

**ATTACHMENT A**  
**CITY OF RENO**  
**TRUCKEE MEADOWS WATER RECLAMATION FACILITY**  
**DIGESTER GAS CONDITIONING SYSTEM PROJECT**  
**CONSTRUCTION MANAGEMENT AND**  
**ENGINEERING SERVICES DURING CONSTRUCTION**  
**SCOPE OF SERVICES**  
**(December 20, 2014)**

**INTRODUCTION**

The City of Reno (CLIENT) and City of Sparks own the Truckee Meadows Water Reclamation Facility located in Reno, Nevada. Carollo Engineers (ENGINEER) has completed design of the Digester Gas Conditioning System Project to reduce the concentration of hydrogen sulfide and siloxane in the digester gas produced by the anaerobic digesters. ENGINEER's Scope of Services herein is to provide part-time construction management and engineering services during construction to the CLIENT. This Scope of Services is based on a construction period of 270 calendar days from Contractor's notice to proceed until substantial completion plus 30 days thereafter for project closeout (total of 300 calendar days, or approximately 10 months).

**SCOPE OF SERVICES**

This section presents the Scope of Services for the Digester Gas Conditioning System Project – Construction Management and Engineering Services During Construction.

**Task 1 – Construction Management**

ENGINEER shall provide part-time construction management services specified herein to assist the CLIENT during the construction period.

**Task 1.1 - Project Management.** ENGINEER shall provide the appropriate level of project management and administration for this project. ENGINEER shall also prepare a brief monthly progress summary letter report for attachment to the monthly invoice to track status of budget expenditures and key work activities completed during that billing period.

**Task 1.2 – Pre-Construction Meeting.** ENGINEER shall conduct a pre-construction meeting with the CLIENT and contractor. The purpose of the meeting is to facilitate understanding of the contract requirements by all parties involved. Meeting notes will be prepared and distributed to attendees within 10 days of the meeting.

**Task 1.3 – Progress Meetings.** ENGINEER shall conduct 20 progress meetings during the course of this project. Meeting notes will be prepared and distributed to attendees within 7 days of the meeting.

**Task 1.4 – Construction Management Planning and Documentation.** ENGINEER shall prepare a project specific Construction Manual for the project to establish project protocols, communications, and procedures. This task includes establishing an electronic file management system to track correspondences, submittals, RFIs, and other field related documents.

**Task 1.5 – On-Site Resident Engineering and Inspection.** ENGINEER shall provide on-site part-time resident engineering and inspection during the course of the construction project. For budgeting purposes, the resident engineer/inspector will be on site approximately 20 hours per week on average for 40 weeks. This task includes the following:

- Document existing site conditions with contractor prior to start of construction using a combination of video and photographic documentation.
- Provide on-site quality assurance inspection to confirm contractor's compliance with the contract documents.
- Prepare inspection reports for days the ENGINEER is on site to summarize daily field activities by the contractor.
- Prepare monthly inspection reports to summarize the work completed, upcoming milestones, and budget expended on the construction project.
- Coordinate and manage the shop drawing submittal review process.
- Coordinate and manage the requests for information review process.
- Prepare field memos and clarifications.
- Review monthly progress payment requests.
- Review construction schedules (initial baseline schedule and schedule updates).
- Review change order requests.
- Monitor contractor's recording and maintenance of field changes and markup of the record drawings.

**Task 1.6 – Startup Testing and Training.** ENGINEER shall oversee facilities acceptance testing and startup in cooperation with the contractor and plant staff.

**Task 1.7 – Material Testing.** ENGINEER shall provide material testing services for general civil and concrete work to check contractor's compliance with the contract documents.

## **Task 2 - Engineering Services During Construction**

ENGINEER shall provide engineering support services specified herein to assist the CLIENT during the construction period.

**Task 2.1 – Project Management.** ENGINEER shall provide the appropriate level of project management and administration for this project. ENGINEER shall also prepare a brief monthly progress summary letter report for attachment to the monthly invoice to track status of budget expenditures and key work activities completed during that billing period.

**Task 2.2 – Pre-Construction Meeting.** ENGINEER shall attend a pre-construction meeting with the CLIENT and contractor. The purpose of the meeting is to facilitate understanding of the contract requirements by all parties involved.

**Task 2.3 – Progress Meetings.** ENGINEER shall attend 10 progress meetings during the course of the project.

**Task 2.4 – Technical Meetings.** ENGINEER shall attend 6 technical meetings on an as-needed basis to discuss technical elements of the project outside of the regular progress meetings.

**Task 2.5 – Conformed Documents.** ENGINEER shall prepare conformed documents using ENGINEER's standard format to include changes contained in the addenda issued during the bid period.

**Task 2.6 – Sparks Building Department Submittal.** ENGINEER shall prepare re-submitted plans to the City of Sparks Building and Safety Division Plan Review Section per requirements of their Plan Review Comments dated December 5, 2013.

**Task 2.7 – Review RFIs.** ENGINEER shall review and respond to requests for information (RFIs) from the contractor. In responding to the RFIs, ENGINEER shall issue interpretations and clarifications to the contract documents. For budgeting purposes, ENGINEER shall respond to approximately 40 RFIs assuming an average processing and review time of 4 hours per RFI response. Note the budget allocated for this task may be higher or lower depending on the final number of RFIs reviewed and the complexity of each RFI submitted by the contractor.

**Task 2.8 – Review Shop Drawings.** ENGINEER shall review and respond to shop drawing submittals (excluding temporary shoring submittals) from the contractor. Submittals shall be reviewed in accordance with the contract documents. For budgeting purposes, ENGINEER shall respond to two Digester Gas Conditioning System submittal/resubmittals assuming a total of 60 hours are required, plus respond to approximately 90 other submittals/resubmittals assuming an

average processing and review time of 6 hours per submittal. Note the budget allocated for this task may be higher or lower depending on the final number of submittals reviewed and the completeness of each shop drawing submitted by the contractor.

**Task 2.9 – Prepare Design Clarifications.** ENGINEER shall prepare an-needed design clarifications to clarify and/or change the intent of the contract documents at the request of the CLIENT. In preparing the design clarification, ENGINEER shall issue revised specifications, drawings, and/or sketches, if necessary, to clarify and/or change the intent of the contract documents. For budgeting purposes, 60 hours have been budgeted for this task.

**Task 2.10 – Review Change Orders.** ENGINEER shall assist in the review of proposed change orders submitted by the contractor. ENGINEER’s review shall be limited to merits of the change order and providing input on applicable unit and material prices of selected items. For budgeting purposes, 60 hours have been budgeted for this task.

**Task 2.11 – Startup Assistance.** ENGINEER shall assist with startup and testing of the new Digester Gas Conditioning System to include assistance with comprehensive testing of functional equipment and sub-systems. For budgeting purposes, 40 hours have been budgeted for this task.

**Task 2.12 – Final Inspection.** ENGINEER shall perform a final project “walk-through” inspection and prepare a final punch list of outstanding items to be completed by the contractor to achieve final acceptance.

**Task 2.13 – Record Drawings.** ENGINEER shall prepare record drawings using ENGINEER’s standard format to include changes made during the construction period after contract closeout. It is assumed the contractor will maintain a current set of marked-up drawings detailing field changes and clarifications. ENGINEER shall not be responsible for field measuring as-built conditions and will rely solely on the information provided by the contractor as the basis for preparing the record drawings.

**Task 2.14 – Electronic Operations and Maintenance Manual.** ENGINEER shall prepare an operations and maintenance manual chapter for the Digester Gas Conditioning System Equipment and incorporate this chapter into the Electronic Operations and Maintenance Manual (EOMM) using the same format that is currently being developed for the Truckee Meadows Water Reclamation Facility.

### **Task 3 – As-Directed Services**

ENGINEER shall provide additional engineering services to the CLIENT on an as-directed basis.

**Task 3.1 – As-Directed Services.** ENGINEER shall provide as-directed services to the CLIENT during the construction period upon written request from the CLIENT. These services can include, but not be limited to, the following: claims management assistance, additional RFI and shop drawing review, additional field inspection, and additional design services.