

DRAFT

ATTACHMENT A

**SCOPE OF WORK
FOR
GSP – ALTERNATIVE UPDATE, HYDROLOGIC AND FACILITATION SERVICES**

Pajaro Valley Water Management Agency (PV Water) is contracting with E.L. Montgomery & Associates, Inc. (M&A) to provide hydrologic and facilitation services in support of the GSP Alternative Update Project (Project). The overall goal of the Project is to promote local groundwater management without State interference, obtain Department of Water Resources (DWR) approval of the five-year update, and ensure compliance with the Sustainable Groundwater Management Act (SGMA). This goal will be primarily accomplished by addressing DWR's recommendations for the Alternative Update and engaging a diverse cross-section of stakeholders including representatives of disadvantaged areas (DAs) to advise the development of the Pajaro Valley Alternative Update. The scope will be completed by the following team of consultants providing expertise to cover multiple areas of the scope.

- M&A: project management, sustainable management criteria, groundwater monitoring plan, groundwater modeling.
- cbec eco engineering (cbec): surface water depletion, groundwater dependent ecosystems, surface water monitoring plan.
- Carollo Engineers (Carollo): Basin Management Plan projects and management actions
- Strategy Driver Inc (SDI): stakeholder outreach and facilitation
- Martin Feeney (Feeney): monitoring plan review

As the scope will be funded by Proposition 68 Sustainable Groundwater Management Grant Program Planning - Round 3 Grant Agreement No. 4600013568, the below scope of work references grant work plan categories and activities where applicable. The below scope also identifies the team member firm that will lead each subtask.

SCOPE OF WORK

Task 1: Grant Agreement Administration - Grant Category (a)

Task 1.1 Support Quarterly Progress Reports (M&A lead)

Provide information as requested by PV Water and grant consultant for quarterly progress reports to be submitted to DWR grant manager.

Deliverables:

- Requested information within three business days of requests

Task 1.2 Grant Completion Report (M&A lead)

Provide information as requested by PV Water and grant consultant for grant completion report to be submitted to DWR grant manager.

Deliverables:

- Requested information within three business days of requests

Task 2: Stakeholder Engagement / Outreach - Grant Category (b)

Task 2.1 Prepare Community and Outreach Engagement Plan (SDI lead)

Review database of stakeholders including DAs, tribes, and non-governmental organizations compiled by PV Water. Research information to supplement stakeholder database. Write draft plan. Finalize plan based on PV Water comments.

Deliverables:

- Supplemental information for stakeholder database within 1 week of PV Water providing database
- Draft Community and Outreach Engagement Plan by August 31, 2020
- Final Community and Outreach Engagement Plan within 1 week after receiving comments from PV Water

Task 2.2 Conduct Advisory Committee Meetings (SDI lead)

Plan schedule of topics for Advisory Committee meetings. Prepare agendas and presentations for 10 Advisory Committee meetings. Participate in remote preparation meetings with PV Water in advance of each Advisory Committee meeting. Participate in 10 two hour long Advisory Committee meetings with up to 6 in-person meetings with the remaining meetings conducted remotely. Prepare meeting notes for Advisory Committee meetings. Prepare Advisory Committee meeting summaries for public communication. Communicate with Advisory Committee members as needed.

Deliverables:

- Draft agenda and presentation 1 week prior to Advisory Committee meeting.
- Final agenda and presentation 2 business days prior to Advisory Committee meetings.

- Draft meeting notes and meeting summaries 1 week after Advisory Committee meetings.
- Final meeting notes and meeting summaries within 1 week after receiving PV Water comments.

Task 2.3 Stakeholder Communication (SDI lead)

Prepare 2 English language Fact Sheets on project, one describing Project and stakeholder process and one describing proposed outcomes. Review Spanish translation of Fact Sheets provided by PV Water. Review postcards and letters to stakeholders drafted by PV Water. Review website and social media content prepared by PV Water.

Deliverables:

- Draft first English language Fact Sheet 1 week after finalizing Communication and Outreach Engagement Plan
- Finalize first English language Fact Sheet 1 week after receiving PV Water comments.
- Draft second English language Fact Sheet 1 week after providing draft Update report to PV Water
- Finalize second English language Fact Sheet 1 week after receiving PV Water comments
- Provide comments on communications of PV Water within 2 business days of receipt.

Task 2.4 Special Stakeholder and Interbasin Meetings (SDI lead)

Prepare agendas and presentations for 2 additional stakeholder meetings, such as with representatives of adjacent basins. Participate in remote preparation meetings with PV Water in advance of each additional stakeholder meeting. Participate in 2 three hour in-person additional stakeholder meetings. Prepare meeting notes.

Deliverables:

- Draft agenda and presentation 1 week prior to additional stakeholder meeting.
- Final agenda and presentation 2 business days prior to additional stakeholder meetings.
- Draft meeting notes 1 week after additional stakeholder meetings.
- Final meeting notes within 1 week after receiving PV Water comments.

Task 2.5 Board Meetings (M&A lead)

Prepare presentations for 2 Board meetings. Participate in 2 Board meetings.

Deliverables:

- Draft presentation 1 week prior to Board packet deadline.
- Final presentation 1 business day prior to Board packet deadline.

TASKS 3-14: ALTERNATIVE PLAN UPDATE - GRANT CATEGORY (C)

Task 3: Non-jurisdictional assessment – Grant Activity (c) 1

Task 3.1 Model evaluation (M&A lead)

Evaluate Pajaro Valley Hydrologic Model simulations of implementation of Basin Management Plan to assess effect of implementation on non-jurisdictional portions of Basin and effect of activities in non-jurisdictional portions of Basin on Basin sustainability.

Deliverables:

- Preliminary draft subsection describing evaluation for PV Water review 1 month after model simulations available.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.
- Final subsection for Update Report 2 weeks after receiving Advisory Committee comments.

Task 3.2 Monitoring Network evaluation (M&A lead)

Informed by model evaluation results, evaluate current monitoring activities and the potential benefit of expanding monitoring activities to assess effects across jurisdictional boundaries in the Basin. Coordinate with representatives of neighboring water agencies and jurisdictional authorities, such as the Counties of San Benito and Monterey, as appropriate, to develop adequate monitoring mechanisms (monitoring wells, land use data, consumption data, etc.) to inform future assessments. Evaluation will be incorporated into monitoring plan developed for Task 8.

Task 4: Quantify depletions of interconnected surface waters – Grant Activity (c)

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Task 4.1 Evaluate historical data to inform streamflow depletion estimates (cbec lead)

Identify areas of the Pajaro Valley Subbasin with interconnected surface waters and compile available, historical, data to quantify any depletions of interconnected surface waters as of January 1, 2015. Identify gaining/losing reaches and quantify changes in stream flow rate changes on seasonal basis and during wet through dry year-types. Work will include: obtain and synthesize stream flow data; identify and synthesize shallow groundwater levels in adjacent wells; compare stream water level/flow data against groundwater level data at paired locations; evaluate whether groundwater elevation proxies can be established based on data; quantify changes in stream flow gains and losses.

Anticipating there may be limited coverage of paired surface water flow and shallow groundwater data for to accurately quantify streamflow depletions, identify periods of undesirable stream flow conditions and attempt to determine the contributing causes. Using the results of available studies that have quantified minimum ecological flow needs on watershed drainages (e.g., Critical Riffle Analyses for Salsipuedes and Corralitos Creeks), attempt to identify the spatial and temporal extent of historic flows below the minimum flow. To the extent possible, obtain well monitoring data and look for any correlation between low creek flows and groundwater level and, if available, withdrawal rates for nearby wells.

Deliverables:

- Preliminary draft subsection describing data evaluation for PV Water review by November 30, 2020.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 4.2 Evaluate use of groundwater model to estimate streamflow depletion (M&A lead)

Evaluate Pajaro Valley Hydrologic Model (PVHM) for appropriateness to provide estimates of depletion from pumping as historical data may not be sufficient to provide these estimates. Compare historical data synthesized in Task 4.1 to groundwater model output to assess model ability to represent historical conditions related to streamflow depletion. If appropriate and necessary, describe approach to using PVHM to estimate streamflow depletion to be authorized under As-Needed Services in Task 16.

Deliverables:

- Preliminary draft subsection describing data evaluation and modeling approach for PV Water review 1 month after later of calibrated model made available or preliminary draft prepared for Task 4.1
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.

- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 4.3 Evaluate data from new stations (cbec lead)

Using data provided by USGS at new Pajaro River gauges at Main Street and Murphy Cross, synthesize stream flow data; identify and synthesize shallow groundwater levels in adjacent wells; compare surface water level/flow data against groundwater level data at paired locations; quantify changes in stream flow gains and losses.

Deliverables:

- Preliminary draft subsection describing data evaluation for PV Water review by January 31, 2021.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 4.4 Evaluate additional monitoring needs (cbec lead)

Identify data gaps and needs per results of Tasks 4.1 and 4.2. Evaluation will be incorporated into monitoring plan developed for Task 8.

Task 5: Groundwater Dependent Ecosystem (GDE) Identification – Grant Activity (c) 3

Task 5.1 Identify GDEs (cbec lead)

Compare the DWR Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) to seasonal and long-term wet/dry period depth to water (DTW) estimates to identify GDEs. Derive DTW estimates through GIS comparison of County LiDAR DEM to selected seasonal and interannual wet/dry period groundwater elevation contours. Confirm GDEs through review of aerial topography and other sources of vegetation and wildlife maps. No field confirmation is included.

Deliverables:

- Preliminary draft subsection describing data evaluation for PV Water review by November 30, 2020.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.

- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 6: Water Budget Estimates – Grant Activity (c) 4

Task 6.1 Summarize Projected Water Budget (M&A lead)

Using PVHM output provided by USGS or processed as part of optional services in Task 16, prepare tabular and graphical summaries of projected water budgets based on three available climate scenarios.

Deliverables:

- Preliminary draft subsection summarizing projected water budgets to PV Water 1 month after model results available.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 7: Development of Sustainable Management Criteria for Chronic Depletion of Groundwater Levels– Grant Activity (c) 5

Task 7.1 Prepare proposed approach for sustainable management criteria for chronic depletion of groundwater levels (M&A lead)

Summarize considerations and potential approaches for sustainable management criteria for chronic depletion of groundwater levels. Evaluate availability of data or model simulations to implement different approaches. Propose approach for sustainable management criteria.

Deliverables:

- Draft memo proposing approach for sustainable management criteria for PV Water by September 30, 2020
- Revised draft memo for Advisory Committee review 1 week after receiving PV Water comments.
- Updated memo documenting Advisory Committee direction 2 weeks after receiving Advisory Committee comments.

Task 7.2 Implement approach to propose sustainable management criteria for chronic depletion of groundwater levels (M&A lead)

Evaluate data such as historical range of groundwater levels and/or well construction information or results from model simulations performed under as-needed services Task 16 to propose sustainable management criteria following approach developed in Task 7.1.

Deliverables:

- Preliminary draft subsection describing development of sustainable management criteria for PV Water review one month after receiving Advisory Committee direction on approach.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 8: Development of Sustainable Management Criteria for Depletion of Interconnected Surface Water– Grant Activity (c) 5

Task 8.1 Evaluate unreasonable streamflow depletion (cbec lead)

Review and synthesize existing reports and information pertaining to seasonal and interannual dry period aquatic habitat needs (e.g., flow rates/depths for fish passage and rearing) for river and creek reaches.

Deliverables:

- Preliminary draft subsection describing data evaluation for PV Water review by November 30, 2020.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 8.2 Prepare proposed approach for sustainable management criteria for surface water depletion (cbec lead)

Based on evaluations in Task 4.1, 4.2, and 8.1, propose approach for developing sustainable management criteria. Considerations for potential approaches include information on unreasonable streamflow depletion, estimates of historical streamflow depletion, and groundwater elevation proxies based on observed or simulated relationship between streamflow depletions and groundwater levels.

Deliverables:

- Draft memo proposing approach for sustainable management criteria to PV Water one month after preliminary draft subsection prepared for Task 4.2.
- Revised draft memo for Advisory Committee review 1 week after receiving PV Water comments.
- Updated memo documenting Advisory Committee direction 2 weeks after receiving Advisory Committee comments.

Task 8.3 Implement approach to propose sustainable management criteria for surface water depletion (cbec lead)

Evaluate data or results from model simulations performed under as-needed services Task 16 to implement approach from Task 8.2 for proposing sustainable management criteria.

Deliverables:

- Preliminary draft subsection describing development of sustainable management criteria for PV Water review two months after receiving Advisory Committee direction on approach.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 9: Development of an Assessment Tool and Sustainable Management Criteria for Seawater Intrusion – Grant Activity (c) 6

Task 9.1 Evaluate isocontour concentration (M&A lead)

Review historical use of a 100 milligrams per liter (mg/L) concentration as the threshold for seawater intrusion. Evaluate crop and other beneficial use sensitivity to chloride concentrations to propose concentration to use for sustainable management criteria.

Deliverables:

- Preliminary draft subsection describing evaluation of threshold concentration for PV Water review by October 31, 2020.
- Revised draft subsection for Advisory Committee review 1 week after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 9.2 Prepare proposed approach for sustainable management criteria for seawater intrusion (M&A lead)

Based on evaluation in Task 9.1, propose approach for sustainable management criteria that will locate isocontours and describe an assessment tool for seawater intrusion including possible groundwater elevation proxies.

Deliverables:

- Draft memo proposing approach for sustainable management criteria to PV Water one month after Task 9.1 presented to Advisory Committee.
- Revised draft memo for Advisory Committee review 1 week after receiving PV Water comments.
- Updated memo documenting Advisory Committee direction 2 weeks after receiving Advisory Committee comments.

Task 9.3 Implement proposed approach for sustainable management criteria for seawater intrusion (M&A lead)

Evaluate data or results from model simulations performed under as-needed services Task 16 to implement approach from Task 9.2 for proposing sustainable management criteria including isocontour locations and possibly groundwater elevation proxies. Develop assessment tool for evaluating conditions against sustainable management criteria.

Deliverables:

- Preliminary draft subsection describing development of sustainable management criteria for PV Water review two months after receiving Advisory Committee direction on approach.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 10: Finalize monitoring network memo and develop monitoring plan– Grant Activity (c) 7

Task 10.1 Finalize monitoring network memo

Review, update, and finalize the draft Groundwater Monitoring Network Review, Modifications, and Recommended Improvements technical memorandum completed in 2016. Review the adequacy monitoring well network to determine its ability to meet the requirements of SGMA.

Deliverables:

- Draft updated monitoring network memo to PV Water 1 month after sustainable management criteria for chronic depletion of groundwater levels (Task 7.2) and seawater intrusion (Task 9.3) documented.
- Finalize monitoring network memo 2 weeks after receiving comments from PV Water.

Task 10.2 Develop groundwater monitoring plan

Based on the findings of the monitoring network memo from Task 10.1, identify new monitoring wells to fill data gaps and to meet newly determined monitoring needs. Identify the timing and frequency of data collection. Identify the steps to be taken to fill data gaps and to be updated as new information is acquired and improved understanding of the basin evolves. Develop a cost estimate for the construction of such monitoring wells.

Deliverables:

- Preliminary draft subsection describing groundwater monitoring plan one month after monitoring network memo (Task 10.1) finalized
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 10.3 Develop surface water monitoring plan

Identify new stream gauges and shallow monitoring wells to fill data gaps and to meet newly determined monitoring needs. Identify the timing and frequency of data collection. Identify the steps to be taken to fill data gaps and will be updated as new information is acquired and improved understanding of the basin evolves. Develop a cost estimate for the construction of such stream gauges and shallow monitoring wells.

Deliverables:

- Preliminary draft subsection describing surface water monitoring plan one month after sustainable management criteria for streamflow depletion (Task 8.3) documented
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 11: Summarize subsidence analysis – Grant Activity (c) 8

Task 11.1 Summarize subsidence analysis for USGS

Prepare summary of subsidence analysis for USGS to be included as subsection in Update Report.

Deliverables:

- Preliminary draft subsection summarizing subsidence analysis to PV Water 1 month after subsidence analysis provided by USGS
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 12: Summarize drought resiliency actions – Grant Activity (c) 9

Task 12.1 Summarize existing actions

Summarize existing drought resiliency actions including Recharge Net Metering (ReNeM), the Conservation Program, Stakeholder Outreach and Engagement, and conservation rebates based on documents provided by PV Water.

Deliverables:

- Preliminary draft subsection summarizing existing actions to PV Water by January 31, 2021.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 12.2 Develop additional actions

Develop a collection of additional drought resiliency actions, strategies, and programs to be considered by the Advisory Committee to assist with drought resiliency during periods of drought.

Deliverables:

- Preliminary draft subsection describing additional actions to PV Water 1 month after finalizing subsection Task 12.1.

- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 13: Summarize sustainability status – Grant Activity (c) 10

Task 13.1 Summarize state of basin

Collect and analyze information from annual reports and update tasks to provide a summary of the state of the Pajaro Valley Subbasin.

Deliverables:

- Preliminary draft subsection summarizing state of basin by May 31, 2021.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 13.2 Assess progress of projects and management actions

Summarize implementation status of projects and management actions included in Basin Management Plan.

Deliverables:

- Preliminary draft subsection summarizing progress of projects and management actions to PV Water by July 31, 2021.
- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 13.3 Evaluate progress toward achieving sustainability goals.

Summarize progress of Basin Management Plan implementation toward achieving sustainable management criteria.

Deliverables:

- Preliminary draft subsection summarizing sustainability progress to PV Water by July 31, 2021 assuming Tasks 7-9 finalized.

- Revised draft subsection for Advisory Committee review 2 weeks after receiving PV Water comments.
- Final subsection for Update Report 1 month after receiving Advisory Committee comments.

Task 14: Alternative Update Report – Grant Activity (c) 11

Task 13.1 Compose and compile report

Compile subsections developed for project into report to submit as Alternative Update to DWR. Compose executive summary, introduction, and conclusion.

Deliverables:

- Draft report to PV Water by September 30, 2021
- Revised draft report to PV Water for inclusion in November Board packet.
- Final report submitted to DWR by December 15, 2021.

Task 15: Project Management

Manage project including managing subconsultants and preparing project status summaries.

Deliverables:

- Monthly project status summaries

Task 16: As-Needed Groundwater Modeling

Optional task to provide as-needed groundwater modeling services using the PVHM re-calibrated by USGS. Possible services include the following to support tasks described above:

- Perform projected future simulations with re-calibrated PVHM under three climate change scenarios using previous setup by USGS to assess effects across jurisdictional boundaries (Task 3) and projected water budget (Task 6)
- Perform simulations with re-calibrated PVHM to evaluate chronic depletion of groundwater levels and inform sustainability management criteria (Task 7)
- Perform simulations with re-calibrated PVHM to evaluate surface water depletion and inform sustainability management criteria (Task 8).

- Perform simulations with re-calibrated PVHM to evaluate seawater intrusion and inform sustainability management criteria (Task 9).

Deliverables for these groundwater modeling services are described in each of the associated task being supported.

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