

September 3, 2021

Mr. Stephen Repasch
Executive Director
Bethlehem Authority
10 East Church Street
Bethlehem, PA 18018

Proposal for Professional Services - **Revised**
Water System Security Improvements Feasibility Study
Bethlehem Authority, Carbon, Lehigh, Northampton & Monroe Counties, Pennsylvania
Colliers Engineering & Design Proposal No.: BHW0008P

Dear Mr. Repasch,

Colliers Engineering & Design, Inc. (DBA Maser Consulting) is pleased to submit this proposal to provide professional services for a proposed Water System Security Improvements Feasibility Study to the Bethlehem Authority, Carbon, Lehigh, Northampton & Monroe Counties, Pennsylvania. **We greatly appreciate your time in meeting with us on August 19, 2021 to review the proposed scope of services and better define the feasibility study deliverables.**

The general concept for this feasibility study was outlined in the Colliers Engineering & Design (CED) Year 2020 Annual Consulting Engineer's Report dated June 21, 2021. This annual report included a specific focus on water system security assessment and included assistance from the US Department of Homeland Security and our special subconsultant Instrumentation, Control & Energy Engineering, LLC (IC&EE). The preliminary security improvement recommendations were listed in the confidential Appendix 14. This proposal was requested in response to the Annual Report Recommendation No. 19., to conduct a detailed security improvements feasibility study. The study will include security improvements cost estimates for each water system facility. We will work with the Authority and City Staffs to develop a program for implementation and prioritization for the recommended security improvements which may include physical security barriers, key card access systems, video surveillance equipment, as well as electrical, internet and SCADA improvements.

This proposal is divided into four sections as follows:

- Section I** – Scope of Services
- Section II** – Business Terms and Conditions
- Section III** – Technical Staff Hourly Rate Schedule and Reimbursable Expenses
- Section IV** – Client Contract Authorization

The order in which the following scope of services are presented generally follows the sequence in which the project will be accomplished; however, depending on the project, the various authorized services contained in this proposal may be performed in a sequence as deemed appropriate by Colliers Engineering & Design to meet project schedules.

Maser Consulting is now Colliers Engineering & Design

Section I – Scope of Services

Based on our conversations and information noted above, we propose to complete the following:

Task 1 – Site Visits to Each Water System Facility

With the assistance of key Authority and City Staff, CED will visit each of the Bethlehem Water System facilities to specifically assess how the Appendix 14 recommended security improvements may be implemented. Existing physical barriers, security and communication infrastructure will be specifically assessed for each facility. We have scheduled up to **72-hours each**, for both Ronald B. Madison, PE of CED and our special subconsultant Joseph A. Guagno, PE, of IC&EE to coordinate and tour each water system facility listed below. During the site tours with Authority and City Staff, we will coordinate with Authority personnel to develop an understanding of the Authority's needs and wants from a video surveillance and key card access system.

During our discussions we will attempt to define the Authority's desired storage capacity for video files. We will discuss video camera capabilities and what can be expected from various different camera resolution(s). We will discuss video surveillance software features with the Authority staff. Based on the preferences of Authority members, we will define which features and capabilities need to be included in the system. We will also discuss key card access system features. We will discuss types of key cards, with and without photos, **and the City's existing photo ID card access system.**

During the site tour we will take measurements and photographs to develop basic schematics for each facility to aid in the further development of proposed program of implementation. The following specific water system sites listed in Appendix 14, and will be included:

1. Wild Creek Watershed Campus:
 - a. Pohopoco Drive gates,
 - b. Authority Office Building,
 - c. Pretreatment Operations Building
 - d. Wild Creek Reservoir Dam Intake Building,
 - e. Wild Creek Dam Inspection Tunnel Entrance.
2. Penn Forest Reservoir:
 - a. Penn Forest Dam Intake Building,
 - b. Penn Forest Dam Inspection Tunnel Building.
3. Tunkhannock Creek Diversion Facilities (building)
4. Raw Water Transmission Tunnels and Portals (excluded due to remote sites)
5. Water Filtration Plant (exterior campus and interior building)
6. **City Hall (to observe police department video surveillance camera system)**
7. Water Distribution System sites to include:
 - a. Howertown PRV Station
 - b. Pennsylvania Avenue PRV Station
 - c. Northeast 5 MG Standpipe (Northampton Community College)
 - d. South Side Booster Station (Southwest)

- e. Southwest Low Service 12 MG Reservoir
 - f. Southwest Low Service 5 MG Tank
 - g. 5th & William Booster Station (Southeast)
 - h. William St. Southeast Low Service 5 MG Tank
 - i. Southwest (Star) 2 MG High Service Reservoir **(to be replaces in near future)**
 - j. Southeast High Service (Mountaintop) 1 MG Tank
 - k. Mountaintop Booster Pump Station (formerly Fire Pump Station)
 - l. City Communication Tower (South Mountain Park)
 - m. South Mountain Park 0.5 MG Tank (Highest System)
7. East Allen Township System, Including:
- a. The Airport Road Booster Pump Station
 - b. East Allen Gardens System Wellhouse **(to be replaces in near future)**
 - c. Wil-Mar System Wellhouse
 - d. Country Squire System Well House
 - e. Shady Lane System Wellhouse

CED will work to schedule the site tours with the key Authority and City Staff within the first week of authorization to proceed and begin site visits within two weeks. We project the site visits will be performed over a period of four or five weeks to complete the list of facilities.

Please note that the above listed tour of Bethlehem Authority Water System facilities will be utilized for the 2021 Annual Consulting Engineer's Report. As such Collier's Engineering & Design will be preparing our Year 2022 annual proposal for services with this reduction in site tour task accordingly.

Task 1.0 Cost Plus, Not to Exceed

\$21,800.00

Task 2 – Security Improvements Feasibility Study Report

Based the information gathered during Task 1 above, CED and IC&EE will prepare a preliminary draft Security Improvements Feasibility Study Report which will begin to develop a preliminary system architecture. **We review the prior 2007 security recommendation reports provided by the City. We will conduct telephone conference call(s) to discuss with the IT and Police departments the features and expandability of the existing City Hall key card access system and the Police video surveillance system. We will also discuss Key card access system features. We will perform a preliminary evaluation of the potential to incorporate site access for the Authority sites into the existing key card access system used at City Hall.**

In lieu of a sketch for each site, we propose to provide a table identifying critical features such as fences, number of gates, number of man-doors, number of overhead doors, availability of power, existing internet service, and cell communication strength. The table would include number of cameras and number of access doors proposed to be incorporated into the system. The table will be annotated as necessary to incorporate details critical to the proposed video surveillance and access control system.

We will also prepare draft opinion of probable construction cost for each facility. We will include in our report a discussion addressing schedule and implementation of the system, including options to phase the installation of the system. The draft report will include prioritization of system facility improvements. We will review the draft report with both Authority and City Staff for their comments and input.

CED & IC&EE will finalize the Security Improvements Feasibility Study Report based upon the review comments received. For this Task 2, we have scheduled **72 hours for CED** and **88 hours for IC&EE**. We anticipate completing the final report submitted to the Authority within 10 to 12 weeks of notice to proceed.

We anticipate that the City will be able to provide any existing site and building plans for the above-reference list of water system facilities. Specifically, site plans and building floor plans for the watershed campus and the water filtration plant would improve the accuracy of our study report.

Task 2.0 Cost Plus, Not to Exceed

\$22,200.00

Schedule of Fees

For your convenience, we have broken down the total estimated cost of the project into the categories identified within the scope of services.

Task Name	Fee
Task 1 – Site Visits to Each Water System Facility	\$21,800.00
Task 2 – Security Improvements Feasibility Study Report	\$22,200.00
• Reimbursable Expenses	\$200.00
Fee Total	\$44,200.00

This Contract and Fee Schedule are based upon the acceptance of Colliers Engineering & Design's Business Terms and Conditions contained in Section II of this Contract. Delivery, mileage, printing and reproduction, overnight mail service and postage costs are not included in the lump sum fees and will be added to each monthly invoice. **Payment terms are NET30 of receipt of invoice.**

Exclusions and Understandings

Services relating to the following items are not anticipated for the project or cannot be quantified at this time. Therefore, any service associated with the following items is specifically excluded from the scope of professional services within this agreement.

- Services not specifically outlined in Section I
- The City and/or Authority will provide all available mapping for each location to our office.

- The City and/or Authority will coordinate access with knowledgeable staff to all locations.
- This proposal assumes no permits are required for this work.
- Boundary and Topographic Survey work not included.
- Detailed design for facility improvements.

If an item listed herein, or otherwise not specifically mentioned within this agreement, is deemed necessary, Colliers Engineering & Design may prepare an addendum to this agreement for your review, outlining the scope of additional services and associated professional fees regarding the extra services.

Section II – Business Terms and Conditions

Per 2021 Professional Services Agreement

Section III – Rate Schedule

Per 2021 Professional Services Agreement

Section IV – Client Contract Authorization

I hereby declare that I am duly authorized to sign binding contractual documents. I also declare that I have read, understand, and accept this contract.

Signature

Date

Printed Name

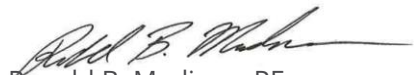
Title

If you find this proposal acceptable, please sign where indicated above in Section IV, and return one signed copy to this office. **Payment terms are NET30 of receipt of invoice.** This proposal is valid until (60 days per business terms).

We very much appreciate the opportunity of submitting this proposal and look forward to performing these services for you.

Sincerely,

Colliers Engineering & Design, Inc.
(DBA Maser Consulting)



Ronald B. Madison, PE
Senior Project Manager

RBM/baw

cc: Leonardo E. Ponzio, PLS, Colliers Engineering & Design (via email)

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