supervisory Control and Data Acquisition (SCADA) computer hardware and software system and replace the Rotomat screening unit in WWTP Plant 2 (Project)**. Both the SCADA system and the Rotomat screening unit are original to the Plant 2 facility and are 25 years old. The Plant 2 upgrades will have far-reaching, multi-municipal impacts by directly serving the residents and businesses in Denver Borough, Ephrata Borough, East Cocalico Township, and Ephrata Township.

SCADA is an automation system that controls operations of industrial processes and is crucial to maintaining efficiency of municipal plant operations and mitigating downtime during adverse events. Ephrata Borough (Borough) has been updating SCADA technology to the Ignition format in all of its Borough utilities in recent years. The electric and water facility upgrades have already been completed, and an upgrade is currently in progress at the Authority's WWTP Plant 1. **The Plant 2 upgrade is the final component of this system-wide upgrade.**

The proposed Project will update Plant 2 SCADA technology and link the Plant 2 SCADA system with the system of Plant 1, allowing for inter-communication between the systems and more efficient and effective monitoring of wastewater from the time it enters the plant until it leaves a chlorine contact tank on its way to the nearby Cocalico Creek. The upgrade is also necessary because the Plant 2 SCADA computer hardware is obsolete, and Microsoft will no longer provide operating support for it, including issuing security patches for its operating system. **This creates a critical security vulnerability, which is concerning as cyber-attacks on municipal infrastructure and facilities are increasing.** The upgrade is also required to maintain public safety and to meet Pennsylvania Department of Environmental Protection (DEP) permitting requirements. Finally, it will ensure greater climate resiliency of Plant 2, as it will provide a back-up system during severe weather events, which does not currently exist, and will enable Authority personnel to remote into the plant's system to turn pumps on or off and monitor functions while personnel are en route; thereby protecting the system and reducing outage response times.

The Rotomat screening unit screens all inflow that comes into Plant 2, removing objects such as rags, paper, plastics, and metals that can damage plant equipment and inadvertently be discharged into the Cocalico Creek. The current unit is 25 years old, and its metal framing is beginning to deteriorate and separate, causing gaps where inorganic matter can slip through. It has been repaired multiple times, but is beyond its useful life. Replacement of this unit is essential to the protection of the facility's equipment, as well as to ensuring a positive effect on discharge water quality into Cocalico Creek. The state has classified Cocalico Creek as an "impaired stream" for aquatic life and recreation. Impairments are largely the result of excess sediment and nutrients caused by agricultural activity – not by the wastewater treatment plant. However, the condition of the existing screening unit is such that failure could cause

	<p>inorganic matter to release and further harm the waterway. Therefore it is critical that the equipment be replaced as soon as possible.</p>
<p>Estimated Cost – how cost was derived & provision of partner funds (who is providing, how much and show commitments).</p>	<p>The total estimated cost of the project is \$381,750. GHD, the Authority’s engineering firm, provided a quote for the SCADA system on July 5, 2022, estimating a cost of \$178,000. Lakeside Equipment Corporation provided a quote for the Rotomat screening unit on July 13, 2022, estimating a cost of \$203,750.</p> <p><i>The Authority is requesting \$190,875 in Lancaster County American Rescue Plan Act (ARPA) funds (County ARPA Grant) and has committed to provide match funding in the amount of \$190,875, or 50 percent of the total cost.</i> The source of match funding is Authority funds, which are readily available for use toward the Project.</p> <p>The Authority also pledges to fund any unforeseen Project cost overruns, as well as regular and unforeseen Project maintenance costs after the Project is installed.</p>
<p>Which County ARPA Community-wide Benefit(s) does the project meet?</p>	<p>Technology modernization Clean water initiative Infrastructure</p>
<p>Briefly explain how the project meets the County’s guidelines.</p>	<p>The Project meets numerous objectives in the County’s ARPA grant program guidelines. First, it proposes ARPA-eligible activities that directly relate to the County’s targeted funding categories of “Technology Modernization,” “Infrastructure,” and “Clean Water.” The proposed Project would modernize some of the most critical components of the Authority’s infrastructure, <i>providing tremendous benefit to residents and businesses in the four municipalities directly served by the Project, as well as the other two municipalities served by the Authority.</i> The Project also relates to the Clean Water priority objective by preventing substantial negative impacts to the already impaired Cocalico Creek, should the upgrades not be completed and the equipment fail. In addition, the Project would modernize the most critical technology to the operation of the WWTP – the SCADA system – as it cannot operate without it. The SCADA system is 25 years old and functionally obsolete, as well as inefficient and vulnerable to cyber security attacks.</p> <p><i>In addition to addressing three of the County ARPA Grant’s funding priorities, the Project meets the objective to require only one-time grant funding, as the funding scope proposes to purchase and install equipment that is anticipated to last decades.</i> The Project would not require ongoing support from grant funding sources, as the new equipment will only require routine maintenance for which the Authority budgets funds annually.</p> <p>The Project is ready-to-go. Remaining funding sources for the Project are identified and committed, and no permits are required. As such, if awarded, the Project can commence immediately and be completed well in advance of 12/31/24. The Project is expected to last 9 months from commencement to completion.</p> <p>Finally, the Authority is prepared to contribute 50% of the cost to purchase and install the equipment under the Project scope. It is also prepared to fund any unforeseen Project cost overruns, as well as to fund any regular and unforeseen Project maintenance costs after the County ARPA Grant funding is expended.</p>
<p>Why should this project be a priority and how will it help the County? Also, if this application is for more than one project, please identify each one, provide information and rank them in order of your priority.</p>	<p>The proposed Project is a relatively low-cost project with transformative benefits for numerous municipalities. <i>The \$190,875 investment requested of the County’s ARPA grant program would support critical modernizations of technology and infrastructure that will result in hundreds of thousands of dollars in avoided costs from service outages, plant damage, and environmental and public health harms due to failure of the existing equipment.</i> The Project would directly serve 4117 residents, 228 commercial businesses, and 29 industrial users in Denver Borough, East Cocalico Township, Ephrata Borough, and Ephrata Township, ensuring they have safe, reliable, and affordable wastewater treatment services.</p>

	<p>The Project is also needed to respond to steady population growth and increased demand for service in the Plant’s service region, as well as to ensure capacity and reliability for planned developments and future economic development efforts. The Project will serve Ephrata and Denver boroughs and their immediate vicinities, which are designated as Urban Growth Areas (UGA) in Lancaster County’s comprehensive plan, “Places 2040 – A Plan for Lancaster County, PA” (Places 2040). <i>Places 2040 prioritizes economic development growth in existing UGAs to minimize development’s impact on farmland and natural areas. It also calls for water and sewer infrastructure investments in existing UGAs to ensure sufficient capacity for future development needs.</i> The Plant 2 Upgrade Project provides technology-advanced efficiencies that will ensure safety and reliability for current residential, commercial, and industrial users, while enhancing capacity for future development in the Ephrata and Denver borough UGAs.</p> <p><i>Another priority of Places 2040 is to “ensure a sustainable supply of clean water to support a growing population and a strong economy, recreational uses, and ecological needs.”</i> The Project will help meet this priority by implementing Plant upgrades to avoid potential harms to Cocalico Creek, which is already categorized as an “impaired stream” for aquatic life and recreation on Pennsylvania’s 303 list.</p> <p><i>It is important to note that the Project addresses two of the highest priority uses Congress intended for the federal ARPA funds when it passed the American Rescue Plan Act – to fund water and sewer infrastructure improvements and to aid in the pandemic economic recovery.</i> Recognizing the condition of the nation’s drinking water and wastewater infrastructure, and the financial challenges communities face in maintaining and repairing aging systems, Congress specifically enumerated water and sewer infrastructure as an eligible use of the ARPA funds. Moreover, a major purpose of the ARPA funds is to promote economic recovery from the pandemic. The proposed Project would aid in this endeavor through enhanced efficiencies and capacity to accommodate additional industrial and commercial users, while keeping rates affordable for ratepayers who are themselves continuing to recover financially from the pandemic. With the soaring cost of fuel, utilities, groceries and other living expenses due to rising inflation, ratepayers can ill afford a rate increase to fund the Project, no matter its importance.</p> <p>Finally, the Authority is financing another project that will have tremendous benefits for the County – a \$20 million bio-solid processing system at Plant 1 that will eliminate the need to dispose of undigested waste at area landfills and will instead produce a carbon-rich material that is good for the environment. The Authority did not ask for County financial support of the bio-solids project. However the cost of that project is placing a tremendous burden on the Authority’s funds, such that County ARPA Grant funds are needed to fund the investments under the proposed Plant 2 Upgrade Project.</p>
<p>Will this project require ongoing expense (maintenance, updates) or frequent replacement? Are expenses already being incurred, if so, can they be reduced through this project?</p>	<p>Since installation in 1997, the Rotomat screening unit’s metal frame has been repaired four times to address deterioration, separations and gapping, at expense to the Authority; though repairs have been limited to the past several years as the problems were due to the unit’s age. Replacing the unit will save ratepayers these ongoing costs, as well as prevent significant future costs associated with plant damage and inadvertent inorganic discharges into Cocalico Creek if the existing unit is not replaced. Project savings in terms of avoided costs is incalculably substantial. Regular annual maintenance of the screening unit is anticipated, but costs would be minimal compared to the current annual cost of repairing a 25-year-old unit.</p> <p>Updating the SCADA system from a 25-year-old operating system to a modern system will save ratepayers significant costs in terms of greater system-wide efficiencies, improved wastewater monitoring, enhanced cyber securities, and significantly reduced response times to outages. <i>It will also enable the Authority to respond to increased capacity demands from economic and residential development in the communities it serves, rather than being a hindrance to planned growth.</i> Further, if the SCADA system goes down for any reason – age, weather, or cyber-attack – and is unable to restart quickly or effectively because of its</p>

	<p>obsolete software, the cost to ratepayers in terms of damage to Plant 2 and wastewater treatment service disruption would be tremendous.</p> <p>If replaced, the new screening unit and SCADA hardware and software system are anticipated to last another 20 to 25 years. As such, they are significant and impactful investments in the Authority's wastewater treatment facilities. The Authority performs annual maintenance on all of its systems and equipment to maximize life spans and routinely budgets for these expected expenses. As such, the Authority is prepared to fund annual maintenance expenses associated with the Project.</p>
Project Timeline – start to finish, and when funding will be needed.	If Lancaster County ARPA funds are awarded, the SCADA system upgrades and Rotomat screening unit could be ordered immediately. The estimated time from order to installation is 9 months. If grant funds are awarded in summer of 2022, the Project is anticipated to be completed by May 2023.
Are there other organizations a part of this project? If yes, please list them and their role, including funding. If not, explain why?	<p>The Authority is funded by ratepayers and financially supported by six local municipalities – Akron Borough, Clay Township, Denver Borough, Ephrata Borough, East Cocalico Township, and Ephrata Township. If awarded Lancaster County ARPA funds, the Authority pledges to fund the balance of the Project with Authority funds to ensure Project completion. This includes a commitment of match funds in the amount of 50% of the cost to purchase and install the equipment under the Project scope, as well as any unforeseen Project cost overruns. It also includes funding regular and unforeseen Project maintenance costs after the County ARPA grant funding is expended.</p> <p>While the member municipalities have received direct ARPA allocations, their funds were required to address immediate COVID-19 needs and impacts within their municipalities and were insufficient to supporting additional projects, like the Authority's Plant 2 upgrades. Moreover, poverty rates of the Authority's service area are, on average, higher than that of the rest of the County, and further exacerbated by current inflation trends. As such, ratepayers are unable to support the cost of these critical upgrades without the injection of grant funding.</p>

ARPA Committee Comments	
ARPA Committee Recommendation	
Funding Amount Recommended (if recommended for approval)	\$