

MONMOUTH ILLINOIS

DATE: July 1, 2021

TO: Mayor Davies and Members of the Monmouth City Council

FROM: Lew Steinbrecher, City Administrator

RE: EPA Mandate – UV Disinfection System at Wastewater Treatment Plant

Pursuant to the Illinois Environmental Protection Agency (IEPA) permit to operate the City's municipal wastewater treatment plant, the State of Illinois has mandated the City to construct an Ultraviolet (UV) Disinfection System before the treated water can be discharged into a nearby surface water creek. The first step in complying with this unfunded state requirement, is to retain the services of a qualified engineering firm to design a new UV disinfection system for the Treatment Plant. Woodard & Curran (W&C) has been the City water/sewer engineering consultant for many years.

The attached Work Order Number 20 defines the scope of work to be performed by W&C in designing this disinfection system for a not-to-exceed lump sum fee of \$180,000 and this cost was anticipated and included in the City's Fiscal Year 2020-2021 Annual Budget. In order to meet the IEPA's mandated time schedule to construct this required disinfection system, it is prudent to begin the design phase at this time.

The Administration recommends the City Council's favorable approval of this Work Order with Woodard & Curran.

Thank you.



WOODARD & CURRAN TERMS & CONDITIONS

Exhibit A: WORK ORDER NUMBER 20

This Work Order is issued pursuant to, and in accordance with the Standard Terms and Conditions between Woodard & Curran, Inc. (W&C, Engineer) and the City of Monmouth (City, Client) dated **December 15, 2014**, which are incorporated herein by this reference. Unless otherwise specified, all capitalized terms used in this Work Order shall have the same meaning as used in the Agreement. This Work Order will not be deemed valid and binding upon the Parties until both Engineer and Client have both signed below.

Scope of Services:

- Design & Permitting
 - Preliminary & Final Design
 - IEPA Permitting
 - SRF Funding Support
- Bidding Support

1. Design & Permitting of UV Disinfection Upgrade

Woodard & Curran will provide engineering services for the design of a new UV Disinfection system for the Consolidated Wastewater Treatment Plant. The UV system would be located in a concrete channel immediately east of the secondary clarifiers as described in the Consolidated Wastewater Treatment Plant Assessment with Cost Opinion report dated January 2021. The engineering effort will generally include:

- 1.1 Project Management. This task occurs concurrently with all the steps outlined below and includes all those tasks necessary to inform the City of the project's needs; submit paper work and obtain SRF funds; monitor and control the design process; coordinate information and meetings; coordinate with subcontractors and in-house design staff; reach timely decisions to meet the project schedule; reports to the City on the progress of the project and status of schedule and budget; and technical oversight of project activities.
- 1.2 SRF Funding Support. This work has largely been completed. The Project Plan for the wastewater disinfection system was prepared per SRF requirements. This plan included an assessment of impacts of the proposed system, an alternatives analysis, and development of project costs, schedule and financing. Includes continued coordination with IEPA.
- 1.3 Survey. In this task we will perform a ground survey in the vicinity of the work at the WWTF to create a base plan for the detailed design. We will review existing plans for potential interferences from existing buried utilities.
- 1.4 Process Selection. In this task we will perform hydraulic and other calculations to determine the size and configuration of the selected piping, equipment and tanks. We will prepare a preliminary hydraulic profile and process flow diagram for use in developing the detailed design.
- 1.5 Preliminary Design. In this task we will prepare the preliminary process, mechanical, structural, electrical, instrumentation and controls designs. The preliminary design will include structural load calculations and analysis; electrical one-line diagram; motor and electrical load list; and functional narratives. A Design Basis Report will be issued detailing the key design assumptions, alternatives for consideration and an updated cost estimate. This will include an evaluation of the plant's maximum processing capacity and identification of potential issues. Design of upgrades identified to treat the increase in flows and loads are not included herein.
- 1.6 Structural Design. In this task we will prepare the detailed structural design.
- 1.7 Process & Mechanical Design. In this task we will prepare the detailed process and mechanical design including piping and instrumentation diagrams and mechanical layout.
- 1.8 Site Design. In this task we will prepare site utilities plans and grading plans. It is assumed that the new structure(s) will be installed in areas currently occupied by structures or are currently grass areas and that the traffic flow and drainage of the site will remain largely unchanged.
- 1.9 Electrical Design. In this task we will prepare a detailed electrical design. It is assumed that the design will include confirmation that the existing electrical infrastructure and standby generator is sufficient to accommodate the proposed upgrades. Includes power and controls for the new equipment.
- 1.10 Instrumentation and Controls (I&C) Design. In this task we will prepare a detailed I&C design. Includes installation of new instruments and vendor supplied control panels to control the additional processes. The new systems are intended to be connected to the existing plant SCADA system.



WOODARD & CURRAN TERMS & CONDITIONS

- 1.11 Bidding Documents. Bidding Documents will be delivered in three submittals: 50%, 90% design documents (plans and specifications) and Final Design Documents. In this task we will develop Bidding Documents (final design drawings and specifications) incorporating review comments received from The City and IEPA. Bidding Documents will be developed in accordance with Illinois laws and regulations.
- 1.12 Permitting. In this task we will prepare and submit permit applications required by local, state and federal requirements. We anticipate that only an IEPA construction permit will be required for construction. Our proposal does not include any other permitting.
- 1.13 Construction Cost Estimate. We will update project costs at 50% Design and 90% Design.

2. Bid Phase Assistance

Woodard & Curran will provide bid phase assistance to the City including:

- 2.1 Bidding Documents. Bidding Documents will be delivered in two submittals: 90% design documents (plans and specifications) and Final Design Documents. In this task we will develop Bidding Documents (final design drawings and specifications) incorporating review comments received from the City and Illinois EPA.
- 2.2 Pre-Bid Meeting. Attending a pre-bid meeting with the bidding contractors, providing an overview of the project, answering any questions or concerns, and compiling meeting minutes for distribution to all bidders. Meeting minutes will likely be issued as Addendum 1.
- 2.3 Questions. Receiving and responding to bidder questions received during bidding.
- 2.4 Addenda. Issue up to 2 total addenda addressing clarifications and answering questions from prospective bidders.
- 2.5 Bid Review. Review all bids and determine lowest responsive and responsible bidder. Provide bid tabulation and evaluation to the City including reference checks.
- 2.6 Bid Award. Assist City in coordinating Notice of Award and Notice to Proceed with the winning bidder (Contractor).

Anticipated Schedule:

- | | |
|---|------------------|
| • Notice to Proceed to W&C | July 2021 |
| • Design Basis Report & 50% Drawings | September 2021 |
| • 90% Design Documents | November 2021 |
| • Submission of Plans and Specs to IEPA | December 1, 2021 |
| • IEPA issues Construction Permit | March 2022 |
| • Final Design Documents | March 2022 |
| • Advertise for Bid | April 2022 |

The above schedule is dependent on IEPA and permitting agency review timelines and may be adjusted accordingly with the mutual agreement of W&C and the City.

Assumptions and Clarifications:

- The project includes the one bid package - UV Disinfection Upgrade
- We assume that the project will NOT be funded by the USDA.
- Boring logs SB-205, SB-206, SB-207, & SB-208 to be provided by the City.



WOODARD & CURRAN TERMS & CONDITIONS

- Our fee and schedule assumes that IEPA approve the Construction permit as indicated. If IEPA takes longer, the schedule could be impacted.
- We anticipate that only an IEPA construction permit will be required for construction. Our proposal does not include any other permitting.
- Our bid phase assistance assumes one (1) bid period for each project and up to two (2) addenda, if additional bid periods or additional addenda are required, additional fees may be requested.
- All work will be on City owned land or in existing or proposed easements.
- The site is located outside of FEMA FIRM Map 100-year flood plain.
- W&C will submit two copies of each design submittal: 50%, 90%, and Final Design documents. Our proposal does not include producing printed bidding documents for distribution to bidders.
- Our fee does not include designing underpinning of adjacent structures.
- Our fee does not include the design of hazardous waste removal or abatement.

Compensation:

For all Services duly rendered hereunder, Client will pay Engineer as described herein. The services for all tasks pursuant to this Work Order shall be provided on a lump sum basis, billed monthly on a percent complete basis. The project total fee in the amount of **\$180,000.00** will not be exceeded without prior written authorization.

The compensation for services performed by the ENGINEER by task are provided below

Task / Description	Fee Budget	Billing Method
Task 1 – Design of UV Disinfection Facility	\$166,500	Lump Sum
Task 2 – Bidding	\$13,500	Lump Sum
Project Total Fee	\$180,000	Lump Sum



WOODARD & CURRAN TERMS & CONDITIONS

Designated Project Representative

Client: Low Steinbrecher

Engineer: Jennifer Anders

Effective date: As of _____

IN WITNESS WHEREOF, the undersigned have caused this Work Order to be duly executed by their authorized representatives set forth below.

City of Monmouth, Illinois

By _____

Title _____

Woodard & Curran, Inc.

By *[Signature]*

Title Vice-President, M&I SBU