

**AMENDMENT NO. 4
NAPA COUNTY AGREEMENT NO. 210015B (NCGSA)**

PROFESSIONAL SERVICES AGREEMENT

THIS AMENDMENT NO. 4 OF NAPA COUNTY AGREEMENT NO 210015B is made and entered into as of this ____ day of _____, 2025 by and between the Napa County Groundwater Sustainability Agency and its Board of Directors, hereinafter referred to as “NCGSA”, and LUHDORFF & SCALMANINI CONSULTING ENGINEERS, a corporation, whose mailing address is 500 First Street, Woodland, CA 95695, hereinafter referred to as "CONTRACTOR";

RECITALS

WHEREAS, NCGSA and CONTRACTOR entered into Napa County Agreement No. 210015B (the “Agreement”) on June 9, 2020 to obtain specialized services for the preparation of a Groundwater Sustainability Plan, participation in stakeholder outreach, development of an integrated hydrologic model, installation of groundwater monitoring wells, collection and management of groundwater data, reporting of groundwater conditions; and

WHEREAS, on September 28, 2021, NCGSA and CONTRACTOR amended the Agreement to increase the maximum compensation allowable under this Agreement to add services to support the timely development of a GSP for the Napa Valley Sub-basin; specifically, adding support for stakeholder engagement & outreach, GSP development, additional work on an Integrated Hydrologic Model as well as revision of the Groundwater Ordinance and Water Availability Analysis; and

WHEREAS, on October 18, 2022, NCGSA and CONTRACTOR amended the Agreement to increase the maximum compensation allowable under this Agreement to add services for support for NCGSA Technical Advisory Group, well construction monitoring, ongoing monitoring support including surface water/groundwater facilities and support NCGSA with well owner agreements for new and/or ongoing participation in GSP monitoring program; and

WHEREAS, on April 9, 2024, NCGSA and CONTRACTOR amended the Agreement to increase the maximum compensation allowable under the Agreement to add services for continued support for NCGSA Technical Advisory Group, implementation of (3) new GSP Workplans, Water Year 2024 Annual Report, water conservation pilot sites development, groundwater data management, Napa Valley Integrated Hydrologic Model refinement, and ongoing monitoring support including surface water/groundwater facilities; and

WHEREAS, NCGSA and CONTRACTOR now wish to amend the Agreement to extend the term and increase the maximum compensation allowable under this Agreement to add services for continued support for ongoing tasks in addition to new tasks including Annual Reports for Water Years 2025 and 2026, Stream Gage Improvement Program, coordination with the State Water Board on their modeling of the Napa River Watershed, GSP Periodic Evaluation due to Department of Water Resources in January 2027 and optional activities as well as amend the terms of the Agreement.

TERMS

NOW, THEREFORE, NCGSA and CONTRACTOR amend Agreement No. 210015B as follows:

1. Paragraph 1 is hereby amended to read in full as follows:

1. **Term of the Agreement.** The term of this Agreement shall commence on the date first above written and shall expire June 30, 2027 except that the obligations of the parties under Paragraphs 7 (Insurance) and 8 (Indemnification) shall continue in full force and effect after said expiration date or early termination in relation to acts or omissions occurring prior to such dates during the term of the Agreement, and the obligations of CONTRACTOR to COUNTY shall also continue after said expiration date or early termination in relation to the obligations prescribed by Paragraphs 15 (Confidentiality), 20 (Taxes) and 21 (Access to Records/Retention).

2. Paragraph 2 is hereby amended to read in full as follows:

2. **Scope of Services.** CONTRACTOR shall provide NCGSA those services set forth in Exhibit "A-4" attached hereto.

3. Paragraph 3(c) is amended as follows:

3. **Compensation.**

- c. Maximum Amount. Notwithstanding subparagraphs (a) and (b), the maximum payments under this Agreement shall be a total of Four Million Five Hundred Eighty Nine Thousand Six Hundred Twenty Three Dollars (\$4,589,623) for professional services provided, however, that such amounts shall not be constructed as guaranteed sums, and compensation shall be based upon services actually rendered as provided in Exhibit B-4.

4. Except as provided herein, the terms and provisions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, this Amendment No. 4 to the Agreement was executed by the

parties hereto as of the date first above written.

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

By: Scott Lewis
SCOTT LEWIS, President

By: Peter Leffler
PETER LEFFLER, Chief Financial Officer

"CONTRACTOR"

NAPA COUNTY GROUNDWATER SUSTAINABILITY AGENCY

By: _____
ANNE COTTRELL, Chair
NCGSA Board of Directors

"NCGSA"

APPROVED AS TO FORM Office of County Counsel By: <i>Chris R. Y. Apallas</i> Deputy County Counsel Date: May 12, 2025 Doc. 131479_2	APPROVED BY THE NAPA COUNTY GROUNDWATER SUSTAINABILITY AGENCY BOARD OF DIRECTORS Date: _____ Processed By: _____ Deputy Clerk of the Board	ATTEST: NEHA HOSKINS Clerk of the Board of Directors By: _____
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EXHIBIT “A-4” Scope of Work

This Scope of Work Amendment (Amendment) describes tasks associated with Luhdorff & Scalmanini, Consulting Engineers (LSCE’s) continued work to support Napa County and the Napa County Groundwater Sustainability Agency’s (NCGSA’s) ongoing compliance with the Sustainable Groundwater Management Act (SGMA) and implementation of the Groundwater Sustainability Plan (GSP) for the Napa Valley Subbasin, which was submitted to the Department of Water Resources (DWR) in January 2022. LSCE is joined by three consulting firms, Stillwater Sciences, ERA Economics, and Davids Engineering to provide the services necessary for GSP implementation. This Amendment includes additional efforts required to implement actions described in the GSP along with other activities related to groundwater management throughout the County for the period July 1, 2025 through June 30, 2027.

The estimated budget for July 1, 2025 through June 30, 2026 is **\$2,408,915**, and the estimated budget for July 1, 2026 through June 30, 2027 is **\$1,730,131**. The total estimated budget (not including options) is **\$4,139,046** (see summary **Table 1**, following task descriptions). The estimated costs for optional tasks are approximately **\$450,577** (**Table 1** – Tasks 28, 29 and 30; Task 29 includes costs for up to three additional monitoring sites).

DWR has approved grant funding in the amount of **\$806,170** for Napa County to improve stream gage infrastructure and data availability as part of the Stream Gage Improvement Program (CalSIP). Through the CalSIP program, DWR is actively improving California’s stream gage network by funding public agencies to upgrade existing gages, reactivate historical gages, or install new gages on natural waterways across the state. Access to reliable, real-time information about the conditions and amount of water flowing into local rivers and streams is critical to better manage water resources for public safety, water supply and the conservation of freshwater species. Through the CalSIP grant provided by DWR to Napa County, Napa County is reactivating five former U.S. Geological Survey surface water gaging stations in the Napa River Watershed. The work to perform the stream gage improvements is included in this Amendment.

The requested amendment for GSP implementation technical services for July 1, 2025, through June 30, 2027 including options is **\$4,589,623**. The CalSIP grant will reimburse **\$806,170** of the requested amount for materials and services related to the installation, operation, and maintenance of five stream gages. With the reimbursement, the amount for the core part of the GSP implementation (not including options) is **\$3,332,876** for the two-year period July 1, 2025 through June 30, 2027.

Task 1 – Project Management and Administration

Assist Napa County (County) and NCGSA with the administration of GSP implementation work, including managing LSCE technical staff and coordinating with LSCE Team subconsultants to complete work in a timely manner. Also assist with the preparation of progress reports detailing work completed during the reporting period for grants as applicable.

Deliverables:

Assist with Draft and Final Grant Completion Reports, as applicable.

Task 2 – Stakeholder Engagement/Outreach

Assist Napa County with stakeholder engagement and outreach as part of efforts to implement the GSP for the Napa Valley Subbasin. Provide meeting materials and presentations related to tasks that LSCE undertakes as part of GSP implementation. Presentations may occur through in-person attendance at meetings or by remote attendance during video conference meetings. Stakeholder and other outreach-related meetings are anticipated to include groups or individuals. Examples of the types of stakeholders include Napa Valley Grap growers Association, Winegrowers of Napa County, Napa County Farm Bureau, Napa Valley Vintners Association, California Department of Fish and Wildlife, National Marine Fisheries Services, Save Napa Valley Foundation, Napa Green, Fish Friendly Farming (FFF), Sustainability in Practice (SIP), and California Sustainable Winegrowing Alliance (CSWA). Assist in the preparation of public outreach materials, including newsletters and other County communications.

Deliverables:

Presentation or other materials developed for meetings.

Task 3 – DMS and Data Products

The Data Management System (DMS) previously developed by LSCE will be maintained and enhanced to allow for improved data visualization capabilities (tabular summaries, maps, and other graphical displays) and data transparency. Upgrades to data visualizations will be performed in collaboration with the County/NCGSA to support improvements in DMS capabilities for users and public transparency related to water resources monitoring and conditions. Data visualizations will continue to be integrated with County or NCGSA websites, as determined appropriate. This task will continue maintenance and management of the DMS in accordance with the GSP and as required by SGMA and will involve automation of key processes for generating output and other products to support required GSP annual reporting and submittal of GSP monitoring data to the SGMA Monitoring Network Module twice each year in accordance with DWR requirements.

Deliverables:

Periodic updates to DMS data visualizations including maps, hydrographs, and tables summarizing data on water resources conditions in the County as currently included on existing websites maintained by Napa County or the NCGSA.

Task 4 – Water Year 2025 Required GSP Annual Report

This task includes data acquisition, analysis, and development of an Annual Report (Report) to meet the requirements of SGMA and the GSP regulations, including annual groundwater extraction estimates, estimates of surface water supply used

or available for use, in-lieu use (e.g., wastewater and stormwater reuse), total water year water use, and change in groundwater storage for the Napa Valley Subbasin. The Report will also summarize additional data collection and analysis performed to fill data gaps and improve the quantitative basis for sustainable management criteria, including potential effects on streamflow due to groundwater conditions in the Napa Valley Subbasin. The Report will also document the status of ongoing actions by the County to implement SGMA and the recommendations contained in the 2022 Napa Valley Subbasin GSP. This task includes providing spatial datasets and updated content for the Watershed Information and Conservation Council (WICC) website (or similar), based on information presented in the Annual Report. This task includes a presentation of Annual Report findings to the NCGSA.

Deliverables:

Draft Annual Report presented to Technical Advisory Group (TAG) and NCGSA in Spring 2026.

Final Annual Report submitted to DWR by April 1, 2026.

Task 5 – Water Year 2026 Required GSP Annual Report

This task includes data acquisition, analysis, and development of an Annual Report (Report) to meet the requirements of SGMA and the GSP regulations, including annual groundwater extraction estimates, estimates of surface water supply used or available for use, in-lieu use (e.g., wastewater and stormwater reuse), total water year water use, and change in groundwater storage for the Napa Valley Subbasin. The Report will also summarize additional data collection and analysis performed to fill data gaps and improve the quantitative basis for sustainable management criteria, including potential effects on streamflow due to groundwater conditions in the Napa Valley Subbasin. The Report will also document the status of ongoing actions by the County to implement SGMA and the recommendations contained in the 2022 Napa Valley Subbasin GSP. This task includes providing spatial datasets and updated content for the WICC website (or similar), based on information presented in the Annual Report. This task includes a presentation of Annual Report findings to the NCGSA.

Deliverables:

Draft Annual Report presented to TAG and NCGSA in Spring 2027.

Final Annual Report submitted to DWR by April 1, 2027.

Task 6 – Grant Proposal Support

At the direction of County or NCGSA staff, LSCE will provide support for one or more grant proposals developed by the County or NCGSA for funding to support groundwater monitoring, GSP implementation in the Napa Valley Subbasin, and related efforts. This scope assumes County or NCGSA staff will support proposal development through outreach and coordination with project collaborators to receive input on proposal scope and budget and letters of support, as appropriate.

Deliverables:

Provide support for preparing draft and final grant proposal scope of work and cost estimate

Task 7 – On-call Services and Meetings

Assist County or NCGSA staff with SGMA implementation related activities and outreach activities. This task includes frequent (approximately weekly) County and technical team meetings to ensure close coordination of GSP implementation efforts. The task will include providing continued assistance to County and NCGSA staff on an as-needed basis related to maintaining and implementing groundwater monitoring activities, including coordination with well owners and other

monitoring entities for incorporation of wells into County and NCGSA monitoring programs as indicated in the GSP or otherwise determined to be beneficial to monitoring or understanding of groundwater conditions in the County. LSCE will provide support to the County or NCGSA staff on communications with DWR, public stakeholders, and other entities. Support may also include public outreach, additional updates to the Board of Supervisors and the NCGSA, and other meetings for various purposes, as needed. Examples of other meeting participants under this task include Napa County Resource Conservation District, Napa County Flood Control and Water Conservation District, State Water Resources Control Board, Regional Water Quality Control Board, and University of California Davis – Center for Watershed Sciences.

Task 8 – Napa Valley GSP Monitoring Implementation (FY 2025-2026)

Building on the training of NCGSA and County staff on monitoring activities provided by LSCE to date, this task assumes that NCGSA or other monitoring entities will be conducting all of the groundwater level monitoring activities detailed in the Napa Valley Subbasin GSP during the period July 1, 2025 through June 30, 2026 with LSCE providing advisory and data management support during these monitoring activities. LSCE will conduct groundwater quality monitoring for the 26 dedicated dual-completion monitoring wells with the NCGSA conducting and/or coordinating all other water quality sampling field efforts. Support to be performed by LSCE as part of this task includes water quality sampling of select wells and QA/QC of newly obtained monitoring data, as well as assisting NCGSA with coordinating monitoring activities between entities (where applicable), conducting field data collection, and obtaining detailed site information. For this task, the County or NCGSA staff will collect all groundwater level and surface water quality and stage data and LSCE will coordinate with County or NCGSA staff on monitoring implementation and provide general support.

Deliverables:

Updated monitoring data in the DMS.

Task 8.1 Groundwater Elevation Monitoring: Coordination and Support

LSCE will provide support to NCGSA during coordination and completion of groundwater level monitoring activities, including during NCGSA's manual measurements and automated monitoring instrumentation download and maintenance work at all instrumented sites. This task assumes that NCGSA will conduct all groundwater level monitoring field work. LSCE will provide training and support to NCGSA staff relating to field data collection efforts. Additional LSCE support in QA/QC of monitoring data, barometric compensation of water level data, and integration of monitoring data in the DMS, as needed.

Task 8.2 Groundwater Quality Monitoring: Coordination and Support

LSCE will conduct one groundwater quality sampling event at each of the 26 existing dedicated nested monitoring wells within the Subbasin. LSCE will assist NCGSA in coordinating water quality monitoring activities with other entities and will also provide training and support to NCGSA in conducting water quality sampling of other wells (as applicable). Additional LSCE support will be provided in QA/QC of monitoring data and integration of data in the DMS.

Task 8.3 Surface Water Quality and Stage Monitoring: Coordination and Support

LSCE will provide support to NCGSA during completion of surface water quality and stage monitoring activities at designated sites, including during NCGSA's automated stage and temperature monitoring instrumentation download and maintenance work at all stream stage monitoring sites operated by the NCGSA. This task assumes that NCGSA will conduct all stream stage and water quality monitoring field work. LSCE will provide training and support to NCGSA staff relating to

field data collection efforts. Additional LSCE support in QA/QC of monitoring data, barometric compensation of stage data, and integration of monitoring data in the DMS will be provided, as needed.

Task 9 – Napa Valley GSP Monitoring Implementation (FY 2026-2027)

This task assumes that NCGSA or other monitoring entities will be conducting all of the groundwater level monitoring activities detailed in the Napa Valley Subbasin GSP during the period July 1, 2026 through June 30, 2027, with LSCE providing advisory and data management support during these monitoring activities. LSCE will conduct groundwater quality monitoring for the 26 dedicated dual-completion monitoring wells with the NCGSA conducting and/or coordinating all other water quality sampling field efforts. Support to be performed by LSCE as part of this task includes water quality sampling of select wells and QA/QC of newly obtained monitoring data, as well as assisting NCGSA with coordinating monitoring activities between entities (where applicable), conducting field data collection, and obtaining detailed site information. For this task, the County or NCGSA staff will collect all groundwater level and surface water quality and stage data and LSCE will coordinate with County or NCGSA staff on monitoring implementation and provide general support.

Deliverables:

Updated monitoring data in the DMS.

Task 9.1 Groundwater Elevation Monitoring: Coordination and Support

LSCE will provide support to NCGSA during coordination and completion of groundwater level monitoring activities, including during NCGSA's manual measurements and automated monitoring instrumentation download and maintenance work at all instrumented sites. This task assumes that NCGSA will conduct all groundwater level monitoring field work. LSCE will provide training and support to NCGSA staff relating to field data collection efforts. Additional LSCE support in QA/QC of monitoring data, barometric compensation of water level data, and integration of monitoring data in the DMS, as needed.

Task 9.2 Groundwater Quality Monitoring: Coordination and Support

LSCE will conduct one groundwater quality sampling event at each of the 26 existing dedicated nested monitoring wells within the Subbasin. LSCE will assist NCGSA in coordinating water quality monitoring activities with other entities and will also provide training and support to NCGSA in conducting water quality sampling of other wells (as applicable). Additional LSCE support will be provided in QA/QC of monitoring data and integration of data in the DMS.

Task 9.3 Surface Water Quality and Stage Monitoring: Coordination and Support

LSCE will provide support to NCGSA during completion of surface water quality and stage monitoring activities at designated sites, including during NCGSA's automated stage and temperature monitoring instrumentation download and maintenance work at all stream stage monitoring sites operated by the NCGSA. This task assumes that NCGSA will conduct all stream stage and water quality monitoring field work. LSCE will provide training and support to NCGSA staff relating to field data collection efforts. Additional LSCE support in QA/QC of monitoring data, barometric compensation of stage data, and integration of monitoring data in the DMS, as needed.

Deliverables:

Updated monitoring data in the DMS.

Task 10 – Stream Gage Improvement Program (July 2025 - June 2026)

Task 10.1 Administration

This task includes project administration, invoicing, and reporting. CalSIP Project administration includes overseeing the budget and schedule, installation management and inspection, and other activities related to the completion of the CalSIP Project. Includes attending weekly, monthly, or quarterly meetings (as needed) with the DWR Contract Manager. Invoicing includes preparing and submitting invoices and appropriate backup documentation to the DWR Contract Manager describing the work completed and listing the costs incurred during the billing cycle. Reporting includes preparing and submitting to NCGSA staff to submit DWR progress reports monthly.

Deliverables:

Invoices and supporting documents, Monthly Progress Reports, Project Completion Certification.

Task 10.2 Planning: Permitting

This task includes verification of the historical site locations using available records, physical inspection, and site mapping. This also involves reviewing historical data, consulting with local experts, and physically inspecting the sites to ensure accuracy. Historical data review will include checking old records, maps, and photographs to determine the exact locations.

CalSIP Project permitting and fieldwork will commence as appropriate, including fieldwork, permit applications, reports, and all elements to secure permits for installation and continued measurements and maintenance of the gage. CEQA Requirements and compliance will occur as applicable.

Deliverables:

Property Access agreements (as needed), Final CEQA/Permit Approval Documentation.

Task 10.3 Planning: Design

This task involves physical inspections of the CalSIP sites, taking GPS coordinates, and comparing them with historical data. This task is critical to ensure that the reactivation occurs at the correct location. The task includes biological, cultural, and other resource field investigations as needed to support the application and development of needed regulatory permits, studies, and reports needed for each site.

Deliverables:

- Verified Site Selection Report

Task 10.4 Installation: Site Enhancements

The team will obtain, install, and make operational new stream gage equipment, including sensors, data loggers, power supply, and telemetry systems. This includes selecting appropriate equipment, ensuring compatibility with existing infrastructure, and installing it according to manufacturer specifications and industry standards. The equipment installation process will involve setting up data loggers, sensors, and telemetry systems in secure and weatherproof housing. Installation will ensure that all components are properly connected and configured for optimal performance.

Additionally, the team (and subcontractor) will provide equipment, labor, and materials to install equipment on-site, perform initial flow measurement, and other applicable calibration and equipment testing to transmit data to CDEC online data portal. Following initial approvals, obtaining applicable permits, site identification, procure applicable equipment, tools, and incidentals to install gage infrastructure, power supply, and sensors, adding surveyed reference gages and a minimum of two nearby survey benchmark monuments with established vertical datum. The team will track equipment purchased and installed for the sites. Telemetry configuration and channels for the sites shall be documented.

Install gage equipment in conjunction with permits and follow best practices.

Deliverables:

- Installed and operational stream gage equipment with documentation of the equipment installed.

Task 10.5 5 Sites: Equipment Procurement, Testing, and Installation

The team will set up and calibrate instruments and telemetry systems, including ensuring data transmission to (specified data portal, e.g., CDEC). This task includes configuring data loggers, calibrating sensors, and testing telemetry systems to ensure reliable data transmission. Calibration of instruments will be done according to the manufacturer's specifications. Telemetry systems will be configured to transmit data in real-time to the specified data portal.

Deliverables:

Calibration and setup report detailing the configuration and calibration of instruments and telemetry systems.

Task 10.6 Dry Creek: Equipment Costs for One Rain Upgrade Site with GOES

The team will conduct initial flow measurements, establish a rating curve, and perform ongoing measurements as required. This task involves conducting flow measurements using standard methods, analyzing data to establish a rating curve, and scheduling regular measurements for ongoing data collection to refine and develop the stage-discharge rating curve. Initial measurements will be conducted as soon as reasonably possible (order of weeks); ongoing measurements will be conducted as needed to capture flows at different depths throughout the water year, at extreme events as possible, and to confirm prior measurements. Flow measurements will be conducted using standard techniques such as the velocity-area method or the use of flow meters. Data collected will be analyzed to develop a rating curve, which will be used to convert water levels to flow rates. Regular measurements will ensure that the rating curve remains accurate over time.

Deliverables:

- Initial flow measurement data and ongoing data reports, including analysis and interpretation. Incorporate measurement data, field records, and curve calculations as part of annual report for data validation.

Task 10.7 Milliken Creek: Equipment Costs for One Rain Upgrade Site with GOES

Task same as for Dry Creek.

Deliverables:

- Initial flow measurement data and ongoing data reports, including analysis and interpretation. Incorporate measurement data, field records, and curve calculations as part of annual report for data validation.

Task 10.8 Conn Creek: Equipment Costs for New Site with GOES

Task same as for Dry Creek.

Deliverables:

- Initial flow measurement data and ongoing data reports, including analysis and interpretation. Incorporate measurement data, field records, and curve calculations as part of annual report for data validation.

Task 10.9 Napa River: Equipment Costs for One Rain Upgrade Site with GOES

Task same as for Dry Creek.

Deliverables:

- Initial flow measurement data and ongoing data reports, including analysis and interpretation. Incorporate measurement data, field records, and curve calculations as part of annual report for data validation.

Task 10.10 Redwood Creek: Equipment Costs for One Rain Upgrade Site with GOES

Task same as for Dry Creek.

Deliverables:

- Initial flow measurement data and ongoing data reports, including analysis and interpretation. Incorporate measurement data, field records, and curve calculations as part of annual report for data validation.

Task 10.11 Operations/Maintenance

The team will operate and maintain the stream gage sites to ensure continuous data collection and equipment functionality. This includes routine inspections, calibration checks, and necessary repairs to equipment. Protocols will be implemented for data quality assurance and troubleshooting any issues that may arise with the equipment or data transmission systems. The team will regularly update and maintain the equipment to adhere to industry standards and manufacturer recommendations.

To provide quality control and quality assurance to the program, the team will prepare and submit annually to DWR for DWR's review and approval the following information for each gage: the data, the rating curve adjustments, all field observations, and all operational information.

Deliverables:

- All station records for stage and flow measurements will be processed and submitted by December 31 of each year for the prior water year (October 1 through September 30). This process is considered the annual "certification" process that signifies the applicable prior-year data are valid and referenced to reflect all adjustments and corrections are correct.

Task 11 – Stream Gage Improvement Program (July 2026 - June 2027)

Task 11.1 Administration

This task includes project administration, invoicing, and reporting. CalSIP Project administration includes administration of the Project including overseeing the budget and schedule, installation management and inspection, and other activities related to the completion of the Project. This task includes attending weekly, monthly, or quarterly meetings (as needed) with the DWR Contract Manager. Invoicing includes preparing and submitting invoices and appropriate backup documentation to the DWR Contract Manager describing the work completed and listing the costs incurred during the billing cycle. Reporting includes preparing and submitting to NCGSA staff to submit DWR progress reports monthly.

Deliverables:

Invoices and supporting documents, Monthly Progress Reports, Project Completion Certification.

Task 11.2 Operations/Maintenance

The team will operate and maintain the stream gage sites to ensure continuous data collection and equipment functionality. This includes routine inspections, calibration checks, and necessary repairs to equipment. Implement protocols for data quality assurance and troubleshooting any issues that may arise with the equipment or data transmission systems. The team will regularly update and maintain the equipment to adhere to industry standards and manufacturer recommendations.

To provide quality control and quality assurance to the program, the team will prepare and submit annually to DWR for DWR's review and approval the following information for each gage: the data, the rating curve adjustments, all field observations, and all operational information.

Deliverables:

All station records for stage and flow measurements will be processed and submitted by December 31 of each year for the prior water year (October 1 through September 30). This process is considered the annual "certification" process that signifies the applicable prior-year data are valid and referenced to reflect all adjustments and corrections are correct.

A final certification package will be provided as a hard copy and electronic copy and include the following elements:

- A. Site summary report.
- B. Field notes from all site visits and measurements.
- C. Flow measurement report summary to summarize when, how, and results of flow measurements.
- D. Certification (signature) by a qualified and experienced reviewer (someone who has completed a USGS, or similar, course; or professional licensed civil engineer).
- E. Flow measurement sheets.
- F. Rating table documentation, PDF or Excel spreadsheet.
- G. Rating table and discrete flow measurement plots.
- H. Primary computations.

- I. Mean daily gage height summary.
- J. Mean daily flow summary.
- K. Mean daily temperature summary.
- L. Mean daily gage height, water year plots.
- M. Mean daily gage flow, water year plots.
- N. Mean daily gage water temperature, water year plots.

Task 12 – Evaluation of Hydrologic Data/Sustainability Indicators

This task focuses on ongoing hydrologic data processing, analysis, conditions tracking and providing information to the TAG for review and input. Actual meeting time for LSCE with the TAG is covered under Task 13.

Task 12.1 – Evaluation of Hydrologic Data

LSCE will evaluate and provide water resources monitoring and other data to the NCGSA periodically (up to twice a year) for review and additional input related to conditions, trends, and findings relative to Subbasin groundwater and interconnected surface water conditions.

LSCE will perform analyses and receive feedback from the NCGSA based on review of the data during formulation of potential groundwater management actions. Based on the analyses of conditions, including input from the NCGSA, this task will include identification of additional monitoring needs to be addressed during GSP implementation activities.

Deliverables:

Periodic (up to twice a year) summaries of monitoring data.

Task 12.2 – Monitoring Networks and Identifying and Addressing Data Gaps

LSCE will conduct ongoing assessment of the monitoring network and identification of data gaps in coordination with input provided by the TAG. This task will include incorporation of additional input from the TAG on monitoring needs anticipated to occur during the implementation of the new workplans outlined in the GSP and other input on monitoring data gaps described in the GSP or identified during GSP implementation. Key results from assessment of the monitoring networks and addressing of data gaps will be discussed and documented in workplans or GSP Annual Reports or other documents, as appropriate.

Task 12.3 – SMC and Potential Triggers, Exceedances, and Recommended Actions

LSCE will review monitoring data in relation to sustainable management criteria (SMC) detailed in the GSP, including triggers and minimum thresholds. LSCE will evaluate conditions that may approach or exceed triggers and/or SMC as outlined in the GSP and will coordinate with the TAG in identifying and recommending management actions in response to conditions, including triggers or SMC exceedances. Key recommendations and any follow-up actions will be summarized as part of annual reporting.

Task 13 – Technical Advisory Group Coordination/Technical Support

This task involves support to the NCGSA and TAG and attendance at the approximately monthly meetings with additional special meetings as needed. This task involves preparing briefing materials/draft information for the NCGSA and TAG in advance of these meetings.

As requested by NCGSA staff, this task may also include support to the NCGSA for community stakeholder meetings (e.g., non-scientist stakeholders, community members, elected officials, and policy makers).

Deliverables:

- Meeting presentation materials and other meeting support materials.

- TAG meeting attendance.

Task 14 – Napa Valley Integrated Hydrologic Model Refinement (FY 2025-2026)

Task 14.1 – Input Refinements (Geology, ET, Soil Moisture, Well Inventory)

NVIHM will be updated to refine representation of Subbasin geology, groundwater extraction wells (based on Napa County 2023 well inventory), and evapotranspiration. The model will also be updated to incorporate a soil moisture process currently being developed by One-Water platform developers. Updates to the model platform are anticipated to be ready for testing in the late-spring to summer of 2025.

Task 14.2 Upper Watershed Model Refinements

LSCE will continue to make refinements to the USGS Basin Characterization Model (BCM) to continue to improve upper watershed contributions to the Napa Valley Subbasin.

Task 14.3 Refinement of Model Calibration

The updated NVIHM will be recalibrated to groundwater level, streamflow, and other relevant data. The calibration will rely on manual (trial and error) and automated parameter estimation (PEST) methods.

Task 14.4 Documentation of Model Refinements

LSCE will produce a technical memorandum documenting updates to the model inputs, outputs, and analysis of simulated results including water budgets and estimates of sustainable yield.

Deliverables:

- Technical Memorandum documenting model refinements completed during FY 2025-2026.

- Updates to the TAG related to model updates on an as-requested basis.

Task 15 – Napa Valley Integrated Hydrologic Model Refinement (FY 2026-2027)

Task 15.1 – Continued Refinement of Model Inputs

The majority of model updates for the historical period are anticipated to occur during the 2025-2026 fiscal year. However, LSCE will continue to update NVIHM as-needed based on new information during the 2026-2027 fiscal year.

Task 15.2 – Update Model Projection

The baseline model projection (2025-2070) will be updated based on refined climate and hydrologic inputs from the BCM, updates to projected land use, and other changes included in model refinements. This effort will also incorporate updated projects and management actions to assess how projects and management actions affect projected groundwater conditions. This information will be used to recalculate projected water budgets and projected groundwater conditions.

Task 15.4 – Documentation of Model Refinements

LSCE will produce a technical memorandum documenting updates to NVIHM projection including a description of inputs, climate analysis and summary of model findings.

Deliverables:

Summary Technical Memorandum documenting model projections developed during FY 2026-2027.

Task 16 – Napa Valley Integrated Hydrologic Model Scenarios/Application (FY 2025-2026)

Task 16.1 – Annual Report Support

Export data required for Annual Reports and creation of charts and graphs.

Task 16.2 – Climate Change Approach Refinements

The technical team will evaluate the best management practices and begin evaluating approaches to incorporate climate change into the NVIHM. This will likely rely on the downscaled datasets specific to California based on the Coupled Model Intercomparison Project Phase 6 (CMIP6) included in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report. This work will include a review of methods and communication with the TAG.

Task 16.3 – As-Requested Modeling Scenarios

It is anticipated that multiple scenarios may be requested based on ongoing work conducted in the Subbasin. The technical team will assess and prepare up to three scenarios within the NVIHM based on questions that arise from the ongoing work and not already covered by other tasks.

Perform modeling scenarios as requested. This may include localized groundwater pumping reductions, climate change, and/or potential project scenarios (e.g., recharge).

Deliverables:

Summary of model updates and scenario development and results completed to support workplan implementation or other management action implementation.

Task 17 – Napa Valley Integrated Hydrologic Model Scenarios/Application (FY 2026-2027)

Task 17.1 – Annual Report Support

Export data required for Annual Reports and creation of charts and graphs.

Task 17.2 – Climate Change Scenarios

The best practices will be followed to incorporate climate change projections within the NVIHM. Up to five climate scenarios will be developed to provide a range of possible futures including wet, dry, and variable intensity scenarios from CMIP6. Climate scenarios will be developed based on new data and approaches that may become available from DWR or other agencies and/or local input from the TAG.

Task 17.3 – As-Requested Modeling Scenarios

It is anticipated that multiple scenarios may be requested based on ongoing work conducted in the Subbasin. The technical team will assess and prepare up to three scenarios within the NVIHM based on questions that arise from the ongoing work.

Deliverables:

Summary of model updates and scenario development and results completed to support ongoing groundwater management activities.

Task 18 – GSA Coordination with State Water Board SDA Watershed Modeling NVIHM (SB Estimated Completion 2026)

Task 18.1 Data and NVIHM Coordination with SB Consultants

LSCE will coordinate with the California State Water Resources Control Board (SB) Supply and Demand Assessment (SDA) unit and consultants and subconsultants working on the SB's behalf to provide data to support the development of the SB's water rights model for the Napa River Watershed. LSCE's support will focus on the SB's use of model files and data developed for the NVIHM.

Deliverables:

- Data deliverables may include model files, reports or interim work products (e.g., GIS files, spreadsheets).

Task 18.2 Review Draft Data Files and Draft Results; Provide Feedback

LSCE will review work products developed by the SB and SB's consultants and subconsultants. This may include review of model files, interim or draft reports and presentations.

Deliverables:

- Provide either written or verbal feedback to the SB for its consideration as requested by the County or SB.

Task 18.3 Review Updated Draft Results; Provide Feedback

LSCE will review updated or final work products developed by the SB and SB's consultants and subconsultants.

Deliverables:

Provide either written or verbal feedback to the SB for its consideration as requested by the County or SB.

Task 19 – Well Inventory Support

Coordinate with and provide support to the County as needed for a comprehensive countywide well inventory. Utilize inventory on other GSP implementation-related tasks.

TASK 20 - ISW/GDEs Workplan Implementation (July 2025 - June 2026)

This task is for implementation of the Interconnected Surface Water (ISW) and Groundwater Dependent Ecosystem (GDEs) Workplan (Stillwater Sciences and LSCE 2024) from July 1, 2025 through June 30, 2026. Details of the GDE-related surveys are provided in the Workplan, and these surveys will occur at six intensive survey sites outlined in the Workplan (Napa River at Calistoga, Napa River at St. Helena, Napa River at Yountville, Sulphur Creek, and Bale Slough).

The tasks assume the Napa Resource Conservation District (RCD) will complete the intensive fish monitoring and fish habitat surveys, the stream flow connectivity surveys, and the expanded Stream Watch monitoring, and the Napa RCD will support work on the California freshwater shrimp and GDE surveys. Additionally, NCGSA staff and Napa RCD will assist with access permissions to the sites. The Workplan states that biological surveys will occur in 2025 and only in 2026 and 2027 during dry or wet water years to capture the effect of climate variability on species distribution and abundance.

Other assumptions are outlined under each task, with optional tasks that include biological surveys that depend on climate (e.g., following floods or droughts); these tasks are described below under Optional Tasks. The implementation of these optional surveys will be evaluated in coordination with the NCGSA, Napa County, and TAG.

Scope for biological surveys and data analysis are included below. Each field subtask includes budget for field preparation, QA/QC of the field data, and data analysis.

20.1.1 Site Tour

Field team leads and the project management team will lead up to a two-day tour of the sites for interested members of the TAG and NCGSA. The site visit will include representatives from LSCE, Napa County, and Napa RCD.

20.1.2 Plants

Vegetation monitoring will be conducted to assess the health of terrestrial GDEs. The second year of vegetation health monitoring will be conducted in Summer 2025 at the same sites surveyed in 2024. The Year 2 Special-status plant species will be surveyed in Spring 2026. Together, these groundwater health data will be used to assess the accuracy of remote sensing measurements of GDE health and will be compared with local groundwater data to assess how groundwater changes might be affecting terrestrial GDEs.

Assumptions: The vegetation health surveys and the special-status plant surveys will be staffed by two Stillwater Scientists and one employee from Napa RCD. The budget assumes the GDE surveys will take one half day per site.

20.1.3 Wildlife

Wildlife surveys include surveys for herpetofauna (reptiles and amphibians), birds, and California freshwater shrimp.

Stillwater Sciences will conduct an eDNA sampling campaign and up to one visual encounter survey in 2025. Based on the 2024 surveys, a key factor in assessing groundwater impacts to foothill-yellow legged frogs is the timing of egg laying,

metamorphosis to tadpoles, and metamorphosis to frogs. The timing of these changes depends on water temperature and likely changes from year-to-year.

Terrestrial wildlife surveys will be assessed using remote sensing and field assessment of GDE health coupled with a test deployment of acoustic bird loggers at six of the sites. One acoustic logger will be deployed at each of the six survey sites in Fall 2025 and Spring 2026 to determine usage at each site. Supplemental bird surveys will occur during the nesting season, concurrent with herpetofauna surveys. Counts of each species observed at intensive monitoring sites will be recorded to provide an estimate of species richness and use of the site (including nesting).

The Napa River at Calistoga Site will be surveyed for California freshwater shrimp habitat and usage in late Summer 2025. The location of the shrimp will be recorded with a GPS and compared with subsequent wet-dry mapping conducted by the Napa RCD. Napa RCD staff will accompany Stillwater staff on the shrimp surveys. Environmental DNA sampling for California freshwater shrimp will occur during the sampling campaign to test recent assays of the species.

The costs include funds for permitting support.

Assumptions:

Includes two Stillwater employees for the herpetofauna and bird surveys and three Stillwater scientists plus one Napa RCD scientist (if available) for the freshwater shrimp surveys.

20.1.4 RCD Coordination

This task includes costs to coordinate with the Napa RCD on wet-dry mapping, habitat measurements (including temperature and dissolved oxygen) and assist in snorkel surveys, if needed. In addition, the budget includes one hourlong coordination meeting per month and up to eight stream temperature loggers and two temperature and dissolved oxygen meters to be deployed by the RCD.

20.2 CEFF Assessment

Based on the data collected, the team will continue work on Sections A and B of the California Environmental Flows Framework (CEFF) for the Napa Valley Subbasin with the goal of completing CEFF analysis in Spring 2026 to facilitate evaluation of sustainable management criteria for the GSP Periodic Evaluation due in January 2027.

20.3 Reporting

Stillwater Sciences and the team will summarize the 2025 survey results in a Technical Memorandum for inclusion in the Water Year 2025 Annual Report (due March 2026). The results of the 2024 and 2025 surveys will be included in a Technical Report for inclusion with the GSP Periodic Evaluation. The Technical Report will include the results of the CEFF analysis.

20.4 Meetings and Coordination: LSCE and Stillwater; LSCE/SS/RCD/County; LSCE

This task includes biweekly check-ins with LSCE, coordination meetings with NCGSA staff, time for Stillwater's preparation for TAG meetings, and drafting associated staff report. Additionally, this task includes preparation for and presentation at three outreach meetings per year.

20.5 Stillwater Sciences Grant Support

This task is for Stillwater staff support to Napa County for grant applications related to the ISW and GDEs Workplan implementation.

20.6 Project Management (Stillwater Sciences; specific to ISW and GDEs Workplan implementation)

This task is for Stillwater project management including scheduling, internal team management, coordination with Napa County and LSCE, and invoicing.

Deliverables:

Presentation materials and reports as described above.

TASK 21 - SW/GDEs Workplan Implementation (July 2026 - June 2027)

21.1.1 Site Tour

Field team leads and the project management team will lead up to a two-day tour of the sites for interested members of the TAG and the NCGSA. The site visit will include representatives from LSCE, Napa County, TAG, and Napa County RCD.

21.1.2 Plants (OPTIONAL)

See below

21.1.3 Wildlife (OPTIONAL)

See below

21.1.4 RCD Coordination

This task includes costs to coordinate with the Napa RCD on wet-dry mapping, habitat measurements (including temperature and dissolved oxygen) and assist in snorkel surveys, if needed. In addition, the budget includes one hourlong coordination meeting per month and up to eight stream temperature loggers and two temperature and dissolved oxygen meters to be deployed by the RCD.

21.2 CEFF Assessment

Based on the data collected, the team will continue work on Sections A and B of CEFF for the Napa Valley Subbasin with the goal of completing CEFF analysis in Spring 2026 to facilitate evaluation of sustainable management criteria for the GSP Periodic Evaluation in January 2027.

21.3 Reporting

Stillwater Sciences and the team will summarize the 2026 survey results in a Technical Memorandum for inclusion in the Water Year 2026 Annual Report (due March 2027). The results of the 2024, 2025, and 2026 surveys will be included in a Technical Report for inclusion with the GSP Periodic Evaluation. The Technical Report will include the results of the CEFF analysis.

21.4 Meetings and Coordination: LSCE and Stillwater; LSCE/SS/RCD/County; LSCE

This task includes biweekly check-ins with LSCE, coordination meetings with Napa County, time for Stillwater's preparation for TAG meetings, and drafting associated staff reports. Additionally, this task includes preparation for and presentation at three outreach meetings per year.

21.5 Grant Support (Stillwater Sciences)

This task is for Stillwater staff support to Napa County for grant applications related to the ISW and GDEs Workplan implementation.

21.6 Project Management (Stillwater Sciences; specific to ISW and GDEs Workplan implementation)

This task is for Stillwater project management, including scheduling, internal team management, coordination with Napa County and LSCE, and invoicing.

Deliverables:

Presentation materials and reports as described above.

Task 22 – Water Conservation and Groundwater Pumping Reduction Workplans Implementation (July 2025 - June 2026)

22.1 Meetings, Outreach, Technical Coordination, and Project Management (ERA)

This task focuses on ERA's services to manage its GSP implementation contributions, schedule, and deliverables specified in the following tasks. This includes preparing outreach materials and preparing for and participating in public workshops, outreach, partnership building, public presentations (e.g., TAG and NCGSA), conferences, as well as regularly scheduled technical meetings to support workplan implementation.

ERA will prepare for and participate in up to up to 9 TAG meetings and weekly coordination meetings, and/or consult with the team by informal telephone calls and conference calls to limit coordination time and cost. It is anticipated that these meetings will be used to present interim results to the NCGSA staff and TAG to receive initial feedback and to discuss progress on GPR Workplan implementation. TAG meetings will be held in person, and coordination meetings will be held virtually to limit travel time and cost. TAG meeting preparation includes staff report development as well as presentation materials.

ERA will continue to conduct extensive outreach with stakeholders to discuss water conservation, develop required data, and build partnerships with water users to implement the GPR Workplan. Outreach may take place in person or virtually, with a preference for virtual meetings to reduce travel time and costs. It is anticipated that outreach will include, but is not limited to, urban, rural residential, municipal and industrial, wine industry, and other groundwater users in the Napa Valley Subbasin.

ERA will coordinate with the team to conduct additional implementation partner meetings. This includes as-needed coordination meetings, to be held virtually, with NCGSA partners, including but not limited to, local certification programs (e.g., Napa Green, California Sustainable Winegrowing Alliance, RCD, Fish Friendly Farming) and local businesses interested in participating in the GPR Workplan program development.

ERA will work with the team to define potential partners and study areas for the implementation of selected GPR projects/programs. This may include, but is not limited to, defining specific business for the certification partnership program, specific areas/partners for a benchmarking program, and a test area for extending replant and water data reporting. If a test area (or areas) is identified, it will be used to inform the implementation of test/initial programs for all subsequent technical tasks.

This task includes meeting participation and limited materials development (e.g., staff reports and PowerPoints).

This task also includes internal project coordination, administration, monthly invoicing, and project management.

Deliverables:

If requested, meeting summary notes will be provided electronically via email. PowerPoint slides for TAG meetings covering presentation of ERA tasks with the accompanying TAG staff reports provided electronically.

22.2 Recharge Feasibility Analysis

The GSP includes potential projects to augment the water supply: expanding recycled water and additional aquifer recharge. Under this task, the team will evaluate the cost of the supply augmentation options, prepare an economic cost-effectiveness analysis of projects, compare that to demand management actions, and evaluate potential projects and management actions that are cost-effective to include in the portfolio of GSP implementation activities.

The team will apply existing data, define preliminary project operations, estimate project costs, and generate a reconnaissance-level assessment of the standardized cost of potential GSP projects.

The team will define the additional recharge and expanded recycled water project alternatives. This will include a reconnaissance-level overview of project operations, scale, and location. The team will conduct outreach to stakeholders and appropriate industry groups (e.g., Napa Valley Grapegrowers and Farm Bureau) to develop data and management practices for on-farm recharge opportunities.

The team and NCGSA staff will define up to three project alternatives that may include but are not limited to different recharge project locations, operations (e.g., reverse tile drain systems or on farm rainwater capture and retention), and scale. It is anticipated that project configurations will be presented at one or more TAG meetings.

The team will conduct outreach to stakeholders and interested parties for potential projects. This may include outreach and meetings with such entities as NapaSan in addition to meeting with growers/managers to evaluate project options and cost.

ERA will prepare an economic analysis of the costs and benefits of selected projects. ERA will define project capital, operating, borrowing, maintenance, and replacement costs for each project. The team will evaluate physical benefits, including annual expected water supply over a representative hydrologic period.

ERA will apply project cost components and benefits and calculate life-cycle costs for each project and alternative using appropriate financial methods. ERA will prepare economic analysis for each project and project alternative.

ERA will develop a consistent cost comparison across projects and demand management actions. This will support evaluation of whether supply augmentation projects are cost-effective relative to demand management actions specified

in the Workplans (and if so at what scale) and can be used to rank/screen potential projects and demand management actions.

The team will evaluate project capacity to protect and enhance ISW/GDEs and other groundwater sustainability indicators. It is anticipated that these considerations will be included in addition to the cost-effectiveness criteria for ranking/screening project and demand management alternatives.

The team will document findings in a concise technical report that describes the project alternatives, life-cycle costs, cost-effectiveness, project benefits, and other factors that affect the feasibility and cost of project implementation. It is anticipated that a summary of the results will be presented to the TAG or NCGSA at one or more meetings.

Deliverables:

Technical report summarizing feasibility analysis of recharge projects.

22.3 Incentive Program for Voluntary Adoption of Water Conservation Practices

ERA will assist NCGSA staff with developing incentive programs to encourage the adoption of water conservation practices and GPR Workplan programs. Under this task, ERA will continue working with NCGSA to assist with implementing incentive options.

ERA will assist with identifying service providers for service-based incentives. ERA will conduct interviews with potential partners to inform service feasibility and understand qualifications in consultation with NCGSA. This will include meetings with local organizations, government agencies, and businesses that offer services matching potential incentives. ERA will document outreach findings in internal notes and use feedback to refine program incentives.

ERA will assist with identifying and securing funding sources for incentives. This includes but is not limited to identifying external sources, developing and submitting applications for grant programs, or offering technical assistance during the development and funding process.

ERA will evaluate and apply incentives to GPR Workplan programs. ERA will develop a set of targeted incentives for each program.

ERA will prepare a concise technical memorandum for each implemented program (up to 3 programs) documenting the preferred/recommended incentive structure. It is anticipated that results will be presented at one or more TAG meetings.

Deliverables:

Technical memorandum describing the program, recommended incentives, and implementation recommendations, provided electronically.

22.4 Water Certification Partnership Implementation

In coordination with NCGSA and regional partners (e.g., local certification programs or other entities capable of developing a certification program), ERA will assist with the implementation of the Water Certification Partnership and verification of water conservation.

The team will assist with preparing a solicitation package that may include an RFP or RFQ and participate in a pre-launch interest meeting/workshop with interested parties. The solicitation will include a response for each of the certification program requirements and will also detail the format and submission requirements for interested parties.

ERA will support the solicitation and present a framework for certification partnership and answer questions from potential partner certification programs and third-party organizations. ERA will assist with the review process to identify program partners at NCGSA staff's request, including but not limited to reviewing proposals, presenting options, and scoring.

ERA will support NCGSA by assisting potential partner agencies regarding program implementation. This may include technical support and other questions to support program implementation.

The team will develop a standardized reporting format for submission of water use data, if necessary. The format will define the data points of interest, standard data collection and calculation procedures, units of measurement, time intervals of data capture, and other relevant parameters for partners reporting participant water use data.

Deliverables:

Solicitation document describing program requirements and implementation. If requested, standardized water data reporting format in a Microsoft Excel workbook (or another agreed-upon format).

22.5 Implementation of Benchmarking Program (Agricultural Water Users)

The team has established the consumptive water use estimation methodology and the pilot benchmarking program framework as one GPR Program implementation element. The team will continue to develop and implement a pilot benchmarking program for agricultural water user (vineyards) and expand to a full subbasin-wide program. The team will continue to work with stakeholders to implement the pilot benchmarking program.

The team will work with NCGSA staff and interested parties to identify agricultural water users (vineyards) that would be willing to participate in and provide feedback on a pilot benchmarking program. The team will conduct outreach and interviews to inform continued program development.

The team will prepare analysis and prototype for monthly benchmarking reports to be sent to program participants. Analysis will include econometric methods applied to OpenET data, field-level data, and geospatial county layers. The output of the analysis is a benchmarking report framework.

The team will hold periodic check-ins with pilot program participants to learn about which components of the benchmarking program are beneficial, which areas need improvement, and what additional information would be useful. Examples include the cadence of benchmarking reports, how data align with on-the-ground knowledge, and what additional insights or alerts (e.g., incoming weather alerts) would be useful in a test/initial program.

The team will analyze water use data to evaluate program performance for the pilot program. The team will provide recommendations for a scaled benchmarking program in a technical memorandum. It is anticipated that program development and implementation will be presented at one or more TAG meetings.

Deliverables:

Technical memorandum summarizing findings and recommendations.

22.6 Domestic Demand Management Programs

Working with NCGSA staff and stakeholders, the team will expand demand management programs for domestic water users.

The team will work with NCGSA staff on a test/initial benchmarking program for selected domestic water users. The team will support NCGSA with conducting outreach and interviews to inform program implementation; developing methodology and monthly reports based on previous work for the agricultural water benchmarking program; sending out monthly reports to pilot participants and collecting feedback to improve the program; and documenting.

The team will coordinate with NCGSA staff to develop a domestic water efficiency program aimed at reducing groundwater use by households and businesses in the Napa Valley Subbasin. This program would be focused primarily on self-supplied groundwater users. This may include but is not limited to a “cash for grass” program to incentivize homeowners and businesses to replace water-thirsty landscaping (such as lawns) for low-water landscape in exchange for an incentive payment. This task may also include a framework for a well metering program to offer technical assistance and incentives for domestic well users to install meters and share data on their gross water use. The framework will describe the potential goals, structure, actions, incentives, and partners for a program. This may include education and outreach, building water audits, water wise appliance/fixture exchanges, and other similar efforts. The program concept will be summarized in a technical memorandum.

The team will work with NCGSA and local partners to develop a domestic water conservation workshop series aimed at providing planning and resources for households and businesses interested in understanding their water use. The series will focus on offering practical information, actionable steps, and local resources in conjunction with existing efforts. The team will prepare meeting materials and supporting documentation.

Deliverables:

Technical memorandum summarizing program concept.

22.7 Outreach, Conferences, and GPR Messaging

Outreach, partnership, education, and feedback on GSP implementation programs is critical. The team will continue to work with NCGSA staff, stakeholders, partners, and other parties for implementing the GSP.

The team will continue to implement the education and outreach strategies for Workplan implementation across water user segments. This includes coordinating with local partners, presenting at partner meetings, participating in local workshops, and providing materials for local partner organizations.

The team will support NCGSA staff, as requested, with presentations at public meetings, workshops, and conferences for Workplan implementation. ERA will prepare economic and financial analysis to support program outreach and meetings. This includes preparing for and participating in up to three (3) additional public workshops to be held in person or remotely, as determined by NCGSA staff.

The team will develop alternative messaging systems including features to segment by user group (e.g., municipal/domestic, industrial, winery, vineyard), track open/interaction rates, send messages with alternative media as chosen by the user (e.g., text, email), and costs. Document opportunities to measure program performance by identifying water users with data (or willing to provide water use data) that can be tracked over time. The team will support

implementation including application of the system, plus following up with stakeholders and evaluating program performance.

Deliverables:

Presentations for selected events and messaging system technical memorandum.

22.8 Quantify GPR Water Conservation and Adaptive Management

In coordination with NCGSA, the team will develop methods to quantify groundwater savings attributed to GSP Workplan programs.

The team will identify measurable outcomes (water savings) from each program that will be evaluated. The primary focus will be groundwater savings, but the team and NCGSA staff may also identify and gather baseline data for outcomes of interest (e.g., recharge, other management practices, other co-benefits).

The team will develop and apply an impact evaluation methodology to quantify groundwater savings attributable to each program. ERA will apply standard economic impact evaluation methods to quantify program water savings, which will be measured as the incremental change from an appropriate baseline that controls for other confounding factors. The team will quantify groundwater savings by program per year, and as an average annual amount. This task will project future program savings based on expected continued adoption and calculate and report program cost effectiveness by calculating the estimated per year and annualized cost per acre-foot of groundwater savings attributable to each program.

The team will document baseline outcomes and analysis methods in a technical memorandum. The team will work with NCGSA staff to summarize program water savings for required GSP reporting and any appropriate groundwater modeling. The team will explain results, including presentations at TAG meetings.

Deliverables:

Technical memorandum and participation in team meetings.

22.9 Fiscal and Economic Analysis Support for GSP/PMA Implementation (e.g., Extended Replant, Other Rates, Programs)

ERA will support GPR Workplan implementation with fiscal and economic analysis of alternative water conservation programs and GSP implementation.

This task includes developing a program framework for water conservation by extending the idle rest period during vineyard replants; preparing a financial analysis to estimate fair, appropriate, and defensible incentive payments to encourage extending the replanting cycle; preparing a program framework including but not limited to rules, enforcement, and contracting process; and preparing a geospatial analysis of county cropping. The task includes applying a program incentive framework and estimating potential program adoption. The team will work with NCGSA staff to evaluate program benefits for reducing groundwater pumping and effects on sustainability indicators.

The team will provide economic analysis and support to NCGSA staff on GSP program development and implementation, including annual project and management actions (PMAs) reporting and GSP programs.

Deliverables:

Technical memorandum, meeting notes, and participation in technical team meetings as requested.

22.10 Water Tracking and Measurement

ERA will continue to work with NCGSA staff on developing and implementing water tracking and measurement methods, namely continuing to rollout TAPP to growers in the NCGSA for tracking of groundwater pumping and water use reporting. This will include customer onboarding, technical demonstrations, adding and verifying water use limitation data, ongoing QA/QC of meter readings and reports, and other technical support.

Customer onboarding will include well registration, account management, and TAPP identification labels for meters. Customer information will be integrated into TAPP, including contact information, meter numbers, field identifiers, and allocation/ water right identifiers. Water tracking/allocation data will be added for each customer, including wells, meters, and acreage data.

ERA will provide ongoing customer technical support for TAPP software use, meter readings, and water use reports. Review meter readings and water use reports. Provide ongoing general technical support, including inquiries from customers both by phone and by email.

ERA will prepare outreach materials and technical information for NCGSA and TAPP customers. This will include flyers and email materials about TAPP and water measurement and conservation practices in the NCGSA. Technical demonstrations may be held (in person or remotely) to show users how to use the mobile application to take meter readings and how to use the online dashboard to track water usage against set limits.

ERA will work with NCGSA to define and implement the TAPP customer responsibility for annual subscription payments and any cost sharing. As requested, this task includes support for the NCGSA rate study development related to any TAPP development and incentive payments. As requested, ERA will also support any evaluation of additional data collection or management efforts to enhance water use data availability.

Deliverables:

TAPP customer implementation and mobile applications for users who sign up for subscriptions.

22.11 As-Needed Support/Reporting, Grants, Funding Mechanisms (ERA)

In coordination with NCGSA staff requests and the team, ERA will support other efforts supporting GPR Workplan implementation and its incentive-based policies. As requested, ERA will provide technical support related to Workplans' implementation and other matters related to GSP implementation. These efforts include supporting NCGSA staff's actions to secure grants and other funding mechanisms.

Deliverables:

Technical memorandum, meeting notes as requested, and participation in technical team meetings.

Task 23 – Water Conservation and Groundwater Pumping Reduction Workplans Implementation (July 2026 - June 2027)

23.1 TAG Meetings, Outreach, Technical Coordination, and Project Management (ERA)

This task focuses on ERA's services to manage its scope, schedule, and deliverables specified in the following tasks. This includes preparing outreach materials and preparing for and participating in public workshops, outreach, partnership building, public presentations (e.g., TAG and GSA), conferences, as well as regularly scheduled technical meetings to support Workplans' implementation.

ERA will prepare for and participate in up to up to 9 TAG meetings and weekly coordination meetings with NCGSA staff, and/or consult with NCGSA staff by informal telephone calls and conference calls to limit coordination time and cost. It is anticipated that these meetings will be used to present interim results to the NCGSA staff and TAG to receive initial feedback and to discuss progress on GPR Workplan implementation. TAG meetings will be held in person, and NCGSA staff coordination meetings will be held virtually to limit travel time and cost. TAG meeting preparation includes staff report development as well as presentation materials.

ERA will continue to conduct extensive outreach with stakeholders to discuss water conservation, develop required data, and build partnerships with water users to implement the GPR Workplan. Outreach may take place in person or virtually, with a preference for virtual meetings to reduce travel time and costs. It is anticipated that outreach will include, but is not limited to, urban, rural residential, municipal and industrial, wine industry, and other groundwater users in the Napa Valley Subbasin.

ERA will work with NCGSA staff to conduct additional implementation partner meetings. This includes as-needed coordination meetings, to be held virtually, with NCGSA partners, including but not limited to, local certification programs (e.g., Napa Green, CWSA, RCD, FFF) and local businesses interested in participating in GPR Workplan implementation.

ERA will work with NCGSA staff and the team to define potential partners and study areas for the implementation of selected GPR projects/programs. This may include, but is not limited to, defining specific business for the certification partnership program, specific areas/partners for a benchmarking program, and a test area for extending replant and water data reporting. If a test area (or areas) is identified, it will be used to inform the implementation of test/initial programs for all subsequent technical tasks.

This task also includes internal project coordination, administration, monthly invoicing, and project management.

Deliverables:

If requested, meeting summary notes provided electronically via email. PowerPoint slides for TAG meetings covering presentation of ERA tasks with the accompanying TAG staff reports.

23.2 Recharge Feasibility Analysis

This task is a continuation of Task 22.2 begun July 1, 2025, through June 30, 2027. Under this task, the team will evaluate the cost of the supply augmentation options, prepare an economic cost-effectiveness analysis of projects and compare that to demand management actions, and evaluate potential projects and management actions that are cost-effective to include in the portfolio of GSP implementation activities.

The team will apply existing data, define preliminary project operations, estimate project costs, and generate a reconnaissance-level assessment of the standardized cost of potential GSP projects.

The team will define the additional recharge and expanded recycled water project alternatives. This will include a reconnaissance-level overview of project operations, scale, and location. The team will conduct outreach to stakeholders and appropriate industry groups (e.g., Napa Valley Grap growers and Farm Bureau) to develop data and management practices for on-farm recharge opportunities.

The team and NCGSA staff will define up to three (3) project alternatives that may include but are not limited to different recharge project locations, operations (e.g., reverse tile drain systems or on farm rainwater capture and retention), and scale. It is anticipated that project configurations will be presented at one or more TAG meetings.

The team will conduct outreach to stakeholders and interested parties for potential projects. This may include outreach and meetings with such entities as NapaSan in addition to meeting with growers/managers to evaluate project options and cost.

ERA will prepare an economic analysis of the costs and benefits of selected projects. ERA will define project capital, operating, borrowing, maintenance, and replacement costs for each project. The team will evaluate physical benefits, including annual expected water supply over a representative hydrologic period.

ERA will apply project cost components and benefits and calculate life-cycle costs for each project and alternative using appropriate financial methods. ERA will prepare economic analysis for each project and project alternative.

ERA will develop a consistent cost comparison across projects and demand management actions. This will support evaluation of whether supply augmentation projects are cost-effective relative to demand management actions specified in the Workplans (and if so at what scale) and can be used to rank/screen potential projects and demand management actions.

The team will evaluate project capacity to protect and enhance ISW/GDEs and other groundwater sustainability indicators. It is anticipated that these considerations will be included in addition to the cost-effectiveness criteria for ranking/screening project and demand management alternatives.

The team will document findings in a technical report that describes the project alternatives, life-cycle costs, cost-effectiveness, project benefits, and other factors that affect the feasibility and cost of project implementation. It is anticipated that a summary of the results will be presented to the TAG or NCGSA at one or more meetings.

Deliverables:

Technical report summarizing recharge projects feasibility analysis.

23.3 Incentive Program for Voluntary Adoption of Water Conservation Practices

This task is a continuation of Task 22.3. ERA will assist NCGSA staff with developing incentive programs to encourage the adoption of water conservation practices and GPR Workplan programs. Under this task, ERA will continue working with NCGSA to assist with implementing incentive options.

ERA will assist with identifying service providers for service-based incentives. ERA will conduct interviews with potential partners to inform service feasibility and understand qualifications in consultation with NCGSA. This will include meetings

with local organizations, government agencies, and businesses that offer services matching potential incentives. ERA will document outreach findings in internal notes and use feedback to refine program incentives.

ERA will assist with identifying and securing funding sources for incentives. This includes but is not limited to identifying external sources, developing and submitting applications for grant programs, or offering technical assistance during the development and funding process.

ERA will evaluate and apply incentives to GPR Workplan programs. ERA will develop a set of incentives targeted to each program.

ERA will prepare a technical memorandum for each implemented program (up to 3 programs) documenting the preferred/recommended incentive structure. It is anticipated that results will be presented at one or more TAG meetings.

Deliverables:

Technical memorandum describing the program, recommended incentives, and implementation recommendations, provided electronically.

23.4 Water Certification Partnership Implementation

This task is a continuation of Task 22.4. ERA will assist with the implementation of the Water Certification Partnership and verification of water conservation.

ERA will support NCGSA staff by assisting potential partner agencies regarding program implementation. This may include technical support and other questions to support program implementation.

ERA will develop a standardized reporting format for submission of water use data, if necessary. The format will define the data points of interest, standard data collection and calculation procedures, units of measurement, time intervals of data capture, and other relevant parameters for partners reporting participant water use data.

Deliverables:

Solicitation document describing program requirements and implementation. If requested, standardized water data reporting format in a Microsoft Excel workbook (or another agreed-upon format).

23.5 Implementation of Benchmarking Program (Agricultural Water Users)

This task is a continuation of Task 22.5. The team will continue to implement a pilot benchmarking program for agricultural water user (vineyards) and expand to a full subbasin-wide program. The team will continue to work with stakeholders to implement the pilot benchmarking program.

The team will work with NCGSA staff and interested parties to identify agricultural water users (vineyards) that would be willing to participate in and provide feedback on a pilot benchmarking program. The team will conduct outreach and interviews to inform continued program development.

The team will prepare analysis and prototype for monthly benchmarking reports to be sent to program participants. Analysis will include econometric methods applied to OpenET data, field-level data, and geospatial county layers. The output of the analysis is a benchmarking report framework.

The team will hold periodic check-ins with pilot program participants to learn about which components of the benchmarking program are beneficial, which areas need improvement, and what additional information would be useful. Examples include the cadence of benchmarking reports, how data aligns with on-the-ground knowledge, and what additional insights or alerts (e.g., incoming weather alerts) would be useful in a test/initial program.

The team will analyze water use data to evaluate program performance for the pilot program. The team will provide recommendations for a scaled benchmarking program in a technical memorandum. It is anticipated that program development and implementation will be presented at one or more TAG meetings.

Deliverables:

Technical memorandum summarizing findings and recommendations.

23.6 Domestic Demand Management Programs

This task is a continuation of Task 22.6. Working with NCGSA staff and stakeholders, the team will expand demand management programs for domestic water users.

The team will work with NCGSA staff on a test/initial benchmarking program for selected domestic water users. The team will support NCGSA with outreach and interviews to inform program implementation; developing methodology and monthly reports based on previous work for the agricultural water benchmarking program; sending out monthly reports to pilot participants and collecting feedback to improve the program; and documenting.

The team will coordinate with NCGSA staff to develop a domestic water efficiency program aimed at reducing groundwater use by households and businesses in the Napa Valley Subbasin. This program would be focused primarily on self-supplied groundwater users. This may include, but is not limited to, a “cash for grass” program to incentivize homeowners and businesses to replace water-thirsty landscaping (such as lawns) with low-water landscaping in exchange for an incentive payment. This task may also include a framework for a well metering program to offer technical assistance and incentives for domestic well users to install meters and share data on their gross water use. The framework will describe the potential goals, structure, actions, incentives, and partners for a program. This may include education and outreach, building water audits, water-wise appliance/fixture exchanges, and other similar efforts. The program concept will be summarized in a technical memorandum.

The team will work with NCGSA staff and local partners to develop a domestic water conservation workshop series aimed at providing planning and resources for households and businesses interested in understanding their water use. The series will focus on offering practical information, actionable steps, and local resources in conjunction with existing efforts. The team will prepare meeting materials and supporting documentation.

Deliverables:

Technical memorandum summarizing program concept.

23.7 Outreach, Conferences and GPR Messaging

This task is a continuation of Task 22.7. The team will continue to work with NCGSA staff, stakeholders, partners, and other parties for implementing the GSP. The team will continue to implement the education and outreach strategies for Workplan implementation across water user segments. This includes coordinating with local partners, presenting at partner meetings, participating in local workshops, and providing materials for local partner organizations.

The team will support NCGSA staff, as requested, with presentations at public meetings, workshops, and conferences for Workplan implementation. ERA will prepare economic and financial analysis to support program outreach and meetings. This includes preparing for and participating in up to three (3) additional public workshops to be held in person or remotely, as determined by NCGSA staff.

The team will develop alternative messaging systems including features to segment by user group (e.g., municipal/domestic, industrial, winery, vineyard), track open/interaction rates, send messages with alternative media as chosen by the user (e.g., text, email), and costs. Document opportunities to measure program performance by identifying water users with data (or willing to provide water use data) that can be tracked over time. The team will support implementation including application of the system, plus following up with stakeholders and evaluating program performance.

Deliverables:

Presentations for selected events and messaging system technical memorandum.

23.8 Quantify GPR Water Conservation and Adaptive Management

This task is a continuation of Task 22.8. The team will develop methods to quantify groundwater savings attributed to GSP Workplan programs.

The team will develop and apply an impact evaluation methodology to quantify groundwater savings attributable to each program. This will apply standard economic impact evaluation methods to quantify program water savings, which will be measured as the incremental change from an appropriate baseline that controls for other confounding factors. Quantify groundwater savings by program per year, and as an average annual amount. Project future program savings based on expected continued adoption. Calculate and report program cost effectiveness by calculating the estimated per year and annualized cost per acre-foot of groundwater savings attributable to each program.

The team will document baseline outcomes and analysis methods in a technical memorandum. The team will summarize program water savings for required GSP reporting and any appropriate groundwater modeling. The team will work with NCGSA and its partners to explain results, including presentations at TAG meetings.

Deliverables:

Technical memorandum.

23.9 Fiscal and Economic Analysis Support for GSP/PMA Implementation (e.g., Extended Replant, Other Rates, Programs)

This task is a continuation of Task 22.9. ERA will support GPR Workplan implementation with fiscal and economic analysis of alternative water conservation programs and GSP implementation.

The team will continue to implement a program framework for water conservation by extending the idle rest period during vineyard replants. ERA will prepare a financial analysis to estimate fair, appropriate, and defensible incentive payments to encourage extending the replanting cycle. The team will work with NCGSA staff to evaluate program benefits for reducing groundwater pumping and effects on sustainability indicators.

ERA will provide economic and analysis support to NCGSA on GSP program development and implementation including annual PMA reporting, potential rates, and GSP programs.

Deliverables:

Technical memorandum, meeting notes, and participation in technical team meetings as requested.

23.10 Water Tracking and Measurement

This task is a continuation of Task 22.10. ERA will continue to work with NCGSA staff on developing and implementing water tracking and measurement methods, namely continuing to rollout TAPP to growers in the NCGSA for tracking of groundwater pumping and water use reporting. This will include customer onboarding, technical demonstrations, adding and verifying water use limitation data, ongoing QA/QC of meter readings and reports, and other technical support.

ERA will provide ongoing customer technical support for TAPP software use, meter readings, and water use reports. Review meter readings and water use reports. Provide ongoing general technical support, including inquiries from customers both by phone and by email.

ERA will prepare outreach materials and technical information for NCGSA and TAPP customers. As requested, this task includes support NCGSA rate study development related to any TAPP development and incentive payments. As requested, ERA will also support any evaluation of additional data collection or management efforts to enhance water use data availability.

Deliverables:

TAPP customer implementation and mobile applications for users that sign up for subscriptions.

23.11 As-Needed GSP Updates/Reporting Support, Grants, Funding Mechanisms (ERA)

In coordination with NCGSA staff requests and the team, ERA will support other efforts supporting GPR Workplan implementation and its incentive-based policies. As requested, ERA will provide technical support related to Workplans' implementation and other matters related to GSP implementation. These efforts include supporting NCGSA staff's actions to secure grants and other funding mechanisms.

Deliverables:

Technical memorandum, meeting notes as requested, and participation in technical team meetings.

Task 24 – Periodic Evaluation (Due January 2027)

24.1 Periodic Evaluation Planning

This task will summarize new information collected during GSP implementation and determine whether it warrants changes to the 2022 GSP (i.e., preparation of an Amended GSP) and the GSP Periodic Evaluation, or if the submittal to DWR by January 30, 2027, will include only the GSP Periodic Evaluation.

24.2 Groundwater Conditions Relative to SMCs

This task will summarize groundwater conditions relative to SMCs, including discussion of corrective actions, conditions relative to interim milestones, any undesirable results during the 5-year GSP implementation period (January 2022-January 2027), progress made on PMAs, adaptive management approaches implemented to address minimum thresholds, effects on any beneficial uses/users, any new information leading to changes in SMCs, and rationale describing whether a GSP Amendment is or is not warranted.

24.3 Status of Projects and Management Actions

This task will describe the status of PMAs, including significant new information and whether hydrologic changes (drought or other circumstances) have affected PMAs and their implementation. The team will describe anticipated PMAs over the next five-year cycle, including benefits quantified and accrued to date and anticipated benefits, the methods for tracking and administering PMAs, interactions with PMA proponents and others, and engagement with the public and stakeholders. The team will describe how PMAs will help achieve sustainability in relation to measurable objectives for SMCs (especially interconnected surface water). The team will describe progress and the potential timeline for PMAs and initial and/or further PMA implementation.

24.4 Basin Setting Update

This task will provide an update on the basin setting, as applicable, based on new information or changed water use, including the hydrogeologic conceptual model, groundwater conditions, water use changes and associated water budget, and model updates.

24.5 Monitoring Network Assessment

This task will assess and describe the sufficiency of monitoring networks relative to each SMC (e.g., representative coverage, monitoring density, frequency, effectiveness for assessing PMA effectiveness [latter includes MT exceedances, spatial and temporal variability of conditions, adverse impacts to beneficial uses and users, effects on adjacent basin]); this assessment is intended to be complementary to and not redundant with the GSP. The team will summarize monitoring network assessment findings and needs for network improvements. The team will describe data gaps and steps planned to address data gaps.

24.6 GSA Authorities and Enforcement Actions

This task will summarize any new NCGSA authorities gained, established or exercised since submittal of the 2022 GSP, including actions taken to advance groundwater sustainability, enforce legal actions to achieve the sustainability goal (e.g., implement Subbasin fees, require meters on wells, acquire grant or other funding sources, initiate allocation programs, or implement other pumping reduction programs). The team will describe how some or all of these components will achieve sustainability by at least 2042.

24.6 Outreach, Engagement, and Coordination with Other Agencies and Public

This task will describe continuing outreach and communication efforts (including outreach to land use agencies and federal/state/local agency coordination). The team will summarize public comments received during the five-year cycle and how the NCGSA responded to comments and implemented relevant changes in response to comments. The Periodic Evaluation will describe public engagement efforts, including efforts related to PMA implementation. The Periodic

Evaluation will also describe communication and engagement process (CEP) for GSP implementation and how the CEP is being maintained and updated as needed.

24.6 Other Information Related to Achieving Sustainability Goal

This task will summarize interbasin coordination, including subbasin management pertaining to management of adjacent basin(s). This task will describe whether potential impacts have occurred to adjacent basins. The Periodic Evaluation will discuss challenges (including legal matters, if applicable). The Periodic Evaluation will summarize coordination related to update of the County General Plan, particularly water resources management and land use planning programs.

24.7 Summary of Key Takeaways from Periodic Evaluation

This task will summarize the next steps and describe how the Periodic Evaluation supports efforts to achieve the sustainability goal. The Periodic Evaluation will present rationale for why a GSP Amendment is or is not needed for submittal in January 2027.

24.8 Public/Stakeholder and NCGSA Meetings

The team will prepare for and attend public/stakeholder and NCGSA Meetings related to Periodic Evaluation (estimate four meetings for Draft Periodic Evaluation plus three (3) virtual meetings with stakeholder groups).

24.9 Administrative Draft Periodic Evaluation

The team will prepare an Administrative Draft Periodic Evaluation and provide NCGSA staff with the Administrative Draft document for review and comments. The team will address comments and revise the Administrative Draft document as needed.

24.10 Draft Periodic Evaluation for Public Review

The team will prepare a Public Draft Periodic Evaluation for review and comments. The team will receive and address public comments.

24.11 Draft Final to NCGSA and Submit Final to DWR

The team will prepare a Final Draft Periodic Evaluation for NCGSA review, comments, and adoption. The team will address NCGSA comments, finalize the Periodic Evaluation, and submit it to DWR by at least January 30, 2027.

Deliverables:

Administrative Draft, Public Draft, and Final Periodic Evaluation.

Task 25 – Water Conservation Pilot Sites and Other Volunteered Remote Sensing Data

A Pilot Sites Program for vineyards and wineries is underway to accomplish two overarching objectives: 1) to refine estimates of vineyard and winery water use in the Napa Valley and 2) to share, collaborate, and contribute information about management practices, lessons learned, and building climate resiliency.

Napa Valley vineyards and wineries have a history of implementing water conservation measures, evaluating new water conservation methods, identifying approaches to achieve climate resiliency, and advancing water and soil management practices.

Through engagement with stakeholders, including the Napa County Farm Bureau, Napa Valley Grapegrowers, Winegrowers of Napa County, individual vineyard managers, and others, the NCGSA understands a wide range of water conservation and data collection methods and technologies are used in the Napa Valley, tailored to achieve specific vineyard and winery management and sustainability objectives.

The NCGSA is seeking vineyard and winery managers or operators at the leading edge of water management and stewardship efforts with an interest in:

1. sharing information with others about the benefits they have experienced from changes in practices;
2. participating as a pilot site to highlight the benefits of adopting different practices for the viticulture and winemaking industry as well as basin-wide sustainability objectives; and
3. contributing information that helps to refine the understanding of total water use in Napa Valley and aid ground truthing of watershed-scale remotely sensed data.

For each field/vineyard/winery, the information shared will be compiled with information from other volunteered pilot sites to show the range of techniques and measurements being implemented and the benefits realized. Location-specific data will be used in the NVIHM to help improve water use estimates throughout the Napa Valley.

Task 25 supports Napa County's communications with interested growers and wineries, including meetings to provide more information about the program objectives and utilization of field data. This task also supports compiling and synthesizing data gathered from participants. This task also includes coordinating with the Pilot Program participants on outreach and education to others about water management and best management practices.

Task 26 – GSP-Related Coordination for Drought Resilience Plan, Regional Climate Action and Adaptation Plan, and Abuelitos Foundation

The team will attend Drought and Water Shortage Task Force Meetings and provide technical support to NCGSA as needed. Technical support includes identifying areas of potential dry well occurrence and support to develop Dry Well Mitigation Program.

Task 27 – GSP-Related Support for Fee Study

This task includes support as requested for the NCGSA's implementation of the Fee Study prepared by others.

OPTIONAL TASKS

Task 28 – GSP Amendment (Optional)

This task involves the preparation of a GSP Amendment, as needed. The GSP Amendment effort would include draft and final revisions to the existing 2022 GSP. The Amendment involves redline revisions of portions of the GSP; it does not involve an entirely new GSP. If a GSP Amendment is prepared, a Periodic Evaluation is also required to be submitted concurrently with the Amendment. This task assumes public and stakeholder meetings are covered under other tasks.

Deliverables:

2022 GSP Amendment, as needed, with redline revisions shown as applicable, and clean version of 2022 GSP Amendment with redline edits accepted.

Task 29 – Additional Groundwater Level and ISW Monitoring Site Installation (OPTIONAL)

Task 29 is an optional task for the installation of additional groundwater level and ISW monitoring facilities to support GSP implementation. The task includes designing and overseeing the construction of two nested wells at each monitoring site with associated groundwater sampling, surveying, and automated groundwater level instrumentation. As part of this task, LSCE may also install a stream stage monitoring gage adjacent to each monitoring well site with automated stage and temperature monitoring instrumentation. The task includes support during the acquisition of well permits and other required regulatory submittals necessary for completion of the task, as well as all subcontractor and material costs related to the monitoring well and stream gage installation. This task assumes that LSCE will provide services relating to the monitoring well and stream gage construction, and NCGSA will acquire any necessary access agreements.

Deliverables:

Final Monitoring Well Designs
As-Built Monitoring Well Drawings
Well Completion Reports
Water Quality Sampling Results

Task 30 – Additional Surveys (ISW and GDEs) - Optional Tasks

The ISW and GDEs Workplan schedule called for vegetation and herpetofauna surveys in Year 1 (2024) and Year 2 (2025), and Year 5 (2029) after Workplan adoption, with optional surveys in 2026-2028 if the water year experienced a drought or flood. These optional tasks are described below.

Task 30.1.1 Optional Year 2 Vegetation Surveys

In the event of drought, a flood, or the recommendation of the TAG or NCGSA, vegetation health surveys will be repeated in 2026, and special status plants will be resurveyed in Spring 2027. Survey methods and assumptions are the same as in Task 20.

Deliverables:

Survey results as applicable.

Task 30.1.2 Optional Year 2 Wildlife Surveys

In the event of drought, a flood, or the recommendation of the NCGSA, the wildlife surveys will be conducted in Year 2 (2026). Survey methods and assumptions are the same as in Task 20.

Deliverables:

Survey results as applicable.

Task 30.1.3 Supplemental Topographic Surveys

If requested, supplemental topographic surveys to match the extent of the wet-dry mapping from the RCD can be conducted. This includes three days for these surveys.

Deliverables:

Survey results as applicable.

Summary of Estimated Costs

The estimated budget for July 1, 2025, through June 30, 2026, is **\$2,408,915**, and the estimated budget for July 1, 2026, through June 30, 2027, is **\$1,730,131**. The total estimated budget (not including options) is **\$4,139,046** (see summary **Table 1**, following task descriptions). The estimated costs for optional tasks are approximately **\$450,577** (**Table 1** – Tasks 28, 29, and 30; Task 29 includes costs for up to three additional monitoring sites).

A Department of Water Resources grant agreement has been approved for Napa County for the Stream gage Improvement Program (CalSIP) in the amount of **\$806,170**.

The requested amendment for GSP implementation technical services for July 1, 2025, through June 30, 2027, including options, is **\$4,589,623**. The CalSIP grant will reimburse **\$806,170** of the requested amount for materials and services related to the installation, operation, and maintenance of five stream gages.

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 1 – Project Management and Administration							
	Project management and admin	\$34,600		\$34,600			
TASK TOTAL					\$34,600	\$17,300	\$17,300
Task 2 – Stakeholder Engagement/Outreach							
Task 2.1	Meeting Prep and Special Meetings Planning Team	\$89,400		\$89,400			
Task 2.2	Public Outreach, Newsletters, and Technical Support to County for Communications	\$29,800		\$29,800			
TASK TOTAL					\$119,200	\$59,600	\$59,600
Task 3 – DMS and Data Products							
	Updating and Maintaining the DMS with Groundwater and Other Data	\$46,930		\$46,930			
TASK TOTAL					\$46,930	\$23,465	\$23,465
Task 4 – Water Year 2025 Required GSP Annual Report							
Task 4.1	Data Acquisition and Quality Control	\$26,010		\$26,010			
Task 4.2	Update Tables, Figures, and Appendices With the Most Current Data	\$24,426		\$24,426			
Task 4.3	Compute and Summarize Annual Groundwater Extraction for All Water Use Sectors; surface water supply used or available for use (or in lieu use); total water use.	\$6,820		\$6,820			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 4.4.1	Draft Report Preparation and Distribution	\$24,744		\$24,744			
Task 4.4.2	Final Report Preparation and Distribution	\$7,158		\$7,158			
Task 4.4.3	Data and Report Submittal Upload to DWR SGMA Portal and Monitoring Network Module	\$5,600		\$5,600			
TASK TOTAL					\$94,758	\$94,758	
Task 5 - Water Year 2026 Required GSP Annual Report							
Task 5.1	Data Acquisition and Quality Control	\$26,010		\$26,010			
Task 5.2	Update Tables, Figures, and Appendices with Most Current Data	\$24,426		\$24,426			
Task 5.3	Compute and Summarize Annual Groundwater Extraction for All Water Use Sectors; surface water supply used or available for use (or in lieu use); total water use.	\$6,820		\$6,820			
Task 5.4.1	Draft Report Preparation and Distribution	\$24,744		\$24,744			
Task 5.4.2	Final Report Preparation and Distribution	\$7,158		\$7,158			
Task 5.4.3	Data and Report Submittal Upload to DWR SGMA Portal and Monitoring Network Module	\$5,600		\$5,600			
TASK TOTAL					\$94,758		\$94,758
Task 6 – Grant Proposal Support							
	LSCE support NCGSA with grant application(s) as needed	\$15,100		\$15,100			
TASK TOTAL					\$15,100	\$7,550	\$7,550

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 7 – On-call Services and Meetings							
	Assist NCGSA staff as needed with GSP implementation efforts. Supplemental meetings as needed.	\$96,000		\$96,000			
TASK TOTAL					\$96,000	\$48,000	\$48,000
Task 8 – Napa Valley GSP Monitoring Implementation (FY 2025-2026)							
Task 8.1	Groundwater Elevation Monitoring: Coordination, Support, and Training; all monitoring to be conducted by NCGSA staff	\$13,538		\$13,538			
Task 8.2	Groundwater Quality Monitoring: Conducting, Coordinating, Supporting, and Training During Monitoring; providing support for NCGSA staff conducting monitoring	\$20,945	\$8,000	\$28,945			
Task 8.3	Surface Water Quality and Stage Monitoring: Coordination; providing support for NCGSA staff conducting monitoring	\$13,008		\$13,008			
TASK TOTAL					\$55,491	\$55,491	
Task 9 – Napa Valley GSP Monitoring Implementation (FY 2026-2027)							
Task 9.1	Groundwater Elevation Monitoring: Coordination, Support, and Training; all monitoring to be conducted by NCGSA staff	\$13,538		\$13,538			
Task 9.2	Groundwater Quality Monitoring: Conducting, Coordinating, Supporting, and Training During Monitoring; providing support for NCGSA staff conducting monitoring	\$20,945	\$8,000	\$28,945			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 9.3	Surface Water Quality and Stage Monitoring: Coordination; providing support for NCGSA staff conducting monitoring	\$13,008		\$13,008			
TASK TOTAL					\$55,491		\$55,491
Task 10 – Stream Gage Improvement Program (July 1, 2025 - June 30, 2026)							
Task 10.1	Administration	\$0	\$20,000	\$20,000			
Task 10.2	Planning: Permitting	\$0	\$70,000	\$70,000			
Task 10.3	Planning: Design	\$0	\$50,000	\$50,000			
Task 10.4	Installation: Site Enhancements	\$0	\$150,000	\$150,000			
Task 10.5	5 Sites: Equipment Procurement, Testing, and Installation	\$0	\$34,000	\$34,000			
Task 10.6	Dry Creek: Equipment Costs for One Rain Upgrade Site with GOES	\$0	\$20,000	\$20,000			
Task 10.7	Milliken: Equipment Costs for One Rain Upgrade Site with GOES	\$0	\$20,000	\$20,000			
Task 10.8	Conn: Equipment Costs for New Site with GOES	\$0	\$20,000	\$20,000			
Task 10.9	Napa River: Equipment Costs for One Rain Upgrade Site with GOES	\$0	\$20,000	\$20,000			
Task 10.10	Redwood Creek: Equipment Costs for One Rain Upgrade Site with GOES	\$0	\$20,000	\$20,000			
Task 10.11	Operations/Maintenance	\$0	\$207,128	\$207,128			
TASK TOTAL					\$631,128	\$631,128	

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 11 – Stream Gage Improvement Program (July 1, 2026 - June 30, 2027)							
Task 11.1	Administration	\$0	\$20,000	\$20,000			
Task 11.2	Operations/Maintenance	\$0	\$155,042	\$155,042			
TASK TOTAL					\$175,042		\$175,042
Task 12 – Evaluation of Hydrologic Data/Sustainability Indicators							
Task 12.1	Evaluation of Hydrologic Data	\$18,620		\$18,620			
Task 12.2	Monitoring networks and Identifying and Addressing Data Gaps	\$9,892		\$9,892			
Task 12.3	SMC and Potential Triggers, Exceedances and Recommended Actions	\$11,244		\$11,244			
TASK TOTAL					\$39,756	\$19,878	\$19,878
Task 13 – Technical Advisory Group Coordination/Technical Support							
Task 13.1	TAG/GSA Meetings (meeting preparation, materials, and attendance)	\$188,400		\$188,400			
TASK TOTAL					\$188,400	\$94,200	\$94,200
Task 14 – Napa Valley Integrated Hydrologic Model Refinement (FY 2025-2026)							
Task 14.1	Input Refinements (Geology, ET, Soil Moisture, Well Inventory)	\$45,200		\$45,200			
Task 14.2	Upper Watershed Model Refinements	\$19,880		\$19,880			
Task 14.3	Refinement of Model Calibration	\$36,100		\$36,100			
Task 14.4	Documentation of Model Refinements	\$19,012	\$12,000	\$31,012			
TASK TOTAL					\$132,192	\$132,192	

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 15 – Napa Valley Integrated Hydrologic Model Refinement (FY 2026-2027)							
Task 15.1	Input Refinements (Geology, ET, Soil Moisture, Well Inventory)	\$45,200		\$45,200			
Task 15.2	Upper Watershed Model Refinements	\$19,880		\$19,880			
Task 15.3	Refinement of Model Calibration	\$36,100		\$36,100			
Task 15.4	Documentation of Model Refinements	\$19,012	\$12,000	\$31,012			
TASK TOTAL					\$132,192		\$132,192
Task 16 – Napa Valley Integrated Hydrologic Model Scenarios/Application (FY 2025-2026)							
Task 16.1	Annual Report Support	\$15,940		\$15,940			
Task 16.2	Climate Change Scenarios	\$37,830		\$37,830			
Task 16.3	As Requested Modeling Scenarios	\$34,910	\$12,000	\$46,910			
TASK TOTAL					\$100,680	\$100,680	
Task 17 – Napa Valley Integrated Hydrologic Model Scenarios/Application (FY 2026-2027)							
Task 17.1	Annual Report Support	\$15,940		\$15,940			
Task 17.2	Climate Change Scenarios	\$37,830		\$37,830			
Task 17.3	As Requested Modeling Scenarios	\$34,910		\$34,910			
TASK TOTAL					\$88,680		\$88,680
Task 18 – GSA Coordination with SB SDA Watershed Modeling NVIHM (SB Estimated Completion 2026)							
Task 18.1	Data and NVIHM Coordination with SB Consultants	\$15,284		\$15,284			
Task 18.2	Review Draft Data Files and Draft Results; Provide Feedback	\$18,580		\$18,580			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 18.3	Review Updated Draft Results; Provide Feedback	\$18,580		\$18,580			
TASK TOTAL					\$52,444	\$26,222	\$26,222
Task 19 – Well Inventory, Significant Streams, and GSP Implementation Data-Related Support							
	Data Refinement and GIS Files Updating – Support to County	\$13,140		\$13,140			
TASK TOTAL					\$13,140	\$6,570	\$6,570
Task 20 – SW/GDEs Workplan Implementation (July 2025-June 2026)							
Task 20.1.1	Site Tour	\$3,690	\$18,000	\$21,690			
Task 20.1.2	Plants	\$1,930	\$43,000	\$44,930			
Task 20.1.3	Wildlife	\$1,930	\$92,000	\$93,930			
Task 20.1.4	RCD Coordination	\$9,820	\$29,000	\$38,820			
Task 20.2	CEFF Assessment	\$40,840	\$45,000	\$85,840			
Task 20.3	Reporting	\$15,100	\$53,000	\$68,100			
Task 20.4	Meetings and Coordination: LSCE and Stillwater; LSCE/SS/RCD/County; LSCE	\$34,200	\$61,000	\$95,200			
Task 20.5	Stillwater Sciences Grant Support	\$0	\$12,000	\$12,000			
Task 20.6	Project Management (Stillwater Sciences; specific to ISW and GDEs Workplan implementation)	\$5,790	\$27,000	\$32,790			
TASK TOTAL					\$493,300	\$493,300	
TASK 21 – SW/GDEs Workplan Implementation (July 2026-June 2027)							
Task 21.1.1	Site Tour	\$0	\$0	\$0			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 21.1.2	Plants (OPTIONAL)	\$0	\$0	\$0			
Task 21.1.3	Wildlife (OPTIONAL)	\$0	\$0	\$0			
Task 21.1.4	RCD Coordination	\$9,820	\$30,000	\$39,820			
Task 21.2	CEFF Assessment	\$32,040	\$35,000	\$67,040			
Task 21.3	Reporting	\$15,100	\$56,000	\$71,100			
Task 21.4	Meetings and Coordination: LSCE and Stillwater; LSCE/SS/RCD/County; LSCE	\$34,200	\$63,000	\$97,200			
Task 21.5	Grant Support (Stillwater Sciences)	\$0	\$12,000	\$12,000			
Task 21.6	Project Management (Stillwater Sciences; specific to ISW and GDEs Workplan implementation)	\$5,790	\$26,000	\$31,790			
TASK TOTAL					\$318,950		\$318,950
Task 22 – Water Conservation and Groundwater Pumping Reduction Workplans Implementation (July 2025-June 2026)							
Task 22.1	Meetings, Outreach, Technical Coordination, and Project Management (ERA)	\$0	\$52,925	\$52,925			
Task 22.2	Recharge Feasibility Analysis	\$22,572	\$55,000	\$77,572			
Task 22.3	Incentive Program for Voluntary Adoption of Water Conservation Practices	\$3,860	\$30,855	\$34,715			
Task 22.4	Water Certification Partnership Implementation	\$5,960	\$22,980	\$28,940			
Task 22.5	Implementation of Benchmarking Program (Agricultural Water Users)	\$10,900	\$34,645	\$45,545			
Task 22.6	Domestic Demand Management Programs	\$2,980	\$29,386	\$32,366			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 22.7	Outreach, Conferences, and GPR Messaging	\$3,420	\$13,993	\$17,413			
Task 22.8	Quantify GPR Water Conservation and Adaptive Management	\$2,370	\$10,285	\$12,655			
Task 22.9	Fiscal and Economic Analysis Support for GSP/PMA Implementation (e.g., Extended Replant, Other Rates, Programs)	\$3,860	\$29,880	\$33,740			
Task 22.10	Water Tracking and Measurement	\$3,860	\$30,000	\$33,860			
Task 22.11	As-Needed Support/Reporting, Grants, Funding Mechanisms (ERA)	\$1,930	\$21,640	\$23,570			
TASK TOTAL					\$393,301	\$393,301	
Task 23 – Water Conservation and Groundwater Pumping Reduction Workplans Implementation (July 2026-June 2027)							
Task 23.1	TAG Meetings, Outreach, Technical Coordination, and Project Management (ERA)	\$0	\$52,925	\$52,925			
Task 23.2	Recharge Feasibility Analysis	\$14,652	\$25,000	\$39,652			
Task 23.3	Incentive Program for Voluntary Adoption of Water Conservation Practices	\$3,860	\$25,245	\$29,105			
Task 23.4	Water Certification Partnership Implementation	\$5,960	\$7,660	\$13,620			
Task 23.5	Implementation of Benchmarking Program (Agricultural Water Users)	\$6,500	\$18,655	\$25,155			
Task 23.6	Domestic Demand Management Programs	\$2,980	\$54,574	\$57,554			
Task 23.7	Outreach, Conferences, and GPR Messaging	\$3,420	\$25,987	\$29,407			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 23.8	Quantify GPR Water Conservation and Adaptive Management	\$2,370	\$30,855	\$33,225			
Task 23.9	Fiscal and Economic Analysis Support for GSP/PMA Implementation (e.g., Extended Replant, Other Rates, Programs)	\$3,860	\$19,920	\$23,780			
Task 23.10	Water Tracking and Measurement	\$3,860	\$30,000	\$33,860			
Task 23.11	As-Needed GSP Updates/Reporting Support, Grants, Funding Mechanisms (ERA)	\$1,930	\$21,640	\$23,570			
TASK TOTAL					\$361,853		\$361,853
Task 24 – Periodic Evaluation (Due January 2027)							
Task 24.1	Periodic Evaluation Planning	\$18,580		\$18,580			
Task 24.2	Groundwater Conditions Relative to SMCs	\$20,680		\$20,680			
Task 24.3	Status of Projects and Management Actions	\$24,600		\$24,600			
Task 24.4	Basin Setting Update	\$29,560		\$29,560			
Task 24.5	Monitoring Network Assessment	\$29,560		\$29,560			
Task 24.6	GSA Authorities and Enforcement Actions	\$5,960		\$5,960			
Task 24.7	Outreach, Engagement, and Coordination with Other Agencies and Public	\$13,680		\$13,680			
Task 24.8	Other Information Related to Achieving Sustainability Goal	\$5,960		\$5,960			
Task 24.9	Summary of Key Takeaways from Periodic Evaluation	\$8,940		\$8,940			

Table 1. Summary of Estimated Costs GSP Technical Support Services

Task Description		Cost				Estimated Budget by Fiscal Year	
		LSCE	Outside Services	Subtask	Total Task	June 30, 2025 - July 1, 2026	June 30, 2026 - July 1, 2027
Task 24.10	Public/Stakeholder and NCGSA Meetings	\$61,750		\$61,750			
Task 24.11	Administrative Draft Periodic Evaluation	\$59,210		\$59,210			
Task 24.12	Draft Periodic Evaluation for Public Review	\$41,600		\$41,600			
Task 24.13	Draft Final to GSA and Submit Final to DWR	\$29,080		\$29,080			
TASK TOTAL					\$349,160	\$174,580	\$174,580
Task 25 – Water Conservation Pilot Sites and Other Volunteered Remote Sensing Data							
	Support for Pilot Sites	\$21,600		\$21,600			
TASK TOTAL					\$21,600	\$10,800	\$10,800
Task 26 – GSP-Related Coordination for Drought Resilience Plan, Regional Climate Action and Adaptation Plan, and Abuelitos Foundation							
	GSP-Related Coordination with Other Programs	\$30,000		\$30,000			
TASK TOTAL					\$30,000	\$15,000	\$15,000
Task 27– GSP-Related Support for Fee Study							
	GSP-Related Support for Fee Study	\$4,900		\$4,900			
TASK TOTAL					\$4,900	\$4,900	
TOTALS		\$2,034,826	\$2,104,220	\$4,139,046	\$4,139,046	\$2,408,915	\$1,730,131
TOTALS (with CalSIP DWR Grant Fund Reimbursement of \$806,170)					\$3,332,876	\$1,777,787	\$1,555,089

OPTIONAL TASK COST ESTIMATES				
Task Description	Cost			
	LSCE	Outside Services	Subtask	Total Task
Task 28 – GSP Amendment (OPTIONAL)				
GSP Amendment (as Needed)	\$95,720		\$95,720	
Task Total				\$95,720
Task 29 – Additional Groundwater Level and ISW Monitoring Site Installation (OPTIONAL)				
One additional groundwater level and ISW monitoring site	\$31,115	\$51,435	\$82,550	\$82,550
Two additional groundwater level and ISW monitoring sites	\$61,285	\$82,170	\$143,455	\$143,455
Three additional groundwater level and ISW monitoring sites	\$91,457	\$112,900	\$204,357	\$204,357
Task 30 – Additional Surveys (ISW/GDEs) -- OPTIONAL				
Task 30.1.1 Plants (Year 2)	\$0	\$43,000	\$43,000	
Task 30.1.2 Wildlife (Year 2)	\$0	\$91,000	\$91,000	
Task 30.1.3 Supplemental Topographic Surveys	\$0	\$16,500	\$16,500	
Task Total				\$150,500

EXHIBIT "B-4"
LUHDORFF & SCALMANINI, CONSULTING ENGINEERS COMPENSATION RATES

SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES 2025

Professional*

Senior Principal.....	\$265/hr.
Principal Professional	\$260/hr.
Supervising Professional.....	\$248/hr.
Senior Professional	\$220/hr.
Project Professional	\$192/hr.
Staff Professional	\$170/hr.

Technical

Data Management Specialist.....	\$160/hr.
Senior GIS Analyst.....	\$160/hr.
GIS Specialist.....	\$120/hr.
Engineering Asst/Scientist	\$120/hr.

Project Administrative Support

Word Processing, Clerical	\$105/hr.
Digital Communications Specialist.....	\$120/hr.
Project Administrator	\$120/hr.

Vehicle Use	\$0.67/mi (or curr. IRS rate)
Subsistence	Cost Plus 15%
Field Equipment (Flow Meters, Transducers, etc.)	\$25 to \$100/day
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%
Prevailing Wage Rate	\$210/hr

* *Engineer, Geologist, Hydrogeologist, and Hydrologist*