



City of Biggs
Agenda Item for the
City Council Meeting
April 14, 2015 6:30pm

**To: Honorable Mayor
And Members of the City Council**

Date: April 3, 2015

From: Brian Martin, PE – City Engineer

**Subject: Task Order No. 29 to the Engineering Services Agreement dated June 11, 2011
for Phase 2 of the Wastewater Treatment Plant Improvement Project**

BACKGROUND

The City's existing wastewater treatment plant is being upgraded to enhance its operational capabilities in two phases. The existing project is titled the Phase 1 Wastewater Improvement Project. The Phase 1 project is currently under construction and is scheduled to be completed later this year. The second phase of the project involves improvements to the treatment plant to accommodate land disposal facilities and eliminate discharge to Lateral K. The City's order from the California Regional Water Quality Control Board requires that the City have the project completed and operating by October of 2017.

The current Task Order No. 22 with Bennett Engineering Services for the wastewater project includes all work up through the completion of construction of the Phase 1 Improvements. Bennett has prepared Task Order No. 29 for the work for the Phase 2 treatment plant land disposal site work. This task order has ten tasks and related subtasks. The major task items include:

Task 1 - Project Management, Correspondence, and Quality Control Reviews

Task 2 - Boundary and Topographic Surveying

Task 3 - Hydrogeological Investigation, Design, Installation of Groundwater Monitoring Wells, and Initial Sampling

Tasks 4 through 7 - Design Plans, Specifications, and Cost Estimates for Construction Project

Task 8 - Permit Assistance with Regional Water Quality Control Board (RWQCB) for new Discharge Permit

Task 9 - Bid Phase Assistance

Task 10 - Funding Assistance for State Revolving Fund (SRF) Correspondence and Submittals

The Phase 2 Design Work Scope includes the design and installation of groundwater monitoring wells which are required by the Regional Water Quality Control Board for the determination of background water quality and establishment of discharge permit effluent limitations. The Monitor Wells are also required by the Environmental Impact Report. Approval of Task Order No. 29 is recommended so initial field investigations and preparation of Groundwater Monitoring Well Work Plan can commence in advance of design efforts.

FISCAL IMPACT

The funding for Task Order No. 29 will come from a loan and grant from the State Revolving Fund (SRF) Program.

RECOMMENDATION

Staff recommends that the City Council approve Task Order No. 29 to the City Engineer Contract with Bennett Engineering Services dated June 11, 2011 for Design Services for the Phase 2 Wastewater Improvement Project in an amount not to exceed \$546,691.00 and authorize the City Administrator to execute said Task Order.

EXHIBIT A: Scope of Services

To: AGREEMENT BETWEEN CLIENT AND CONSULTANT

Client: City of Biggs

Consultant: Bennett Engineering Services Inc

Project: WWTP Phase 2 Improvements

Date: March 24, 2015



TRUSTED ENGINEERING ADVISORS

Bennett Engineering Services
1082 Sunrise Avenue, Suite 100
Roseville, California 95661

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TASK 1. Project Management

Subtask 1.1. Meetings, Team Coordination, and Field Review

Setup and facilitate all Project team, interagency, field review, and other project related meetings. BEN|EN will prepare all meeting agendas and meeting minutes and distribute these to the Project Team. BEN|EN estimates six (6) meetings as part of this scope. Orin Bennett will serve as the Principal-in-Charge. Matt Wheeler will serve as the Project Manager and primary point of contact for City Engineering and Administrative Staff. Matt Wheeler will serve as the Project Director for technical design. Stacey Bennett will serve as the Project Engineer for funding and environmental coordination efforts.

Subtask 1.2. Monthly Status Reports and Schedule

Submit monthly invoices and status reports to the City. Prepare and maintain project schedule.

Subtask 1.3. Quality Control Review

Quality Control and constructability reviews will be conducted by senior BEN|EN engineering staff, outside engineers and consultants prior to the 30%, 90%, and final PS&E submittals.

TASK 2. Boundary, Topographic Surveying and Base Mapping

Subtask 2.1. Boundary and Topographic Surveying

BEN|EN will use field control and aerial photography to perform topographic survey of the project site. The topographic survey will include one foot contours with intermediate spot elevations. For horizontal control we will use NAD-83 California State Plane coordinate system. BEN|EN will use USGS benchmarks for vertical control. As part of this effort, we will prepare a boundary map, set two permanent monuments for survey control, and submit a Record of Survey for filing and recording at the County of Butte offices.

Subtask 2.2. Base Mapping

BEN|EN will prepare a base map using agency/utility records to aid in the establishment of easements and utilities within the project area. Base map will include topo and existing appearances collected during survey.

TASK 3. Hydrogeological Investigation, Design, Installation, and Sampling

Subtask 3.1. Hydrogeological Investigation and Design

BEN|EN will work with a hydrogeological consulting firm to develop a groundwater monitoring network and reporting program that meets the needs of the RWQCB. WDR will likely require development of a work plan to evaluate the existing conditions to justify the selection of the monitoring well locations, depths, construction materials, and monitoring methods. The hydrogeological consultant will provide a work plan for submission to DWR and the RWQCB.

INITIALS:

Subtask 3.2. Installation

Once the work plan is approved by the RWQCB, the monitoring well network will be installed. The consultant will obtain permits, retain and supervise the drilling contractor, provide inspection, classify soil types, prepare final design based on boring data, and document construction of above ground vault, pads, etc., and prepare as-built drawings.

Subtask 3.3. Sampling and Reporting

Once monitoring wells have been installed, the consultant will collect samples that will establish background groundwater quality. At this time, analytes have not been determined. The consultant will send the samples to the City's preferred water quality testing location and perform sampling tests as required by the RWQCB. The consultant will do this four times, quarterly, prior to the facility becoming operational. For each round of sampling, the consultant will compile the water quality data and prepare a report for the City and RWQCB.

Subtask 3.4. Establishing Limitations

The RWQCB will require the background groundwater quality sampling results be analyzed statistically to establish groundwater quality limitations for the permit. The Federal EPA has requirements for calculating the concentrations that will be used for the groundwater quality limitations. This processes will be followed to prepare recommended final groundwater limitations. The findings will be presented in a Final Groundwater Quality Limitations Assessment Report.

TASK 4. 30% Design Plans

Throughout the design process, we will coordinate with City WWTP Operations Staff for design direction. We will prepare 30% plans and specifications for the construction of the Phase 2 improvement to the City's WWTP upgrades including storage reservoirs, pump stations, irrigation system and tailwater re-circulation. We will submit five (5) full size sets of 30% design plans to the City for review and comment. This task includes review meeting with City staff.

TASK 5. 60% Design Plans

Prepare 60% plans and specifications for the construction of the Phase 2 improvement to the City's WWTP upgrades including the following design elements. We will submit five (5) full size sets of 60% design plans to the City for review and comment. This task includes review meeting with City staff.

Subtask 5.1. Storage Reservoir Design

Prepare Design for storage reservoirs to hold treated effluent throughout the wet weather season. Design consideration will include detailed volume calculations, length, width and height optimization, and the lining system. Design will conform to requirements from the Regional Water Quality Control Board (RWQCB), health department, environmental document(s), and other jurisdictional agencies.

Subtask 5.2. Effluent Pump Stations and Irrigation Pump Station

Prepare design for an effluent pump station to transport treated wastewater from WWTP to proposed storage reservoirs. Prepare design for irrigation/tailwater return pump station at storage reservoirs. Design considerations include pump sizing and selection, residual chlorine, structure for pump station, electrical design and incorporation into existing PLC and SCADA system.

INITIALS:

Subtask 5.3. Irrigation System Design

Prepare design for irrigation discharge of the treated wastewater onto agricultural land south of existing WWTP site. Design considerations include evapotranspiration evaluations, grading, irrigation piping system, automation and SCADA integration.

Subtask 5.4. Tailwater Recirculation Design

Provide design of field collection ditches and piping for recirculation of water from the land application.

Subtask 5.5. Existing Building and Laboratory Rehabilitation

Evaluate the condition of the existing buildings within the Wastewater Treatment Facility and laboratory and produce a design for rehabilitation based on the evaluation. A technical narrative will be submitted for approval prior to design.

Subtask 5.6. Dry Utility Coordination

Evaluate the condition of the existing electrical and communication services. Design and coordinate extensions of infrastructure as required.

TASK 6. 90% Design Plans, Specifications & Cost Estimates

Prepare 90% level design plans, specifications and construction cost estimates using comments from the 60% design level submittal to the City. We will submit eight (8) full size sets of 90% design plans and specifications to the City for review and comment. This task includes two review meetings with City staff and Public Works Committee.

TASK 7. Final Design Plans, Specifications & Cost Estimates

Prepare Final stamped design plans, specifications and construction cost estimates for the construction of the Phase 2 improvement to the City's WWTP upgrades for bidding. This effort also includes preparing disposal system switch-over memorandum detailing the step-by-step process of converting effluent disposal to the new land disposal facility including RWQCB coordination, groundwater monitoring, opening valves, monitoring plan for initial weeks following transfer, and reporting requirements.

TASK 8. RWQCB Permit Assistance

Assist the City in rescinding old NPDES permit and acquiring new WDR permit for land disposal of the treated wastewater.

TASK 9. Bid Assistance

Subtask 9.1. Pre-Bid Coordination

Administer pre project bidding activities including pre-bid meetings, responses to pre-bid RFI's, and any addenda required for bid purposes.

Subtask 9.2. Bid Advertisement

Bid Advertisement, addendums, and establishing a clearing house for bid copies and documents. (i.e. builders exchange, etc.). We will coordinate with the City to determine preferred method of bid document distribution at a single location, and administer distribution and tracking of bid documents.

Subtask 9.3. Bid Opening

Conduct live bid opening at City Hall.

Subtask 9.4. Bid Results

Bid tabulation and a narrative evaluating the bid results for staff and City Approval.

INITIALS:

Subtask 9.5. Bid Evaluation

Evaluate apparent low bidder documents and provide City a recommendation of award.

TASK 10. SRF Funding Assistance

Prepare and submit reimbursement requests for the City's costs incurred for Phase 2 WWTP Improvements. This task item will also include work to combine all SRF loans into a single loan for repayment by the City.

DELIVERABLES:

- Kick-off meeting agenda and minutes
- Up to 52 project meeting agendas and minutes
- Project design schedule
- Monthly progress reports via email
- Topo survey, base map, Record of Survey, set property corners at disposal site, and 2 permanent monuments (in monument wells) for horizontal and vertical control
- Monitoring Well Work Plan and design for installation/construction of monitoring wells
- Installation and testing of groundwater monitoring wells
- Four quarterly groundwater monitoring reports
- Final Groundwater Quality Limitations Assessment Report
- Up to five copies and an electronic (PDF) version of the 30% design level plans
- Up to five copies and an electronic (PDF) version of the 60% design level plans
- Up to eight copies and an electronic (PDF) version of the 90% design level plans, specifications and cost estimates
- Up to three sets of full size bond, one set of wet signed mylar and an electronic (PDF) version of the design plans and specifications at the final design
- Meeting agenda and minutes for up to four District Review Meetings to review the design at the 30%, 60%, 90% design level and final plans.
- Transition Plan
- SRF required documents
- Bid results summary and recommendation for award

ASSUMPTIONS:

- Environmental document was/will be prepared by others.
- Land acquisition will be included under a separate task.
- The City will purchase the South Option for land disposal
- Disposal site/system O&M Manual will be prepared during Construction Phase under separate Task Order
- Coordination and agreement with farmer for crop harvest will be completed by City
- Construction Phase engineering and support will be performed under a separate Task Order
- Record drawing preparation not included in this contract(except for monitoring wells)
- The City's Bond Counsel effort will be paid directly by the City
- BEN|EN will provide distribution of bid documents

INITIALS:

SCHEDULE:

Upon receipt of a signed Task Order, BEN|EN will begin work and complete task milestones according to the following schedule:

- Boundary and Topographic Survey Field Work – 30 days from NTP
- Hydrogeological Investigation and Design – 45 days from NTP
- 30% Design Plans – 60 days from NTP
- 60% Design Plans – 90 days from NTP
- 90% Design Plans and Specifications – 120 days from NTP
- Final Design Plans, Specifications, and Cost Estimate – 150 Days from NTP

Installation of Groundwater Monitoring Wells and RWQCB permit assistance are highly dependent on response comments and schedule of jurisdictional agencies involved. We will coordinate closely with City administrative staff, operations staff, consultants, and jurisdictional agency contacts for project schedule milestones.

INITIALS:



City of Biggs

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www.biggs-ca.gov

Date: February 24, 2015

TASK ORDER No. 29

Bennett Engineering Services
1082 Sunrise Ave, Ste 100
Roseville, CA 95661

This Task Order authorizes you to provide the professional services described below. Services are to be performed in accordance with the Agreement dated June 21, 2011 between the City of Biggs and Bennett Engineering Services, as amended.

Project Name: WWTP Phase 2 Improvements (11416-9)

Budget: \$546,691 to be invoiced at Project Studies and Design Standard Rates per Agreement and Revised Compensation Schedule for Fiscal Year 2014/2015, effective July 1, 2014.

Scope of Work: Services as described in attached Exhibit A, Scope of Services dated March 24, 2015 and Exhibit B, Fee Estimate, dated March 24, 2015.

City of Biggs

Approved: _____
Mark Sorensen, City Administrator

Date: _____

Bennett Engineering Services

Approved: _____
Orin Bennett, PE, President

Date: _____