

January 26, 2023

Mr. Peter Hartz
City of Watertown Wastewater Treatment Plant
800 Hoffmann Drive
Watertown, WI 53094



Subject: Engineering Services
Ultraviolet Disinfection System Replacement

Dear Pete:

Applied Technologies (ATI) is pleased to present this proposal for engineering services related to the replacement of the wastewater treatment plant's ultraviolet (UV) disinfection system.

PROJECT UNDERSTANDING

The City of Watertown Wastewater Treatment Plant (WWTP) disinfects the plant effluent using a Trojan Technologies UV 4000 system. The UV system was installed during the 2004 WWTP construction project. Recently, Trojan informed the City that support for the UV 4000 system would be discontinued starting in Fall 2022. The system has also been experiencing intermittent operational and controls issues. For these reasons, the City has elected to upgrade the UV disinfection system. The City will purchase a UV system, and furnish the equipment to a City selected contractor for installation.

SCOPE OF WORK

The proposed scope of services for this project includes completion of contract documents; specific tasks are described below.

Design Services

1. Conduct a kickoff meeting and site visit with City staff to review the proposed project scope and schedule and discuss project design issues. Prepare minutes of the meeting and distribute to all attendees.
2. Complete a technology evaluation for high flow capacity, wastewater UV systems, and make a recommendation for the system selection.
3. Assist the City with issuing an RFP for equipment purchase based on updated design requirements.



4. Revise the WWTP's hydraulic profile based on the new UV system's hydraulic requirements.
5. Prepare construction drawings for the UV system replacement, including removal, mechanical, electrical, structural, and instrumentation and controls work. The drawings will show the general scope, extent, and character of the work to be performed by a Contractor; a preliminary drawing list is attached to this proposal. Specifications for the work will be included on the drawings.
6. Submit drawings and a construction cost estimate at the 90% completion point to the City for review, and conduct a virtual meeting with City staff obtain review comments.
7. Revise the drawings based on comments received from City staff and submit the final drawings to the City.
8. Prepare an application and submit to the WDNR for review and approval of the project. Prepare responses to any comments from the WDNR.

Construction Services

1. Make four site visits to the project site to observe the progress and quality of the work and to determine if the work is proceeding in accordance with the intent of the Contract Documents.
2. Review shop drawings, diagrams, catalog data, schedules, the results of test and inspections, and other data for the replacement UV equipment.
3. Provide technical clarifications and interpretations of the Contract Documents and evaluate requested deviations.
4. Authorize minor variations in the work from the requirements of the Contract Documents that do not involve an adjustment in the contract price or contract time and are consistent with the overall intent of the Contract Documents.
5. Assist the City in negotiating with the Contractor the scope and cost of any necessary modifications to the contract. The City will incorporate the contract modification requests into change orders.
6. Assist the City in startup of the new facilities. Coordinate with the Contractor and equipment suppliers.

ENGINEERING BUDGET

Based on the tasks identified in the Scope of Work, we estimate the engineering budget for the project to be \$53,000, as shown in the attached table. This budget includes our labor hours and expenses. We will perform the scope of work on a lump sum basis with monthly invoices based upon the estimated percentage complete during the time period. We will not exceed the budget without your written authorization.

UV Replacement
Watertown
Engineering Services for Design and Construction
January 26, 2023

NO.	TASK / ACTIVITY	PRINCIPAL QUALITY CONTROL	PROJECT MANAGER	PROCESS ENGINEER	ELECTRICAL ENGINEER	STRUCTURAL ENGINEER	I & C ENGINEER	TECH	CLERICAL	LABOR HOURS	LABOR COST	EXPENSES	TOTAL COST	BASIS OF ESTIMATE
PROJECT MANAGEMENT														
1	Project Management / OC	0	32	0	0	0	0	0	0	32	\$ 5,184	\$ -	\$ 5,184	
	TOTAL	0	32	0	0	0	0	0	0	32	\$ 5,184	\$ -	\$ 5,184	
DESIGN SERVICES														
1	Site visits / meetings	0	4	6	0	0	0	0	0	10	\$ 1,416	\$ 100	\$ 1,516	1 site visit
2	Technology Evaluation	0	4	8	0	0	0	0	0	12	\$ 1,672	\$ -	\$ 1,672	
3	Hydraulic Profile	0	2	4	0	0	0	0	0	6	\$ 836	\$ -	\$ 836	
4	Cost Estimate	0	2	2	0	0	0	0	0	4	\$ 580	\$ -	\$ 580	
5	Develop contract documents	0	8	56	60	12	8	48	4	196	\$ 29,560	\$ -	\$ 29,560	Drawing list
6	Submit contract documents to the WDNR	0	4	2	0	0	0	0	2	8	\$ 1,060	\$ -	\$ 1,060	
	TOTAL	0	24	78	60	12	8	48	6	228	\$ 35,124	\$ 100	\$ 35,224	
CONSTRUCTION RELATED SERVICES														
1	Site visits / meetings	0	4	12	4	0	0	0	0	20	\$ 2,936	\$ 416	\$ 3,352	4 site visits total
2	Submittal review	0	2	8	8	0	2	0	0	20	\$ 3,152	\$ -	\$ 3,152	
3	Contract administration	0	4	8	12	0	2	0	0	26	\$ 4,228	\$ -	\$ 4,228	
4	Startup Services	0	2	12	0	0	0	0	0	14	\$ 1,860	\$ -	\$ 1,860	
	TOTAL	0	12	40	24	0	4	0	0	80	\$ 12,176	\$ 416	\$ 12,592	
LABOR HOURS														
	2023 Average Rates	\$ 198	\$ 162	\$ 128	\$ 188	\$ 172	\$ 150	\$ 130	\$ 78	340				
	TOTAL COST	\$0	\$11,016	\$15,104	\$15,792	\$2,064	\$1,800	\$6,240	\$468		\$ 52,484	\$ 516	\$ 53,000	

TABLE 1
PRELIMINARY DRAWING LIST
Watertown UV Disinfection System Replacement

NO.	DRWG	SCALE	TITLE
GROUP 01 - GENERAL			
1	01-G-1	-	Title Sheet/Project Location
2	01-G-2	-	Index to Drawings
3	01-G-3	-	Abbreviations and Detail Legend
4	01-G-4	-	Civil Legend
5	01-G-5	-	HVAC, Plumbing & Architectural Legend
6	01-G-6	-	Mechanical Legend
7	01-G-7	-	Electrical Legend
8	01-G-8	-	Instrumentation & Control Legend
9	01-G-9	-	Instrumentation & Control Legend
GROUP 60 - SECONDARY BUILDING MODIFICATIONS			
10	60-R-1	1/4"	Removal Plan
11	60-SM-1	1/4"	Structural/Mechanical Plan
12	60-SM-2	1/4"	Structural/Mechanical Section and Details
13	60-E-1	1/4"	Electrical Power Plan
14	60-E-2	-	Electrical One-Line
GROUP 90 - INSTRUMENTATION AND CONTROL			
15	90-I-1	-	UV Disinfection
GROUP 99 - STANDARD DETAILS			
16	99-M-1	-	Structural/Mechanical Standard Details
17	99-E-1	-	Electrical Standard Details

17 Total Drawings

Legend

A Architectural	I Instrumentation & Control
C Civil	M Mechanical (Process)
E Electrical	P Plumbing
G General	S Structural
H HVAC	



Please contact us with any questions regarding this proposal. Thank you for the opportunity to continue our partnership with the City of Watertown.

Best regards,
Applied Technologies, Inc.

Kathleen Hassing, P.E.
Project Manager

William A. Ericson, P.E.
Vice-President

City of Watertown
Ultraviolet Disinfection System Replacement

Accepted by:

Owner:	_____
By (Signed):	_____
By (Print):	_____
Title:	_____
Date:	_____

Symbiont Science, Engineering and Construction, Inc.
6737 West Washington Street Suite 3500
Milwaukee, WI 53214-5647

T 800.748.7423

symbiontengineer.com



SYMBIONT

A Mead & Hunt Company

October 24, 2022

Mr. Pete Hartz
Water Systems Manager
City of Watertown
800 Hoffmann Drive
Watertown, WI 53094

**RE: Proposal for Final Design and Engineering Services
For Installation of Improvements to the Existing UV Disinfection System
City of Watertown, Wisconsin | Wastewater Treatment Plant
Symbiont Proposal No. M4666751-222867.01 – Revision 1**

Dear Mr. Hartz,

Symbiont Science, Engineering and Construction, Inc., a Mead & Hunt Company, (Symbiont) is pleased to present this revised proposal to the City of Watertown, Wisconsin (City) for final design and engineering services during installation of the upgrades to the existing ultraviolet (UV) disinfection system at the City's wastewater treatment plant (WWTP). This proposal was prepared in response to the City's emails dated August 17, 2022, and October 10, 2022.

For ease of review, this proposal is divided into several sections including Project Understanding/Background, Scope of Work, Assumption and Exclusions, Project Schedule, and Compensation.

| PROJECT UNDERSTANDING/BACKGROUND

The City owns and operates a municipal WWTP that utilizes a UV disinfection system to meet its disinfection permit requirements.

The City learned in the summer of 2022 that components for the existing UV disinfection system will no longer be available for purchase from the manufacturer. The City is concerned that over time the UV system will require replacement parts that are not available. As a result, the City wants to replace the existing disinfection system with a system that is supported by a manufacturer.

| SCOPE OF WORK

Symbiont proposes the following Scope of Work to complete this project.

Task 1 | Equipment Review

The City has received proposals from several UV disinfection system equipment suppliers. Symbiont will perform a review of the proposals received along with potentially obtaining proposals from other equipment suppliers. Symbiont will summarize the advantages and disadvantages of each

equipment option along with a summary of any physical changes to the disinfection channel that are needed. Symbiont will prepare a decision/ranking matrix that will evaluate each equipment option based on criteria that are established by the City. It is anticipated that criteria such as capital cost, operating cost (energy and labor), lamp life expectancy, warranty, number of installations, parts availability, lamp replacement cost, and local support/parts availability will be used in the decision/ranking matrix. The decision matrix, in combination with the equipment summary, will be presented to the City through an on-site workshop to make a selection of the best UV disinfection system technology for the City.

Deliverable:

- Equipment summary
- Decision matrix
- Workshop notes

Task 2 | Final Design

Symbiont will proceed with preparing construction plans for the UV disinfection system selected by the City in Task 1. Final design will include the following:

- Draft request for quotation for the new UV disinfection system to be purchased by the City.
- Demolition specifications for removing the existing UV system.
- Drawings that illustrate modifications of the existing effluent channel to accommodate the new UV system equipment. The modification description will also include information on bypass pumping and piping that may be needed.
- Drawings that illustrate modifications of electrical power supply and controls for the new UV system equipment.

The final plan set for the UV equipment is expected to include:

- Title sheet/project location/owner address
- Drawing index
- Standard details
- One demolition/removal drawing
- One plan view drawing showing the UV system equipment and channel structural/mechanical modifications
- One elevation drawing including section views of UV system equipment and channel structural/mechanical modifications
- A modified one-line drawing depicting the electrical connections for the new UV system equipment
- One electrical drawing showing power feed connections
- One Instrumentation drawing showing control signals

It is not known if this project will require Wisconsin Department of Natural Resources (WDNR) review and approval. Symbiont has included time to prepare a design report and will complete form 3400-205, if WDNR approval is needed. The design report and plans will be stamped by a professional engineer licensed in the State of Wisconsin if required.



Task 3 | Bidding and Construction Support Services (Equipment Installation)

Symbiont bidding services will include the following items:

- Prepare a request for quotation (RFQ) to be sent to the selected UV system equipment supplier. The RFQ will confirm the design conditions, site conditions, and control requirements. Contract terms and conditions and other administrative documents to be included with the RFP will be provided by the City. Symbiont will be responsible for sending the RFP to the supplier via email.
- Answer equipment supplier or distributors questions, as necessary.
- Receive and review the final equipment proposal from the UV system supplier to ensure it conforms to the project requirements.

Symbiont services during installation will include the following tasks:

- Shop drawing review for the UV equipment.
- Clarifications and interpretations of drawings.
- Coordination with supplier and contractors for delivery, execution, construction schedule and coordination of trades (mechanical and electrical).
- Weekly site visits during UV system equipment installation based on a 4-week demolition and installation schedule.
- Four additional 1/2-day site visits to be scheduled as needed.
- Programming for the new UV system equipment.
- Startup services for the new UV system equipment.
- An electronic operations and maintenance (O&M) manual that includes vendor information for the new UV system equipment. The O&M manual is limited to the items included as part of this project.

Additional site visits or support services are available on a time and expense basis.

Task 4 | Potential Incentive Rebates

There is an opportunity for the new UV equipment to require less power than the existing UV equipment. Symbiont has included 10 hours to prepare the necessary submittal to Focus on Energy (FOE) for an energy reduction incentive rebate. Symbiont will prepare, if necessary, a summary report using information collected during the submittal process.

| ASSUMPTIONS AND EXCLUSIONS

Assumptions

In the development of our proposed scope of services, level of effort, and schedule, Symbiont has made the following assumptions:

- The City will contract directly with the UV system equipment supplier and contractors for the installation designed by Symbiont.
- All I/O checkout and functional performance testing to be provided by the installing contractors or the equipment supplier.



- The City will draft the front end contract documents and advertising/bidding forms (if necessary) that will incorporate the design drawings and existing system modification descriptions provided to the City.

Exclusions

The following exclusions apply to this proposal and are not included in the project cost:

- This proposal does not include costs for design of any plumbing, fire protection, HVAC, or other building utility modifications.
- This proposal does not include costs for any equipment controls, programming, or human machine interface (HMI) modifications beyond connecting the UV system equipment to the existing control system. This proposal also does not include costs for any plan review, permitting, equipment, or construction.
- Symbiont has not included purchasing any I/O cards or other components of the control system that may be needed. As part of the final design, Symbiont will identify what control system components will be needed and will assist the City with procurement.
- Symbiont has not included preparing an equipment specification binder for this project. Symbiont has not included preparation of front-end documents, contract terms and conditions or other administrative documents, and assumes the City will coordinate these with the selected equipment supplier.

PROJECT SCHEDULE

The coronavirus has created considerable uncertainty with respect to business as usual. Under normal circumstances, Symbiont would propose the following schedule for implementing this project. Significant business interruptions by the coronavirus may require the schedule to be extended. Symbiont will promptly communicate any delays due to the coronavirus as soon as they are foreseeable. Although Symbiont has no way of knowing the future impact of the coronavirus, we will strive to meet the dates proposed below. To ensure timely project delivery, our clients are required to confirm all pre-travel details and clearances necessary for Symbiont site visits. Once site visits are scheduled and confirmed, cancellations and impacts due to the pandemic will be considered a change in scope.

Symbiont is prepared to begin work on this project within 2 weeks of receiving a signed contract and notice to proceed. A project schedule will be developed once delivery times for the long lead items are known.

COMPENSATION

Symbiont will complete the above-described Scope of Work (Tasks 1-4) on a time and materials basis not to exceed a monthly invoice of \$10,000 per month or a total project cost of \$78,590 without prior written authorization by the City.



| TERMS AND CONDITIONS

Provided within this proposal are Symbiont's Terms and Conditions of Agreement (Form S-1 09-2022), which are an integral part of our contract for professional services. Please indicate your acceptance of this proposal (and the Terms and Conditions herein) by having an authorized representative sign one copy and returning it to Symbiont.

Symbiont's clients frequently issue purchase orders (P.O.s) as a matter of convenience for tracking their accounts payable. However, it is expressly understood by your company and Symbiont that none of the terms and conditions associated with your company's P.O. shall be deemed effective and that in the case of such conflict, the terms and conditions set forth in Symbiont's Terms and Conditions of Agreement (previously referenced) shall be deemed effective and agreed to between your company and Symbiont and that Symbiont's acceptance of a P.O. shall not be deemed to be an acceptance of the terms or conditions of such P.O.


We appreciate the opportunity to offer our services for the City of Watertown. We welcome any questions regarding this proposal and look forward to working with you on this and future projects.

Sincerely,

SYMBIONT SCIENCE, ENGINEERING AND CONSTRUCTION, INC.

In 2022, Symbiont merged with Mead & Hunt and became a wholly-owned subsidiary; the contracting company is Symbiont Science, Engineering and Construction, Inc.


Jonathan R. Butt, P.E.
Project Manager


Patrick W. Carnahan, P.E.
Vice President of Engineering

SYMBIONT PROPOSAL NO. M4666751-222867.01-REVISION 1 ACCEPTED BY:

CLIENT: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

Symbiont considers the project approach, design, pricing, data, and other business considerations contained in this proposal to be proprietary and confidential business information to be used solely for the purpose of evaluating the proposal. This document and the information contained herein shall not be used for any purpose other than as stated above and shall not be used, duplicated, or disclosed to any other party without Symbiont's prior written consent.



The following cost breakdown is provided for informational purposes only:

Table 1 | Project Cost Breakdown [For Informational Purposes Only]

Task(s)	Description	Task Fee
1-2	Equipment Review & Final Design	\$38,590
3	Bidding and Construction Support Services (Equipment Installation)	\$38,200
4	Potential Incentive Rebates	\$ 1,800

\$76,790

Symbiont will work with the City regarding the services for this project. Symbiont will provide the services summarized by Tasks 1 and 2 for \$38,590 and add the services for Tasks 3 and 4 if the City should so desire.

Symbiont will provide the City with monthly updates regarding the work performed, budget, and schedule. Monthly invoices will be issued for services performed not to exceed \$10,000.

If required, out of scope services requested by the City will be performed on a time and materials basis. Prior to executing any out-of-scope services Symbiont will issue a change order for the City to authorize the out-of-scope work to be performed.

The costs in this proposal exclude any sales and use tax, goods and services tax, gross receipts tax, value-added tax, or similar taxes. Upon award of the contract, and prior to work starting, Symbiont requires that the City provide either a signed tax exemption certificate, or the applicable sales tax rate, for the project. The final cost of the project will increase to include the cost of all applicable taxes if exemptions do not apply.

This proposal is valid for 30 days from the date on the proposal.

