

Name of Project: **Groundwater Services**

SOLANO COUNTY WATER AGENCY

AGREEMENT FOR PROFESSIONAL SERVICES (Professional Services/Contractor)

THIS AGREEMENT, **effective July 1, 2022**, is between SOLANO COUNTY WATER AGENCY, a public agency existing under and by virtue of Chapter 573 of the 1989 statutes of the State of California, hereinafter referred to as "Agency," and **Luhdorff & Scalmanini Consulting Engineers**, hereinafter referred to as "Contractor."

The Agency requires services for **Groundwater Services**; and the Contractor is willing to perform these services pursuant to the terms and conditions set out in this Agreement.

IT IS MUTUALLY AGREED, as follows:

1. SCOPE OF SERVICES

The Agency hereby engages the Contractor, and the Contractor agrees to perform the services for **Groundwater Services**, as described in Exhibit A, in accordance with the terms of this Agreement and any applicable laws, codes, ordinances, rules or regulations. In case of conflict between any part of this Agreement, this Agreement shall control over any Exhibit.

2. COMPENSATION

Compensation for services shall be as follows: Hourly rate of personnel plus any allowed reimbursable expenses based on unit costs as indicated on any allowed reimbursable expense in Exhibit B **not to exceed \$180,270** for all work contemplated by this Agreement.

3. METHOD OF PAYMENT

Payment for services will be approved by the Agency's representative only if all contract requirements have been met.

Invoices must be submitted monthly, and upon approval of the Agency's representative, the Agency shall pay the Contractor monthly in arrears for fees and allowed expenses incurred the prior month. **Invoices that are over 6 months old will not be approved or paid by the Agency. In no event shall the cumulative total paid pursuant to this agreement exceed the maximum amount provided for in paragraph 2 of this Agreement.**

Every invoice shall specify hours worked for each task identified in Exhibit A undertaken. To be approved by payment, any allowed reimbursable expenses will need supporting written documentation such as receipts and mileage logs.

Each invoice shall be accompanied by a spreadsheet showing, by month, costs incurred to date for the project broken down by the Tasks identified in Exhibit A. The spreadsheet shall show, for each task, budget amounts, total expended and remaining amounts. The spreadsheet shall show a subtotal for

each fiscal year covered by the contract. Any amendments to the contract shall be listed and incorporated into spreadsheet. An example of a typical spreadsheet shall be provided by the Agency.

4. **TIME OF PERFORMANCE**

This Agreement shall become effective as of the date it is executed and said services will take place between this date and **June 30, 2023**, as directed by the Agency.

5. **MODIFICATION AND TERMINATION**

This Agreement may be modified or amended only by written instrument signed by the parties hereto, and the Contractor's compensation and time of performance of this Agreement shall be adjusted if they are materially affected by such modification or amendment.

(Note: this paragraph is optional) Any change in the scope of the professional services to be done, method of performance, nature of materials or price thereof, or to any other matter materially affecting the performance or nature of the professional services will not be paid for or accepted unless such change, addition or deletion be approved in advance, in writing, by the Agency's General Manager.

This Agreement may be terminated by the Agency at any time, without cause, upon written notification to the Contractor. The Contractor may terminate this Agreement upon 30 days written notice to Agency.

Following termination by the Agency or the Contractor, the Contractor shall be reimbursed for all expenditures made in good faith in accordance with the terms of this Agreement that are unpaid at the time of termination.

6. **PERMITS** *(Note: include only if permits are required)*

Permits required by governmental authorities will be obtained at the Contractor's expense, and the Contractor will comply with local, state and federal regulations and statutes including Cal/OSHA requirements.

7. **INDEMNIFY AND HOLD HARMLESS**

To the extent permitted by law, Contractor shall hold harmless, defend at its own expense, and indemnify Solano County Water Agency, its directors, officers, employees, and authorized volunteers, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney's fees and costs, arising from all acts or omissions of Contractor or its officers, agents, or employees in rendering services under this contract; excluding, however, such liability, claims, losses, damages or expenses arising Solano County Water Agency's sole negligence or willful acts.

8. **INSURANCE**

Minimum Insurance Requirements: Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Contractor, his agents, representatives, employees or sub-contractors.

Coverage - Coverage shall be at least as broad as the following:

1. **Commercial General Liability (CGL)** - Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 00 01) including products and completed operations, property damage,

bodily injury, personal and advertising injury with limit of at least two million dollars (\$2,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to Solano County Water Agency) or the general aggregate limit shall be twice the required occurrence limit.

2. **Automobile Liability** – (if necessary) Insurance Services Office (ISO) Business Auto Coverage (Form CA 00 01), covering Symbol 1 (any auto) or if Contractor has no owned autos, Symbol 8 (hired) and 9 (non-owned) with limit of one million dollars (\$1,000,000) for bodily injury and property damage each accident.
3. **Workers' Compensation Insurance** - as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease. **Waiver of Subrogation:** The insurer(s) named above agree to waive all rights of subrogation against the Solano County Water Agency, its elected or appointed officers, officials, agents, authorized volunteers and employees for losses paid under the terms of this policy which arise from work performed by the Named Insured for the Agency; but this provision applies regardless of whether or not the Solano County Water Agency has received a waiver of subrogation from the insurer.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the Solano County Water Agency requires and shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Solano County Water Agency.

Other Required Provisions - The general liability policy must contain, or be endorsed to contain, the following provisions:

1. **Additional Insured Status:** Solano County Water Agency, its directors, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 10 01), with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations.
2. **Primary Coverage:** For any claims related to this project, the Contractor's insurance coverage shall be primary at least as broad as ISO CG 20 01 04 13 as respects to the Solano County Water Agency, its directors, officers, employees and authorized volunteers. Any insurance or self-insurance maintained by the Solano County Water Agency its directors, officers, employees and authorized volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the Solano County Water Agency.

Self-Insured Retentions - Self-insured retentions must be declared to and approved by the Solano County Water Agency. The Solano County Water Agency require the Contractor to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Solano County Water Agency.

Acceptability of Insurers - Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or as otherwise approved by Solano County Water Agency.

Verification of Coverage – Contractor shall furnish the Solano County Water Agency with certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Solano County Water Agency before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Solano County Water Agency reserves the right to require complete, certified copies of all required insurance policies, including policy Declaration pages and Endorsement pages.

Sub-contractors - Contractor shall require and verify that all sub-contractor maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Solano County Water Agency its directors, officers, employees, and authorized volunteers are an additional insured are an additional insured on Commercial General Liability Coverage.

9. **COMPLIANCE WITH LAW**

The Contractor shall be subject to and comply with all federal, state and local laws and regulations applicable with respect to its performance under this Agreement, including but not limited to, licensing, employment and purchasing practices; and wages, hours and conditions of employment.

10. **RECORD RETENTION**

Except for materials and records, delivered to the Agency, the Contractor shall retain all materials and records prepared or obtained in the performance of this Agreement, including financial records, for a period of at least three years after the Contractor's receipt of the final payment under this Agreement. Upon request by the Agency, the Contractor shall make such materials and records available to the Agency at no additional charge and without restriction or limitation to State and federal governments at no additional charge.

11. **OWNERSHIP OF DOCUMENTS**

All materials and records of a finished nature, such as final plans, specifications, reports and maps, prepared or obtained in the performance of this Agreement, shall be delivered to and become the property of the Agency. All materials of a preliminary nature, such as survey notes, sketches, preliminary plans, computations and other data, prepared or obtained in the performance of this Agreement, shall be made available, upon request, to the Agency at no additional charge and without restriction or limitation on their use.

12. **SUBCONTRACT AND ASSIGNMENT**

This Agreement binds the heirs, successors, assigns and representatives of the Contractor. The Contractor shall not enter into subcontracts for any work contemplated under this Agreement and shall not assign this Agreement or monies due or to become due, without the prior written consent of the General Manager of the Agency or his designee, subject to any required state or federal approval.
(Note: list any subcontractors here)

13. **NONRENEWAL**

The Contractor understands and agrees that there is no representation, implication, or understanding that the services provided by the Contractor under this Agreement will be purchased by the Agency under a new agreement following expiration or termination of this Agreement, and waives all rights or

claims to notice or hearing respecting any failure to continue purchase of all or any such services from the Contractor.

14. **NOTICE**

Any notice provided for herein are necessary to the performance of this Agreement and shall be given in writing by personal delivery or by prepaid first-class mail addressed as follows:

AGENCY

Roland Sanford, General Manager
Solano Subbasin Groundwater Sustainability Agency
810 Vaca Valley Parkway, Suite 203
Vacaville, CA 95688

CONTRACTOR

Vicki Kretsinger Grabert, President
500 First Street
Woodland, CA 95695

The parties have executed this Agreement the day and year first above written. If the Contractor is a corporation, documentation must be provided that the person signing below for the Contractor has the authority to do so.

Solano County Water Agency
a Public Agency

Luhdorff & Scalmanini Consulting Engineers

By: _____
Roland Sanford
General Manager

By: _____
Vick Kretsinger Grabert,
President

FOR SCWA USE ONLY

Contract Period: July 1, 2022 to June 30, 2023
File Number: AG-L-4
Account Manager: C.Lee
G/L Account #: 6611AC
Job Cost #: 1704
Contract Type: Professional Services

EXHIBIT A
SCOPE OF SERVICES

April 6, 2022
File No. 22-1-043

Mr. Chris Lee
Solano County Water Agency
810 Vaca Valley Parkway, Suite 203
Vacaville, CA 95688

SUBJECT: 2022-2023 Groundwater Services – Solano County Water Agency

Dear Mr. Lee:

In response to your request, Luhdorff & Scalmanini, Consulting Engineers (LSCE) is pleased to provide this letter describing groundwater management assistance to be completed during Fiscal Year 2022-2023 spanning July 1, 2022 through June 30, 2023 to address needs related to groundwater management in Solano County and the Solano Subbasin. This scope provides support to the Solano County Water Agency in augmenting and coordinating with groundwater management efforts led by the Solano Subbasin Groundwater Sustainability Agency Collaborative (Solano Collaborative) occurring as part of implementation of the Solano Subbasin Groundwater Sustainability Plan (GSP).

This scope of work describes the following tasks:

- Task 1: Streamflow Monitoring Support
- Task 2: Review and Analysis of Surface Water-Groundwater Interrelationships Along Putah Creek
- Task 3: Data Management System Maintenance and Data Visualization
- Task 4: Evaluation and Improvements to Water Use and Groundwater Extraction Estimates
- Task 5: Well Inventory in Northwest Focus Area and Well Permitting Support
- Task 6: On-Call Groundwater Management Technical Assistance

Task 1: Streamflow Monitoring Support

This task will include assisting SCWA in addressing a data gap identified in the GSP related to streamflow monitoring along existing surface water features with active stream stage recorders. Some of the existing stream stage recorder locations along tributary streams in and adjacent to the Solano Subbasin lack an established relationship between stream stage and flow. Quantification of streamflow at these locations will assist monitoring and characterization of interconnected surface water and will also inform analyses related to potential benefits from implementing enhance recharge projects in areas of the Solano Subbasin. LSCE will assist SCWA in periodic conducting streamflow measurements necessary for the development of rating curves at key existing gaged locations. As part of Task 1, LSCE will assist SCWA with the task of conducting periodic measurements of streamflow for the purpose of developing data to

relate stage measurements and streamflow volumes (rating curve) at key stage recorder sites on tributary streams entering the Subbasin from the west.

Task 2: Review and Analysis of Surface Water-Groundwater Interrelationships Along Putah Creek

Monitoring groundwater conditions as they relate to surface water depletions and groundwater dependent ecosystems is a key part of ensuring groundwater sustainability in the Solano Subbasin. Task 4 includes updates to monitoring data from shallow wells in the vicinity of Putah Creek and analysis of monitoring data related to surface water-groundwater interactions. Eight new dedicated monitoring wells were installed along Putah Creek in late 2021/early 2022 as part of Technical Support Services (TSS) provided by DWR. These TSS wells were installed to fill data gaps in the GSP monitoring and are planned for inclusion in the GSP RMS network. Monitoring in these wells will complement monitoring data from shallow seepage monitoring wells installed along the Creek in 2020 to support understanding of groundwater conditions as they relate to seepage from Putah Creek. Because of the dynamically changing nature of groundwater-surface water interactions along Putah Creek, review of conditions related to groundwater-surface water interconnectivity in this area of the Subbasin is very important.

Task 3: Data Management System Maintenance and Data Visualization

A groundwater data management system (DMS) has been maintained by SCWA for use in tracking groundwater conditions in the County and in Solano Subbasin. This DMS was used during development of the Solano Subbasin GSP and maintaining a DMS is a requirement of SGMA and is described in the Solano Subbasin GSP. This task includes maintaining the existing DMS in a cloud environment to satisfy the security, data backup, and other performance needs for storing critical data for analysis and reporting related to the GSP implementation and other groundwater management activities in Solano County. Task 3 also includes a key enhancement involving development of a web-based data visualization tool to facilitate transparency and public sharing of key groundwater level, water quality, subsidence, and streamflow data related to groundwater monitoring and management in Solano County and Subbasin. The web-based data visualization product will provide a mechanism for engaging Subbasin stakeholders using an interactive tool to convey greater detail and accessibility related to current groundwater conditions in Solano County and Subbasin than what can be communicated through other periodic reporting and outreach products. The initial data visualization tool would include an interactive mapping component to provide the user the ability to review groundwater conditions information at key monitoring sites (e.g., RMS). Maintaining the DMS is an essential aspect of implementing the GSP. Although the data visualization tools will considerably enhance the ability of stakeholders in Solano County and Subbasin to interact with information on groundwater conditions.

Task 4: Evaluation and Improvements to Water Use and Groundwater Extraction Estimates

This task will utilize recent cropping and other land use data, remote sensing evapotranspiration data from the OpenET application, SWRCB surface water diversion data, County parcel data, and Solano IHM input and output data for the period 2016 through 2020 to generate refined estimates of water use and groundwater extraction in the Solano Subbasin. Task 6 will involve developing and comparing maps of

points of diversion and use for surface water and locations of wells and will include identification of areas for further investigation in subsequent years. The results from this task will refine the current understanding of the distribution and volumes of urban and agricultural pumping in different areas of the Subbasin and will support proposed improvements to the Solano IHM. Grant funding to support this task is also currently being sought as part of a coordinated grant application submitted by the Dixon and Solano RCDs in collaboration with other RCDs in the Sacramento Valley. If the full RCD grant is awarded (expected notification in May 2022), efforts related to completion of this task would be funded by the grant.

Task 5: Well Inventory in Northwest Focus Area and Well Permitting Support

This task will include conducting an analysis of likely active well locations and characteristics (e.g., type, depth, screened interval, age) in the Northwest Focus Area identified in the Solano Subbasin GSP through comparison of available well datasets including County well permits, DWR Well Completion Reports, County Assessor's parcel data, ILRP parcel data, and others. A well inventory was a potential PMA noted in the GSP and will improve understanding and managing groundwater conditions in the Northwest Focus Area of the Solano Subbasin. Efforts will also involve supporting outreach related to assessing results from analysis of existing datasets and potential limited groundtruthing or other validation of results. Additionally, as part of this task LSCE will provide support in well permitting efforts related to developing well permit evaluation and approval process and any technical analyses needed for well permitting in response to the Governor's drought response Executive Order issued March 28, 2022.

Task 6: On-Call Groundwater Management Technical Assistance

Through this task, LSCE will provide technical assistance, as requested, to support groundwater management efforts, including efforts related to implementation of SGMA and the Solano Subbasin GSP. Services may include:

- Participation in stakeholder meetings and preparatory meetings in advance of stakeholder meetings
- Continued development of maps and other outreach materials to support stakeholder education and engagement efforts as part of facilitation services led by others
- Other groundwater-related technical assistance as needed

Cost Estimate

Table 1 details the estimated cost for the recommended activities proposed in Tasks 1 through 6. The estimated cost to complete these tasks is \$180,270. These tasks are recommended to ensure sustainable conditions in Solano County and Subbasin are maintained and to support ongoing improvements to the understanding of groundwater conditions and engagement with stakeholders that will benefit long-term management. Funding to support Task 4 is also included in a grant application submitted by the Dixon and Solano RCDs in collaboration with other RCDs in the Sacramento Valley Groundwater Basin. The budget for Task 4 would not be necessary if this grant application is awarded (award expected in May 2022).


The current LSCE Schedule of Fees is enclosed for your reference. In the event that SCWA requests out-of-scope work and additional funds are needed to complete the task(s), SCWA will be contacted before proceeding with further work.

If you have any questions, or wish to discuss any of the above, we would be pleased to respond.

Sincerely,

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS


Vicki Kretsinger Grabert
President/Senior Principal Hydrologist


Nick Watterson, PG, CHG
Principal Hydrogeologist

Enclosures:

Table 1 – Cost Estimate

LSCE Schedule of Fees

EXHIBIT B

RATE OF COMPENSATION

Table 1

Cost Estimate: Groundwater Services — Solano County Water Agency --Fiscal Year 2022-2023

Task Description		Hours							Cost			
		Sr. Prin. Hydrol.	Prin. Hydrogeologist	Sr. Hydrogeol.	Pjt. Hydrogeol.	Staff Hydrogeol./Geol.	GIS/Data Tech.	Clerical	LSCE	Outside Services ¹	Subtask	Task
Billing Rate (\$/hr)		\$235	\$225	\$200	\$165	\$150	\$142	\$97				
Task 1 – Streamflow Monitoring Support												
Task 1.1	This task will include assisting SCWA in addressing a data gap identified in the GSP related to streamflow monitoring along existing surface water features with active stream stage recorders. Some of the existing stream stage recorder locations along tributary streams in and adjacent to the Solano Subbasin lack an established relationship between stream stage and flow. Quantification of streamflow at these locations will assist monitoring and characterization of interconnected surface water and will also inform analyses related to potential benefits from implementing enhance recharge projects in areas of the Solano Subbasin. LSCE will assist SCWA in periodic conducting streamflow measurements necessary for the development of rating curves at key existing gaged locations.	2	12		40				\$9,770		\$9,770	
Task Total												\$9,770
Task 2 – Review and Analysis of Surface Water-Groundwater Interrelationships Along Putah Creek												
Task 2.1	Ongoing updates and analysis of surface water/groundwater data from dedicated SGMA MWs and Other MWs in vicinity of Putah Creek.	8	16		16				\$8,120		\$8,120	
Task Total												\$8,120
Task 3 – Data Management System Maintenance and Data Visualization												
Task 3.1	Web-based data visualization tool for viewing and downloading GSP-related datasets for groundwater water levels, water quality, subsidence, surface water and contour maps with time series charts and data tables wherever applicable for both principal aquifers.	4	4	8			250		\$38,940		\$38,940	
Task 3.2	Maintenance of cloud-based server environment to ensure security, backup of data and overall integrity of DMS.			2			40		\$6,080		\$6,080	
Task Total												\$45,020
Task 4 – Evaluation and Improvements to Water Use and Groundwater Extraction Estimates in Solano Subbasin												
Task 4.1	Data Compilation: Gather land use, eWRIMS, general pumping estimates, political boundaries, and OpenET data. All data for years 2016-2020.		12		40				\$9,300		\$9,300	
Task 4.2	Preliminary water budget analysis: Couple field scale land use with OpenET and application rates of SW where applicable. Fuzzy join eWRIMS data with land use and APN.	4	20		120	40			\$31,240		\$31,240	
Task 4.3	Refined water budget analysis: Develop point of diversion and point of use maps. Identify areas that will need further investigation in 2023.	4	10		80	40			\$22,390		\$22,390	
Task Total												\$62,930

Table 1

Cost Estimate: Groundwater Services — Solano County Water Agency --Fiscal Year 2022-2023

Task Description		Hours							Cost			
		Sr. Prin. Hydrol.	Prin. Hydrogeologist	Sr. Hydrogeol.	Pjt. Hydrogeol.	Staff Hydrogeol./Geol.	GIS/Data Tech.	Clerical	LSCE	Outside Services ¹	Subtask	Task
Billing Rate (\$/hr)		\$235	\$225	\$200	\$165	\$150	\$142	\$97				
Task 5 – Well Inventory in Northwest Focus Area and Well Permitting Support												
Task 5.1	Conduct analysis of likely active well locations and characteristics (e.g., type, depth, screened interval, age) in the NW Focus Area through comparison of available well datasets including County well permits, DWR Well Completion Reports, County Assessor's parcel data, ILRP parcel data, and others. A well inventory was a potential PMA noted in the GSP and will improve understanding and managing GW conditions in the NW Focus Area of the Solano Subbasin.	24	32		80				\$26,040		\$26,040	
Task 5.2	Support outreach related to assessing results from analysis of existing datasets and potential limited groundtruthing of results.	12	12		16				\$8,160		\$8,160	
Task 5.3	Provide support in well permitting efforts related to developing well permit evaluation and approval process and any technical analyses needed for well permitting in response to the Governor's drought response Executive Order issued March 28, 2022.	16	16		16				\$10,000		\$10,000	
Task Total												\$44,200
Task 6 – On-Call Groundwater Management Technical Assistance												
Task 6.1	Performing on-call tasks as requested, including continued development of maps and other outreach materials to support stakeholder education and engagement efforts, participation in meetings, and other tasks.	18	12		20				\$10,230		\$10,230	
Task Total												\$10,230
Totals		92	146	10	428	80	290	0	\$180,270	\$0		\$180,270

1. Includes outside services fee of 5%.

Note: As in previous years, the direct contract between SCWA and UNAVCO for ongoing maintenance, data management, and reporting related to the two CORS subsidence monitoring stations is not included in this budget but should be included in SCWA's annual budget for the coming fiscal year.



500 FIRST STREET • WOODLAND, CA 95695

2022 SCHEDULE OF FEES

ENGINEERING AND RELATED FIELD SERVICES

Professional*

Senior Principal	\$235/hr.
Principal Professional.....	\$225 to 230/hr.
Supervising Professional	\$210 to 220/hr.
Senior Professional	\$175 to 210/hr.
Project Professional	\$155 to 175/hr.
Staff Professional	\$135 to 155/hr.

Technical

Engineering Inspector	\$140/hr.
ACAD Drafting/GIS	\$142/hr.
Engineering Assistant.....	\$115 to 140/hr.
Scientist.....	\$115 to 140/hr.
Technician.....	\$115 to 140/hr.

Clerical Support

Word Processing, Clerical.....	\$90/hr.
Digital Communications Specialist	\$90 to 100/hr.
Project Admin/Accounting Assistant	\$90 to 110/hr.

Vehicle Use	\$0.58/mi.
Subsistence	Cost Plus 15%
Groundwater Sampling Equipment (Includes Operator)	\$170.00/hr
Copies	\$0.20 ea.
Professional or Technical Testimony	200% of Regular Rates
Technical Overtime (if required)	150% of Regular Rates
Outside Services/Rentals	Cost Plus 15%
Services by Associate Firms	Cost Plus 15%

* Engineer, Geologist, Hydrogeologist, and Hydrologist