

YOLO COUNTY AGREEMENT NO. _____

(First Amendment to Agreement No. 21-275 with Luhdorff & Scalmanini Consulting Engineers, relating to Well Design and Engineering Services.)

THIS First Amendment to Agreement No. 21-275 is made and entered into as of this 22th day of March, 2022, by and between the County of Yolo, a political subdivision of the State of California (“County”), and Luhdorff & Scalmanini Consulting Engineers, Inc., a California corporation (“Contractor”), who agree as follows.

WHEREAS, on or about November 9, 2021, the parties entered into an agreement for Contractor to provide professional services with the design and construction of a new well for the Wild Wings CSA Public Water System for the County (Yolo County Agreement No. 21-275); and

WHEREAS, Contractor’s evaluation of the intended well site at the Canvasback location determined a well constructed at this site would not likely meet water quality objectives without further treatment; and

WHEREAS, Contractor and County investigated additional potential locations for the new well, and identified a parcel on the northwest corner of the Wild Wings development that stratifies initial site assessment; and

WHEREAS, further investigation at the potential well site is required to characterize hydrogeologic conditions, water quality and zone specific water levels; and

WHEREAS, the parties wish to amend Agreement No. 21-275 to include additional services and increase the maximum compensation by an additional \$272,076.

NOW, THEREFORE, THE COUNTY AND CONTRACTOR HEREBY AGREE AS FOLLOWS:

1. Paragraph II.A. of Agreement No. 21-275 is hereby amended to read as follows:

II. ADDITIONAL SERVICES

Contractor shall perform the following additional services upon prior written authorization from the Director of Community Services:

- A. Site Specific Hydrogeologic Investigation**
Investigate the quantity and quality of water at the potential Wood Duck site, including test hole drilling to collect lithologic samples for analysis to a depth of 1,100 feet.
- B. Investigation Summary and Well Design Report**
Prepare a preliminary production well design based on the data gathered during the test hole and monitoring well evaluation.

2. The following Paragraph III.A. of Agreement No. 21-275 is hereby amended to read as follows; there are no changes in the hourly rates set forth in Paragraph III.A:

III. COMPENSATION

- A.** For the services described in Paragraph I above, and subject to the condition that the services have been completed in a manner satisfactory to the Director or his/her designee, Contractor shall be compensated as follows:

[See Agreement No. 21—275 for applicable hourly rates which are not affected by this First Amendment.]

Provided, however, that the total amount of compensation to be paid to Contractor for the services required by this Agreement shall not exceed Six Hundred Thousand Dollars and 00/100 (\$600,000.00). In the determination of hourly fees, time allotments shall be calculated to one-tenth of an hour.

3. Except as expressly amended herein, all other terms and conditions of Agreement No. 21-275 shall remain in full force and effect.
4. The person(s) executing this First Amendment to Agreement No. 21-275 on behalf of Contractor affirmatively represents that they have the requisite legal authority to enter into this First Amendment on behalf of Contractor and to bind Contractor to the terms and conditions of this First Amendment.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment as of the day and year first written above.

CONTRACTOR:

COUNTY:

By: *Vicki Kretsinger Grabert*
Vicki Kretsinger Grabert
Chief Executive Officer

By: _____
Angel Barajas, Chair
Board of Supervisors

ATTEST:
Julie Dachtler, Senior Deputy Clerk
Board of Supervisors

Approved As To Form

By: *Kimberly Hood*
Kimberly Hood
Assistant County Counsel

By _____
Deputy (Seal)

February 28, 2022

Project No. 21-2-109

Ms. Kimberly Villa
Community Services Analyst
County of Yolo
Community Services Department
292 W. Beamer Street
Woodland, CA 95695

SUBJECT: Request for Amendment to Project Scope and Budget for Well Design and Engineering at Wild Wings Community Services Area (Agreement No. 21-275)

Dear Ms. Villa:

Luhdorff and Scalmanini Consulting Engineers (LSCE) is requesting a scope of work and budget amendment to Agreement (No. 21-275) between Yolo County (County) and LSCE for well design and engineering services for water system improvements for the Wild Wings Community Services Area Public Water System (herein referred to as “Project”).

LSCE’s approved scope and budget for the Project included the design and installation of a new well, pumping plant facilities, and connection of the well to the existing drinking water supply distribution system to be constructed in the vicinity of the existing Canvasback well station.

LSCE’s evaluation of the Canvasback location with regards to the ability to construct a well that would meet Project objectives (flow rate, water quality) is that a well constructed at the site would not likely meet water quality objectives without treatment for manganese and possibly arsenic. Further, the site presents challenges with regard to well siting and procurement of land from the Yolo Flies Club for the new well and water treatment system.

Based on the assumption that the Canvasback site is not a viable option for a new well, with the assistance of County staff, LSCE investigated potential locations for a new well. The criteria for a new well site included the following:

- Site large enough for well and pump station construction
- The ability to site a well that would meet current minimum standards for well siting as required by the State Water Resources Control Board, Division of Drinking Water (DDW)
- Site large enough and accessible for ongoing well facility operations and maintenance
- Proximity to existing utilities (distribution system, electrical, storm sewer)
- Property owned by either the County or Wild Wings

LSCE identified the open field located on the northwest corner of the Wild Wings development west of Wood Duck Street (Figure 1) as a potential site for a new supply well for the Project. Based on our initial assessment, this area (Wood Duck) satisfies the initial well siting criteria listed above.

Figure 1. Wood Duck Site



In order to assess if a well could be constructed at the Wood Duck site that would meet project objectives for well yield and water quality, an investigation is required to characterize the site specific hydrogeologic conditions (lithology, water quality of potential target aquifer zones, and zone-specific water levels) and, if the results of the investigation are favorable, to gather the information/data required to design a new well.

The required investigation to assess the Wood Duck site for a new well is outside of the scope and budget of the current agreement between LSCE and the County. Therefore, LSCE is requesting an amendment to the current agreement to include the scope and budget detailed below to assess the Wood Duck site.

Site Specific Hydrogeologic Investigation

The goal of the investigation will be to identify deep aquifer units that are thick and porous enough to transmit water in sufficient quantity and quality to meet Project objectives and that are not subject to dramatic seasonal water level fluctuations. Based on a review of available information, LSCE recommends drilling a test hole to a preliminary depth of 1,100 feet.

The investigation program will include test hole drilling and monitoring well installation at the site. A test hole will be drilled to collect lithologic samples for analysis and to conduct down hole geophysical surveys that will be used to design the new production well. Based on the results of test hole drilling, LSCE will recommend converting the test hole to a multiple completion monitoring well that will allow for the

collection of zone-specific water levels and water quality samples. Based on a review of available information, LSCE recommends drilling a test hole to a preliminary depth of 1,100 feet.

LSCE will provide subcontracted test hole drilling services from a licensed drilling contractor and will oversee the work to ensure that it is performed in accordance with our stringent specifications and high expectations.

LSCE will provide documentation and sampling services during the drilling process including a drilling log, geological samples at a minimum of 10-foot intervals, geophysical (electric) logs, and sieve (grain size) analysis. If the nature, depth, and thickness of aquifer materials from the test hole are favorable, LSCE will recommend converting the test hole to a multiple completion monitoring well. The monitoring well may include up to three, 2-inch diameter polyvinyl chloride (PVC) piezometers, completed in different zones. The screen section(s) of each piezometer will be isolated from one another using intermediate bentonite seals allowing for discrete water level measurements and water quality sampling. LSCE will oversee the construction and development of the monitoring wells. After development of the monitoring wells, LSCE will mobilize a sampling rig and collect water samples from each piezometer and submit to a state certified laboratory for Title 22 Drinking Water analysis and other constituents of concern in the area.

If the results of the test hole investigation are not favorable for the construction of a municipal supply well, and after discussions with the County, the test hole will be abandoned in compliance with all Federal, State and local standards.

LSCE will compare the lithology encountered during drilling, geophysical logs, and zonal water quality to that of other wells in the vicinity of Wild Wings. Based on favorable results from the test hole and monitoring well phases, a production well design will be recommended to the County.

Investigation Summary and Preliminary Well Design

LSCE will prepare and deliver to the County an Investigation Summary and Preliminary Well Design report that will summarize the findings of the site assessment and site characterization work performed. The report will include:

- A summary of all field activities associated with test hole drilling, monitoring well construction and development, and water quality testing
- A lithologic log based upon interpretation of collected lithologic samples and geophysical logs
- Geophysical logs
- Grain size distribution charts of selected formation samples
- Monitoring well as-built diagram
- Daily inspection sheets
- A summary of water quality results and analytical reports
- Copies of all project permits
- Copy of Well Completion Report

LSCE will prepare a preliminary production well design based on data gathered during test hole and monitoring well evaluation and our experience in the area. The principal design elements to achieve a hydraulically efficient and sand-free well include:

- Borehole and casing depths and diameters
- Casing material type(s)
- Screen placements
- Screen type and material

- Casing and screen wall thickness
- Gravel pack gradation
- Screen slot size
- Seal depths
- Accessory pipe depth, material, and diameter

The report will include a drafted preliminary well design profile and conceptual site layout. The design elements of the well design and yield estimation will be discussed in the report. An engineer’s estimate for the construction and testing of the well will be included in the report. LSCE will meet with the County to discuss the results and findings of the test hole/monitoring well investigation and new well design recommendations. LSCE will incorporate the County’s design comments into the final well design.

Estimated Cost for Hydrogeologic Investigation

LSCE’s estimated cost to complete the hydrogeologic investigation and prepare a production well design as described above is \$255,500. Table 1 summarizes project costs. This cost includes all labor and materials to drill the test hole, construct the monitoring well, collect and analyze water samples for Title 22 Drinking Water constituents, and preparation of summary report and production well design. Our cost estimate includes payment of Prevailing Wages to LSCE and drilling contractor personnel as applicable for field services in accordance with California Department of Industrial Relations and Yolo County requirements.

Table 1. Summary of Costs for Hydrogeologic Investigation

Drilling Contractor	LSCE Services	Water Quality Analysis	Total
\$203,500	\$42,000	\$10,000	\$255,500

LSCE proposes to perform the work described in herein for a sum of \$246,500. LSCE will bill monthly for labor and materials, only as incurred, in accordance with the current agreement between the County and LSCE.

Schedule

LSCE is prepared to begin work on this project immediately. The LSCE and Bradley project team members have all worked together on similar projects and have the experience to effectively gage workloads and commitments to other projects. Prior to preparing this proposal, team members reviewed current workloads and current project schedules and confidently concluded that LSCE can manage, staff, and complete the project in timely and efficient manner. Bradley has indicated to LSCE that they can mobilize and begin work at the Wood Duck site in early May 2022. Table 2. Summarizes the project schedule.

Table 2. Project Schedule

Project Milestones	2022			
	M	A	M	J
Approval of Amendment Request - March 15, 2021				
Drilling and Construction of Test Hole/Monitoring Well				
Investigation Summary and Preliminary Well Design				



Ms. Kimberly Villa
February 28, 2022
Page 5

We appreciate the County's consideration of this scope and budget request. We will be pleased to respond if you have any questions.

Sincerely,

LUHDORFF AND SCALMANINI
CONSULTING ENGINEERS

A handwritten signature in black ink that reads "Scott Lewis". The signature is written in a cursive, flowing style.

Scott Lewis, P.G.
Senior Principal Geologist