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FILED

NO. 2003-247

AMENDMENT NO. 1
Contract Between Douglas County
and
Nimbus Engineers
China Spring Youth Camp Deep Well Project

03 DEC -2 P3:58

BARBARA REED
CLERK

[Signature] DEPUTY

Whereas, on August 7, 2003, Douglas County, a political subdivision of the State of Nevada, and Nimbus Engineers, an independent contractor, entered into a contract for Contractor to provide engineering services for design of the China Spring Deep Well Project; and

Whereas, Nimbus Engineers has completed the supplemental groundwater investigation as required by USDA Nevada Rural Development Office; and

Whereas, additional services are required for design and construction administration for a deep well and water line to connect the new deep well to the China Spring Youth Camp water system; and

Now, therefore, in consideration of the agreements herein made, the parties mutually agree as follows:

- The compensation for design and contract administration engineering services shall be \$94,883.00 to include the services outlined in SECTION A- ENGINEERING SERVICES of the contract and the attached Exhibit 1.
- Contractor agrees to provide the services set forth in the contract, Amendment No. 1 and Exhibit 1 of this amendment for a cost not to exceed a total cost of \$103,883.00.

[Signature]
Nimbus Engineers

10/14/03
Date

[Signature]
County Manager

11-6-03
Date

Attest:

[Signature]
County Clerk *[Signature]*, Clerk to Board

11-7-03
Date

N/A
District Attorney

Date

APPROVED: *
RURAL DEVELOPMENT

By: David Law

Type Name: David Law

Title: SE Engineer

Date: 11/17/03

* Provided Rural Development EIR/DC Documents are used
AND Engineer complies with Engineer's Submittal Guide

COPY

AMENDMENT NO. 1
EXHIBIT 1
SCOPE OF ENGINEERING SERVICES
CHINA SPRING YOUTH CAMP DEEP WELL AND PIPELINE

This scope of work amendment is to provide hydrogeologic and engineering services for construction of a new deep production well and pipeline at the China Spring Youth Camp. The goal of the project is to provide a sustainable water supply of at least 35 gallons per minute.

Nimbus Engineers shall provide services for the drilling and equipping of a new water well in accordance with the following scope of services. The well will be located on Douglas County property at the location generally described as Site B Revised in the Supplemental Groundwater Investigation. The project will be completed in two construction contracts, which will be comprised of 1) drilling, construction and testing of the well and 2) equipping the well, construction of the pipeline and connection to the China Spring Youth Camp water system.

Task 1. Supplemental Groundwater Investigation.

This work was completed under the original contract.

Task 2. Survey and Permitting (Water Rights, Environmental, and Building and Site Improvement Permits)

Nimbus will meet with County representatives to locate the well site in the field and conduct a boundary survey to establish the location of the well and drill pad and verify it is located on County property. Nimbus will survey the location of the well and prepare a water rights map and ties to accompany a water rights application.

Nimbus will assist Douglas County in responding to USDA requests for environmental information for the Site B Revised well location.

Nimbus will prepare permit applications and respond to the following agency questions and comments for the well design and well equipping and pipeline:

- State Engineer – Temporary Application to Change Point of Diversion
- Nevada State Health
- Douglas County Building Permits
- Douglas County Site Improvement Permit
- NDEP Temporary Discharge Permit (if required)
- USDA Rural Services

Deliverables under this task will include the following:

- Permit applications for State Engineer Temporary Application to Change Point of Diversion, Nevada State Health, Douglas County Building Department, Douglas County Site Improvement Permit, NDEP Temporary Discharge Permit.
- Point of Diversion Map to support the Temporary Application to Change Point of Diversion

Task 3. Preparation of Specifications, Bid Documents and Addenda for Drilling, Construction, Well Development and Testing.

Nimbus will prepare contract bid documents and technical specifications for drilling, construction and testing of a deep well, attend a prebid conference, and provide written clarifications or addenda as needed. Douglas County will reproduce and distribute bid documents.

Deliverables under this task will include the following:

- A complete bidding contract set based on the County's EJCDC documents for construction, development and testing of the production well. Three copies of contract documents and specifications at the approximately 90% complete stages will be submitted. Two bound copies and one reproducible copy of the final signed and stamped contract documents and specifications will be submitted after the review comments are included. In addition, one electronic copy of the final specifications in Word format and one copy of the final drawings in AutoCAD format will be included.
- An engineer's opinion of the probable cost of construction will be included at 90% and final design.
- Signed and stamped 100% plans for the well will be submitted to State Health for review and approval. NIMBUS will respond to State Health comments.
- Addenda as required.
- Review of bids, bid summary, and recommendation regarding award of a construction contract.

Task 4. Provide Design and Resident Inspection during Drilling, Construction, Well Development and Testing.

Nimbus will oversee the construction of the new production well. Once the production well has been completed, Nimbus will oversee the development of the well, orchestrate the testing performed by the contractor, and evaluate and document the results. This work will include the following:

1. Monitor the construction of the well and well development procedures to insure compliance with the specifications.
2. Collect water-level data during development and testing. A pressure transducer in the production well will measure water levels, and the data will be electronically recorded. Manual measurements will be taken periodically to back up the electronic data as a precaution against equipment failure. Formal testing of the completed well will entail a step test (to evaluate well efficiency and effectiveness of development) and an aquifer-stress test (to evaluate aquifer parameters and long-term performance of the well). Collection of recovery data following each pumping test is included.
3. Undertake a field analysis of the data. Field data plots will be prepared and analyzed as testing progresses. The field analysis will be used to gauge the effectiveness of well development and to determine when testing has proceeded long enough to meet the test goals.
4. Monitor the concentration of sand in the discharge from the well. Sand content will be measured using a Rossum™ sand tester. Sand-content analysis, in combination with step testing, will be used to determine when development is complete.
5. Collect water samples from the well and submit the samples to a Nevada certified laboratory for testing.

6. Prepare field orders, work change directives, and change orders for County review.
7. Review contractor submittals, pay requests, and claims.
8. Analyze the test data. Upon completion of the testing program, a comprehensive analysis of the data will be completed. The analysis will evaluate well efficiency (including well-loss coefficient and well-loss exponent), aquifer transmissivity, coefficient of storage, and other parameters such as vertical hydraulic conductivity, etc., where applicable.
9. Document the completion of the well and the test results in an interim letter report. All of the information and data obtained from the production well will be documented in a comprehensive technical report in Under Task 7. Nimbus will meet with USDA and Douglas County to present results and recommendations.

Deliverables under this task will include the following:

- Copies of the inspection reports, progress payments and other documentation produced during the construction of the project.
- Field orders, work change directives and change orders.
- Following completion and testing of the production well, an interim report will be prepared compiling the production testing results, the water chemistry data, and the other items related to the construction of the well, as detailed above. Nimbus will submit four copies of this report and meet with USDA and Douglas County to present the results and recommendations.

Task 5. Prepare Engineering Specifications, Bid Documents and Addenda for Equipping and Connecting Well to CSF System.

Nimbus will provide services to prepare contract documents, plans and specifications suitable for public bidding for the equipping of the new production well and a pipeline to connect the well to the Camp water system. Scope of the new design shall include a new submersible pump and column, electrical service and controls, site grading and improvements, piping for a "pump to waste" on startup, telemetry controls and modifications, and flow meter. The design shall also include the provision for plug-in connection of a portable generator. Nimbus will coordinate with utility companies for extension of utilities to serve the new well. A topographic survey will be completed for the well site and pipeline alignment. A geotechnical investigation will be conducted for the pipeline alignment to investigate soil conditions to be expected during trenching and the suitability of native soil materials for trench bedding and backfill.

Nimbus will attend a prebid conference, and provide written clarifications or addenda as needed, evaluate bids, and provide a bid summary and recommendation for award. Douglas County will reproduce and distribute bid documents.

Deliverables under this task will include the following:

- A complete bidding contract set based on the County's EJCDC documents for construction and equipping of the production well, including electrical equipment. Three bound copies of progress drawings and specifications at the approximately 50% and 90% complete stages will be submitted. Two bound copies and one reproducible copy of the final drawings and specifications will be submitted after the review comments are included. In addition, one electronic copy of the final specifications in Word format and one copy of the final drawings in AutoCAD format will be included.

- An engineer's opinion of the probable cost of construction will be included at 50%, 90% and final design.
- Signed and stamped 100% plans including will be submitted to the Douglas County Building Department for pre-permit review and assistance in the contractor obtaining the building permit for the project.
- Signed and stamped 100% plans for the well and well building will be submitted to State Health for review and approval. NIMBUS will respond to State Health comments.
- Results and recommendations from the geotechnical investigation.
- Addenda as required.
- Review of bids, bid summary, and recommendation regarding award of a construction contract.

Task 6. Coordinate and Provide Resident Inspection for Equipping and Connecting Well to CSF System.

Nimbus will provide part-time construction observation and administration services to ensure the work is completed in compliance with the specifications. Specifically we will:

1. Attend the pre-bid and preconstruction meetings.
2. Provide project oversight and part-time inspection during construction of the well equipping and ancillary facilities.
3. Review and process shop drawings and submittals for conformance with the contract documents.
4. Respond to Requests for Information (RFI's) and provide written interpretations of the requirements of the contract documents.
5. Assist with the preparation of progress payments and change orders as required during the project.
6. Provide oversight of facility start-up and testing.
7. Prepare record drawings of the finished project, incorporating any field changes.

Deliverables under this task will include the following:

- Copies of the inspection reports, progress payments and other documentation produced during the construction of the project.
- Field orders, works change directives, and change orders.
- Review and response to RFI's.
- Review and response to contractor submittals.

Task 7. Prepare Report and Compile Data Collected During Well Installation, Equipping and Connection to CSF System.

Upon completion of construction work, Nimbus will prepare a final report documenting all work completed, including the following:

Deliverables under this task will include the following:

- As a minimum the report will provide: a chronological summary of construction and testing; as-built drawing depicting the major construction elements for the well; lithologic log of the formation materials penetrated; borehole geophysical logs; all test data, field data plots, analytical results, water chemistry data; and the rationale behind the selection of the production pumping equipment.
- Copies of the inspection reports, progress payments and other documentation produced during the construction of the project.
- A Letter of Certification that the project was constructed in accordance with the approved plans and specifications.
- Record drawings, consisting of one reproducible set of signed mylars together with a copy of the electronic AutoCAD files.
- Other documentation as required by USDA.

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**Table 1. Additional Tasks for Project Engineering Contract
China Springs Facility (CSF) Production Well
Douglas County Project No: 04W02 USDA Emergency Community Water Assistance Grant**

Engineer / Hydrogeologist Tasks	Total Costs
Task 1 Supplemental Groundwater Investigation	completed
Task 2 Permitting (Water Rights, Environmental, and Building and Site Improvements)	\$13,198
Task 3 Preparation of Specifications, Bid Documents and Addendums for Drilling, Construction, Well Development and Testing	\$3,710
Task 4 Provide Design and Resident Inspection during Drilling, Construction, Well Development and Testing	\$46,960
Task 5 Prepare Engineering Specifications, Bid Documents and Addendums for Equipping and Connecting Well to CSF System	\$20,695
Task 6 Coordinate and Provide Resident Inspection for Equipping and Connecting Well to CSF System	\$5,685
Task 7 Prepare Report and Compile Data Collected During Well Installation, Equipping and Connection of Well to CSF System	\$4,635
Total	\$94,883

SEAL

CERTIFIED COPY

The document to which this certificate is attached is a full, true and correct copy of the original on file and on record in my office.

DATE: 12-2-03
 By: [Signature] Clerk of the 9th Judicial District Court
 of the State of Nevada, in and for the County of Douglas.
 Deputy