



City of Grand Island

Tuesday, June 14, 2005

Council Session

Item G23

#2005-174 - Approving Amendment C to the Agreement with CH2MHill for the UV Disinfection Project at the Wastewater Treatment Plant

Staff Contact: Steven P. Riehle, Public Works Director

Council Agenda Memo

From: Steven P. Riehle, Public Works Director

Meeting: June 14, 2005

Subject: Approving Amendment “C” to the Agreement with CH2MHill for the UV Disinfection Project at the Wastewater Treatment Plant

Item #'s: G-23

Presenter(s): Steven P. Riehle, P.E., Director of Public Works

Background

On September 30, 2003, the Nebraska Department of Environmental Quality (NDEQ) issued a new National Pollutant Discharge Elimination System (NPDES) permit to the City of Grand Island’s Wastewater Treatment Facility. The permit contained a compliance schedule for meeting disinfection requirements:

- October 1, 2004, complete and submit specifications to NDEQ for approval.
- October 1, 2005, initiate construction.
- October 1, 2006, disinfection system operational.

On March 22, 2005 the city council approved a resolution to enter into an agreement with Trojan Technologies to supply ultraviolet disinfection equipment.

On April 28, 2005 bids were received and opened for the UV Disinfection Project; Starostka Group Unlimited of Grand Island, NE was awarded the bid at the May 24, 2005 city council meeting.

Amendment C of the Electrical Systems Improvements will provide for process computer control system programming as well as professional engineering services during construction of the UV Disinfection Project through CH2MHill of Denver, Co as outlined in attachment A, to Standard Agreement for Professional Services, titled Scope of Work-Service during Construction.

Discussion

An agreement for \$326,500.00 has been negotiated with CH2MHill of Denver, CO. This agreement establishes the terms and conditions that will be executed between CH2MHill, the consulting engineer, and the owner (City of Grand Island) regarding the services during construction and associated services.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Approve a resolution authorizing the Mayor to sign an amendment to the agreement with CH2MHill for the UV Disinfection Project.
2. Refer the issue to a Committee.
3. Postpone the issue to a future date.
4. Take no action on the issue.

Recommendation

City Administration recommends that the Council approve a resolution authorizing the Mayor to sign an amendment to the agreement with CH2MHill for the UV Disinfection Project.

Sample Motion

Move to approve the amendment to the agreement with CH2MHill.

Amendment - To Standard Agreement for Professional Services

City of Grand Island - Electrical System Improvements at the Grand Island WWTP
Original Contract Dated October 29, 1999

Amendment C

This Amendment to the Standard Agreement for Professional Services (this "AMENDMENT C"), to the PROJECT, entitled, "Electrical System Improvements at the Grand Island WWTP," is made between the City of Grand Island (the "OWNER") and CH2M HILL, Inc. (the "ENGINEER").

The parties hereby amend the Agreement for Professional Services for the PROJECT described above (the "AGREEMENT"), including the first and second Amendments to the AGREEMENT (the "AMENDMENT A" and "Amendment B"), as described in Attachment A.

Formal Execution of this AMENDMENT C shall authorize the ENGINEER to proceed with this work.

OWNER and ENGINEER agree that this AMENDMENT C is made part of the AGREEMENT between the OWNER and ENGINEER as wholly and completely as if same were part of the original AGREEMENT. This AGREEMENT supercedes all prior written or oral understandings and may only be changed by written amendment executed by both parties. All other terms of the original agreement remain in effect.

The compensation by OWNER to ENGINEER in the original AGREEMENT was lump sum of \$38,390. The compensation by OWNER to ENGINEER in AMENDMENT A added a lump sum of \$180,000. The compensation by OWNER to ENGINEER in AMENDMENT B added \$289,300 as a Cost Reimbursable-Multiplier.

With this AMENDMENT C, the compensation by OWNER to ENGINEER will be increased by an additional Cost Reimbursable-Multiplier (Time and Expense) sum in the amount of Three hundred twenty six thousand five hundred dollars (\$326,500). The new total of the AGREEMENT is now to be \$ 834,190.

In WITNESS WHEREOF, the parties hereto have executed this AMENDMENT C as of the dates written below.

For the OWNER, (City of Grand Island)

Dated this _____ Day of _____, 2005

Signature _____

Name (Printed) _____

Title _____

For the ENGINEER (CH2M HILL),

Dated this 17TH Day of MAY, 2005

Signature _____

Name (Printed) _____

Title _____

Scope of Work – Services During Construction

General

This scope of work describes the services to be rendered by CH2M HILL, Inc. (the "ENGINEER") to the CITY of Grand Island (the "CITY") for services during construction related to the UV Disinfection System at the Grand Island Wastewater Treatment Plant (WWTP). Construction will be accomplished by the construction contractor (the "CONTRACTOR") that is awarded the contract by the CITY.

Project Information

Project Title: UV Disinfection System for the Grand Island WWTP (the "PROJECT")

Objective: The CITY requires the installation of a new treatment process to add disinfection during summer months. This scope of work is intended to provide services during construction (SDC) for these improvements.

Project Location: The project site is the Grand Island WWTP in Grand Island, Nebraska.

Project Description

The improvements included under this scope are as generally described below and more fully described in the Contract Documents dated March 2005:

- Construction of a new ultraviolet (UV) light disinfection building to be constructed over an existing concrete basin. This system includes UV disinfection process equipment, structural building components and equipment related to the building. The UV disinfection equipment and instrumentation supplier have been pre-selected.
- Construction coordination of flow diversions and the construction of a new Parshall flume for flow measurement. It also includes demolition of portions of the existing concrete basin. Construction of site-work including utilities, paving and landscaping.
- Coordination regarding the programming necessary for the project.

Work Tasks

ENGINEER shall perform the following specific tasks as part of this Scope of Work:

Task 1 – Services During Construction

Objective: Provide engineering services during construction (SDC) to assist CITY during the construction phase of the PROJECT. These services are intended to assist the CITY in administering the contract for construction, monitoring the performance of the construction contractor, verifying that the contractor's work is in substantial compliance with the contract documents, and responding to events that occur during construction. It is understood that the resident project representative (RPR) and daily inspection services are being provided by the CITY, as explained in the contract documents for the PROJECT.

Subtasks:

1. Conduct a pre-construction conference with CITY staff, the successful bidder, and other appropriate representatives to establish a program of construction activities. Attendance will be by the ENGINEER's project manager.
2. Design Team Site Visits. Coordinate visits approximately every six weeks to the site by a single design team member to review the progress and quality of the work and to determine if the work is proceeding in accordance with the intent of the Contract Documents. Visit timing may be adjusted to coordinate with critical installations or specific issues. The design team member will observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the design team member by the contractor or the CITY.
3. Shop Drawings. Review the contractor's shop drawings, samples and other submittals, and maintain a log to track them. Review shall be for general conformance with the design concept and general compliance with the requirements of the contract documents for construction. Such review shall not relieve the contractor from his responsibility for performance in accordance with the contract documents for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies or omissions.
4. Alternates. Consider and make recommendations regarding the acceptability of alternate materials or equipment proposed by the Contractor. Review the alternate proposals with the CITY.
5. Safety. ENGINEER will manage the health, safety and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable health and safety laws and regulations. ENGINEER will notify affected personnel of site conditions posing an imminent danger to them when observed by the ENGINEER. ENGINEER is not responsible for health or safety precautions of construction workers, nor is ENGINEER responsible for the contractor's compliance with the health and safety requirements in the contract for construction, or with federal, state, and local occupational safety and health laws and regulations.
6. Schedule. Review the accuracy and appropriateness of contractor's construction schedule and monitor actual versus scheduled progress.
7. Changes. Jointly with the CITY, prepare, negotiate, and submit contract change orders necessary to achieve the intent of the contract documents for construction.

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8. **Requests for Information:** Respond to technical questions and requests for information from the contractor to clarify design as needed to implement construction.
 9. **Final Review.** Assist the CITY with inspections at substantial and final completion, in accordance with the contract documents for construction. ENGINEER will assist in preparing punch lists of items requiring completion or correction, and will make recommendations to the CITY regarding the acceptance of the work based on the results of the final inspection. Two, single-day trips to Grand Island made by one person are assumed for this work.
 10. **Initial Operation.** Make up to two one-day visits to the site to assist in startup and initial operation to determine if the facility is operating properly and to familiarize the CITY staff with the design intent of the project. Visits will be by the project manager.
 11. **Record Drawings.** Prepare and submit to the CITY, upon completion of the work, one electronic file and four half size hard copies of record drawings of the work as generally constructed, using information supplied by the contractor and onsite inspection personnel.
 12. **Field Safety Instructions.** Prepare a set of project instructions and field safety instructions providing directions for the services to be provided for ENGINEER's staff assigned to assist with project execution. These instructions are primarily required for the internal management of the project but will be submitted to the CITY for review and input.
 13. **Update the sections impacted by the UV Disinfection Project in the existing WWTP operations and maintenance manual.** Includes preparing a new section for the UV disinfection process, minor modifications to existing table of contents and deletion of the chlorination section so that the manual follows the current processes.
 14. **Project Management.** Includes project set-up, invoice preparation, ongoing project cost control, staff support and coordination. ENGINEER will be responsible for coordinating project activities with the CITY, other consultants, and the various agencies. Prepare monthly, for months during which action is performed, progress reports to accompany invoices.

Deliverables: Record drawings, Meeting minutes, Preconstruction meeting minutes, updated O&M sections and shop drawing approvals.

Task Fee: \$ 197,700.

Task 2 – Process Computer Control System Programming and Integration

Objective: Provide Process Computer Programming tasks of the existing TI PLC and FactoryLink HMI application programs. Programming tasks shall include logic and graphical interface screens for monitoring and control of the UV Disinfection Facility process designed under this project.

Subtasks:

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1. Gather all data pertinent to the upgrade of the existing application programs and the UV disinfection system, including existing programs and information regarding additions, modifications or deletions to the originally installed process computer system.
 2. Develop and provide for CITY staff review, Process Control Narratives based on the design documents and intended operation of the UV disinfection system processes.
 3. Conduct a workshop with CITY staff and ENGINEER's programming staff to review and update the Process Control Narratives providing a document that establishes the requirements for the programming tasks.
 4. Based on the contract documents for construction and approved Process Control Narratives, develop TI PLC application program modifications to the existing application programs to include the processes for the PROJECT and interface with the FactoryLink HMI application program.
 5. Based on the contract documents for construction and approved Process Control Narratives, develop FactoryLink HMI application program modifications to the existing application programs including:
 6. Install and connect communication components in the Main Control Room of the WWTP. Install and connect the computer control components in the Electrical Room at the UV disinfection facility.
 7. Interface with the CONTRACTOR to establish the required communications network modifications per the contract documents for construction. Interface with CITY staff and provide guidance in the purchase requirements of required Owner-furnished hardware.
 8. Assist the CONTRACTOR in the startup of the UV disinfection system with regard to the application programs functionality as defined in the contract documents for construction and the Process Control Narratives.
 9. Update the operations manual for the new programming.

Deliverables: Applications programs for the completed TI PLC and FactoryLink HMI modified software. Updated operations manual.

Task Fee: \$ 128,800.

Basis of Design Scope and Fee Development

The following key assumptions were made in the compilation of this scope of work and the estimated level of effort. These assumptions are in addition to the scope set forth in the foregoing scope of work.

1. The CITY will make its facilities accessible to ENGINEER as required for ENGINEER's performance of services and will provide labor and safety equipment as required by ENGINEER for such access.
2. The SDC phase of the sludge PROJECT will last 12 months from authorization to proceed and will be finished during calendar year 2006.

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3. Any investigation and remediation of possible hazardous waste, asbestos, lead paint or other types of contamination will be conducted as a separate contract.
 4. SDC for the UV disinfection PROJECT is based upon the CITY executing a contract for construction with the CONTRACTOR that is consistent with ENGINEER's agreement, and that provides the requisite authority for ENGINEER to fulfill its SDC responsibilities.
 5. SDC are based upon the schedule or duration of construction anticipated at the time these services are agreed. Deviations from the anticipated schedule or duration of the construction will materially affect the scope of these services and ENGINEER's compensation for the work and will require adjustments.
 6. ENGINEER will not be responsible for the means, methods techniques, sequences or procedures of the contractor, nor shall ENGINEER be responsible for the contractor's failure to perform in accordance with the contract documents.
 7. Any labor and expenses required to address construction claims, unforeseen subsurface considerations or additional construction requested by the contractor or CITY would be additional costs. Any claims resolution or litigation assistance requested of ENGINEER will constitute additional services.
 8. Itemized items (for UV disinfection PROJECT):
 - Up to 60 original submittals and 30 re-submittals will be reviewed. This includes shop drawings, O&M submittals and samples. Submittal reviews will require 5.7 hours of review time on average. This will consist of 4.2 hours of project engineer time and 1.5 hours of administrative time for documentation, management and handling.
 - Up to 12 construction schedules and updates will be reviewed. This will consist of 5 hours of engineer time for review of each schedule.
 - Up to 50 requests for interpretation/clarification will be reviewed and responses provided. An average of 2 hours of project engineer time will be required for each.
 - Up to 5 change orders will be prepared. It is assumed that change orders will amount to a value no more than 3 percent of the original bid amount.
 - Up to 12 monthly pay requests and one final pay request will be reviewed. This will consist of 4 hours of project engineer's time for review.

RESOLUTION 2005-174

WHEREAS, on October 11, 1999, by Resolution 99-308, the City of Grand Island approved the proposal of CH2M Hill of Englewood, Colorado for furnishing engineering consulting services for the electrical system improvement at the Grand Island Wastewater Treatment Plant; and

WHEREAS, Phase I of the electrical system improvements was completed in May 2002; and

WHEREAS, Amendment A to Phase II was approved by the City Council on July 11, 2000 by Resolution 2000-200; and

WHEREAS, Amendment B to Phase II was approved by the City Council on October 14, 2003 by Resolution 2003-298; and

WHEREAS, the proposed Amendment C to Phase II involving Ultraviolet Disinfection System will provide for process computer control system programming as well as professional engineering services during construction of the UV Disinfection Project; and

WHEREAS, Amendment C has been reviewed and approved by the City Attorney's office.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the contract with CH2M Hill of Englewood, Colorado for furnishing engineering consulting services for the electrical system improvements at the Wastewater Treatment Plant is hereby amended to allow CH2M Hill to complete Amendment C of the Phase II construction to provide for process computer control system programming as well as professional engineering services during construction of the UV Disinfection Project at a cost of \$326,500.

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute Amendment C to such contract on behalf of the City of Grand Island for CH2M Hill's work on Phase 2 of such project.

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Adopted by the City Council of the City of Grand Island, Nebraska, June 14, 2005.

RaNae Edwards, City Clerk

Approved as to Form	☐ _____
June 8, 2005	☐ City Attorney