

FINAL | TECHNICAL MEMORANDUM

DATE: April 28, 2023 Project No. 22-1-131

TO: Kamie Loeser, Director, Butte County Water and Resource Conservation Dept.

FROM: Eddy Teasdale, PG, CHG, Supervising Hydrogeologist
Jacques DeBra, Principal, Supervising Water Resource Planner

SUBJECT: **Vina GSA – 2023 Long-Term Funding Project Summary**

INTRODUCTION

Luhdorff & Scalmanini, Consulting Engineers (LSCE) was hired by Butte County in 2023 to complete the Vina Groundwater Sustainability Agency (VGSA) 2023 Long-Term Funding Project (Project) to ensure that a long-term funding mechanism is in place by January 2024 to support GSA operations while meeting GSA Sustainable Groundwater management Act (SGMA) compliance requirements. The VGSA prepared and adopted its 2022 Groundwater Sustainability Plan (GSP) which was approved by the VGSA Board of Directors (Board) and submitted to the California Department of Water Resources (DWR) in accordance with the January 31, 2022 GSP submittal deadline. DWR is currently reviewing the VGSA GSP. The VGSA Board is now focused on GSP implementation and addressing long-term financial sustainability to maintain compliance with SGMA requirements and implement recommended management actions, projects, and programs to achieve groundwater sustainability within the Subbasin by 2042. This Technical Memorandum (TM) summarizes the long-term funding needs and options to facilitate approval of a long-term local funding mechanism to support GSP implementation over the next five-year planning horizon. **Attachment 1** contains information regarding the VGSA GSP adoption process.

BACKGROUND

The VGSA's 2022 GSP identifies long-term funding needs for GSP implementation and SGMA compliance. This TM identifies long-term funding options and mechanisms to support the VGSA revenue needs required for achieving and maintaining SGMA compliance while meeting groundwater sustainability goals and objectives. Financial sustainability will support successful GSP implementation and compliance with SGMA requirements over the next 20-year time horizon through 2042.

The overall funding needs for GSP implementation and SGMA compliance are outlined below. Future revenue needs were updated to reflect actual SGMA compliance costs to date and expected future costs to comply with SGMA regulations and cover on-going GSA administration costs. GSP implementation costs will be refined over time based on actual costs and the level of effort required to maintain SGMA compliance.

2023 LONG-TERM GSA FUNDING PROJECT

LSCE was engaged to review the VGSA GSP, project GSP implementation and SGMA compliance costs, analyze alternative funding options for allocating costs, and develop a long-term funding recommendation for consideration by the VGSA Board of Directors so that a sustainable local funding source could be in place by January 2024. There is currently no other funding source available to cover the on-going costs of VGSA operations and SGMA compliance actions. The recommended long-term funding option will be based on information in the VGSA GSP, and feedback provided by the VGSA Board, SHAC, and other stakeholders through GSA outreach activities. The long-term GSA funding option will address the following:

1. **GSP Costs:** Using the Vina Subbasin GSP, LSCE reviewed, categorized, and summarized costs to implement the GSP and meet SGMA requirements. LSCE, in coordination with the VGSA, updated key cost assumptions and corresponding changes to future revenue projections.
2. **Revenue Needs:** In coordination with the VGSA, GSA revenue needs were defined based on the updated GSP implementation and SGMA compliance costs. This task included identifying those costs which would be included or excluded from a long-term funding option that could be included in the final Fee Study.
3. **Cost Allocation Analysis:** LSCE developed alternative cost allocation methods in evaluating funding options to analyze considerations such as ease of implementation and understanding, equitability, reliability, and implementation costs.
4. **Recommendations:** Based on discussions and feedback with the VGSA, LSCE recommended cost allocation method to determine the costs assigned to landowners subject to the charge options considered that would be needed to cover GSA revenue projections.

LSCE will be subsequently developing a Fee Study to evaluate the services provided by VGSA and how each funding mechanism allocates the cost of service. The results of the Fee Study will be used to support and inform approval of the long-term funding mechanism at the July 2023 VGSA Board meeting.

Vina Subbasin GSP Development and Implementation Funding

The Vina Subbasin developed a single GSP on behalf of two groundwater sustainability agencies: includes the Rock Creek GSA and VGSA. The VGSA member agencies include Butte County, City of Chico, and Durham Irrigation District. The Vina Subbasin GSP was approved at the December 2021 VGSA Board meeting and submitted to DWR in accordance with the January 31, 2022 submittal deadline.

The Vina Subbasin GSP was funded largely by grant funding acquired by the GSAs. Specifically, GSP development was funded by a Proposition 1 (Water Quality, Supply, and Infrastructure Improvement Act of 2014) Sustainable Groundwater Planning Grant, and supplemental Proposition 1 grant funding for outreach and engagement. Additional technical evaluation of data gaps and projects and management actions was funded by a Proposition 68 (California Drought, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018) grant. Other implementation costs were funded under DWR grants for Facilitation and Support Services (FSS) and direct and in-kind contributions by the Vina GSA member agencies.

The GSAs will continue to pursue grant funding opportunities to support GSP implementation, including addressing data gaps and developing projects and management actions. Any shortfall in funding for additional GSP costs for staff time, administration, legal, reporting (annual reports and 5-year updates), and other technical studies would be funded by other local fees or assessments.

At the March 2023 VGSA meeting, the Board approved the use of five-year revenue projections for the long-term funding project. The VGSA Board also provided direction that revenue projection should account for the possibility that the VGSA could receive DWR grant funds that would allow lower long-term charges to be implemented over the initial five-year GSP implementation period.

The VGSA Board is implementing public outreach efforts to engage stakeholders and inform those that are subject to the GSA's proposed long-term charges. The VGSA has updated its website to include updated information and facts about the GSA's long-term funding strategy. A project Fact Sheet and Frequently-Asked-Question documents have been prepared and made available as part of the public outreach materials charge. More information is available at: vinagsa.org.

The VGSA is also coordinating with the Rock Creek GSA to share the costs associated with operating the VGSA and meeting future SGMA requirements. The GSAs are collaborating and working together to keep long-term GSA charges as low as possible. The VGSA is also preparing to update its project priorities and develop a long-range capital improvement program to implement projects that will assist the Subbasin meet its water balance by 2042. This will involve developing a long-term project funding strategy once the GSA knows which projects may be funded through its 2022 SGMA Implementation Round 2 grant funding application.

The VGSA member agencies will continue to work together and keep long-term revenue needs for GSA operations and SGMA compliance costs as low as possible. Butte County will continue to serve as the Program Manager for the VGSA which serves as the business model with the lowest GSA administration costs. This will benefit the member agencies and those within the GSA service area who are relying on the GSA to ensure that SGMA compliance is achieved for all landowners within the GSA boundary.

GSP Costs

The Vina Subbasin GSP split costs into three aggregate cost categories:

- **GSA Administration Costs:** Costs incurred by the VGSA for administration related to the GSP.
- **GSP Implementation and SGMA Compliance Costs:** Costs incurred by the VGSA related to GSP implementation and SGMA compliance.
- **Project and management Action (PMA) Costs:** Costs that are specific to individual PMAs. Funding sources for PMA costs have not been identified at this time. Grant funding and other sources will be evaluated to fund these projects and programs.

GSA Administration Costs

GSA Administration costs include costs that the VGSA will incur for implementation of the GSP on behalf of its members and stakeholders. GSA Administration costs in the Vina Subbasin were based on the estimated costs as reported in Chapters 5 and 6 of the GSP. LSCE reviewed and inventoried these costs, then evaluated different business models to identify the lowest cost option for GSA operations.

GSA Administration costs include GSA Administration personnel costs, office expenses, professional services, Assessor's Office fees, legal expenses, and contingency. The GSA Administration budget covers day-to-day activities to implement the GSP, such as public outreach, legal services, financial reporting, and other tasks. A 3% annual inflation factor is recommended for inclusion in the GSA Administration budget. Finally, the Contingency adds 10% of the estimated budget to cover unexpected costs. These costs are shown in **Table 1** below. The Vina Subbasin GSP estimated total GSA Administration costs at \$150,000 per year, with actual costs coming in at \$110,000 per year by continuing with the County serving as the Program Manager as the most cost-effective administration approach for the GSA.

Table 1. Vina GSA – Long-Term Funding Fee Project					
Updated Five-Year Revenue Projections – GSA Operational Budget (assuming NO DWR SGMA Implementation Grant Funds)					
5-Year GSP Implementation Inflation Adjustment	0%	3%	3%	5%	5%
Proposed	Year 1	Year 2	Year 3	Year 4	Year 5
Cost Category – GSA Admin	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Professional Services – Admin					
Auditor	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Financial Services	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Legal Services	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Program Manager (w/County Management)	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000
Professional Services – Admin Subtotal	\$167,500	\$167,500	\$167,500	\$167,500	\$167,500
Office Expense					
Bank Fees	\$250	\$250	\$250	\$250	\$250
Insurance	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Outreach (per education and outreach plan)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Website	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Supplies	\$5,000	\$2,000	\$1,500	\$1,500	\$1,500
Office Expense Subtotal	\$19,250	\$16,250	\$15,750	\$15,750	\$15,750
Professional Services – GSP Implementation	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Legal Defense Reserve	\$100,000	\$50,000	\$30,000	\$30,000	\$30,000
County Tax Roll Fee Support	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Contingency (10%)	\$31,675	\$26,375	\$24,325	\$24,325	\$24,325
GSA Admin Subtotal	\$348,425	\$290,125	\$267,575	\$267,575	\$267,575

GSP Implementation and SGMA Compliance Costs

GSP implementation and SGMA compliance costs include Annual Reporting, GSP Five-Year Updates, GSA Coordination and Outreach, Surface-Groundwater interaction modeling, data management system (DMS) maintenance and updates, financial planning, and grant funding to implement priority projects. DWR is currently reviewing the Vina Subbasin GSP and will issue an assessment after it completes the review. In addition to this ongoing assessment, the Vina Subbasin GSP must be updated in 2027. Monitoring and Implementation covers GSA-level monitoring of wells and water uses and updating the DMS as needed.

The VGSA will coordinate with the Rock Creek GSA regarding GSP implementation and SGMA compliance activities. The Rock Creek GSA will pay its share of the GSA Administration and GSP implementation costs including the activities for implementation of the GSP. The Vina GSA GSP implementation and SGMA

compliance costs were based on the data reported in the GSP and updated to reflect actual GSP implementation costs and updates regarding SGMA compliance costs.

GSP Implementation and SGMA Compliance activities include:

- **Annual Reports:** Collect data, prepare and submit Annual Reports to DWR each April 1. These Reports serve as a report card on groundwater conditions in the Subbasin.
- **Five-Year GSP Updates:** The GSA must prepare and submit Five-Year GSP updates to DWR which includes conducting updated groundwater modeling calibrations and preparing the updated GSP Report based on Annual Report data.
- **Surface-Groundwater Interaction Modeling:** Collaborate with GSAs in the Northern Sacramento Valley to address surface-groundwater interactions especially for boundary conditions in GSA service areas to ensure that groundwater depletions will not impact surface water interactions or environmental uses.
- **GSA Coordination and Outreach:** The GSA will need to continue with intra and inter-basin GSA coordination and outreach activities to facilitate GSP implementation in an efficient and collaborative manner.
- **DWR Review of GSA GSP:** The GSA will need to respond to any comments provided by the GSA regarding submittal of the Vina Subbasin GSP. This may include items for inclusion in the 2027 GSP update process.
- **GSP Monitoring and Data Management:** Well monitoring and maintenance and the implementation and maintenance of a data management system.
- **GSA Financial Planning:** GSA financial planning will continue to evaluate future GSA funding sources for GSA operations and project implementation.
- **Grant Procurement:** Identify and apply for federal, state, and private grants to supplement GSP implementation activities and keep future charges as low as possible.
- **Contingency:** Ten percent for GSA administration and eight percent for estimated SGMA compliance budget to cover unexpected costs.

The long-term GSP implementation and SGMA compliance costs in the GSP were updated to reflect actual costs and refined assumptions that were incorporated into the updated revenue projections as shown in **Table 2** below. These costs are between \$175,500 and \$186,300 per year, or approximately \$900,000 over the 5-year period. Note that the costs do not include an inflation adjustment factor which is recommended for inclusion in the final revenue projections.

Table 2. GSA SGMA Compliance Cost Projections (assuming no DWR SGMA grants)					
Cost Category – SGMA Compliance	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Annual Reporting (with continued DWR Monitoring)	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Five Year GSP Update w/Modeling Calibrations	\$50,000	\$50,000	\$50,000	\$50,000	\$40,000
Surface – GW Interaction Modeling	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
GSA Coordination & Outreach (w/in and between GSAs)	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Data Management System Maintenance	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Long-Term Financial Planning/Fees	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Grant Procurement	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Contingency (8%)	\$13,800	\$13,800	\$13,800	\$13,800	\$13,000
SGMA Compliance Subtotal	\$186,300	\$186,300	\$186,300	\$186,300	\$175,500

PMA implementation and PMA costs would be covered through outside grant funding sources and other revenue sources as available. Project funding efforts would be the responsibility of the lead project proponent (or partners) based on any cost sharing arrangements or project implementation agreements in place between the interested parties.

A summary of the VGSA projects and programs requesting grant funding through the 2022 SGMA Implementation Round 2 funding cycle are included in **Table 3** below.

Table 3. Vina GSA PMA – DWR 2022 SGMA Grant Funding Request	
Vina GSA DWR SGMA Grant Application Task	Budget
Task 1. Grant Administration	\$200,000
Task 2. Monitoring Network Enhancements	\$400,000
Task 3. Community Monitoring – Domestic Wells	\$100,000
Task 4. GSP Implementation & Compliance Activities	\$660,000
Task 5. Inter-basin Coordination Activities	\$450,000
Task 6. Extend Orchard Replacement Program	\$1,500,000
Task 7. Lindo Channel Surface Water Recharge Implementation	\$350,000
Task 8. Ag Surface Water Supplies Feasibility Analysis	\$275,000
Task 9. Ag Irrigation Efficiency Pilot Program and Education	\$1,000,000
Task 10. Groundwater Recharge Feasibility Analysis & Site Evaluation	\$600,000
Total DWR Grant Funding Request	\$5,535,000

LSCE assisted with the preparation of the Vina GSA DWR SGMA Implementation Round 2 grant funding application which was submitted to DWR in December 2022 with grant awards expected to be released by DWR in the Summer of 2023. Depending on DWR grant award decisions, future VGSA charges could be lower if some of the SGMA compliance actions are grant funded. The Vina GSA Board will consider this item as part of the long-term charge approval process.

Vina Subbasin GSP Revenue Needs

The Vina Subbasin GSP implementation revenue needs are based on the estimated GSP costs for GSA Operations and SGMA Compliance. As described earlier, LSCE coordinated with the GSA and stakeholder process to present and receive feedback on the estimated GSA costs. Outcomes included:

- GSA administration and legal costs are updated to reflect the GSA's best estimates of implementation costs assuming the County serves as the Program Manager for the GSA and that some legal costs are set aside in the event of legal challenges that could impede GSA progress.
- The Vina Subbasin GSA administration budget includes approximately \$110,000 in costs that the GSA would incur on behalf of its members because of its role as the lead for GSP implementation.
- The Rock Creek GSA would pay their proportional share of total GSA revenue projections since they are located within the Subbasin.
- PMA costs will be excluded from the initial revenue needs assessment because these costs may be developed and funded by individual project proponents under separate funding processes or through other funding sources.

Revenue needs account for expected general cost inflation over a five-year planning horizon, the statutory limit for projected charges under a Proposition 218 charge process. The GSA will periodically review, and revise revenue needs as the GSA moves forward with GSP implementation based on updated cost information, economies of scale, and related factors.

Table 4 summarizes total projected revenue needs for the five-year period from FY23-24 through FY27-28 showing additional detail for cost categories within the GSA Administration and GSP implementation and SGMA compliance costs. While actual costs for particular budget items may be projected, these items reflect the best current estimates available from known information. Initial revenue needs are approximately \$348,425 in administration costs and \$186,300 for GSP implementation and SGMA compliance costs with total annual revenue projections ranging between \$481,108 and \$534,725.

Table 4. Vina GSA – Long-Term Funding Fee Project					
Updated Five-Year Revenue Projections – GSA Operational Budget (assuming NO DWR SGMA Implementation Grant Funds)					
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Financial Services	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
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Professional Services – Admin Subtotal	\$167,500	\$167,500	\$167,500	\$167,500	\$167,500
Office Expense					
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Annual Reporting (with continued DWR Monitoring)	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Five-Year GSP Update w/Modeling Calibrations	\$50,000	\$50,000	\$50,000	\$50,000	\$40,000
Surface – GW Interaction Modeling	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
GSA Coordination & Outreach (w/in and between GSAs)	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Data Management System Maintenance	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Long-Term Financial Planning/Fees	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Grant Procurement	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Contingency (8%)	\$13,800	\$13,800	\$13,800	\$13,800	\$13,000
SGMA Compliance Subtotal	\$186,300	\$186,300	\$186,300	\$186,300	\$175,500
Total VGSA Administration (w/inflation adjustment)	\$384,425	\$298,829	\$283,630	\$297,008	\$310,387
Total VGSA SGMA Compliance (w/inflation adjustment)	\$186,300	\$191,889	\$197,478	\$206,793	\$203,580
Total VGSA Operational Budget	\$534,725	\$490,718	\$481,108	\$503,801	\$513,967

Adjusting for Inflation

GSP implementation costs will be impacted by inflation as they are long-term fees and inflation is a long-term force that impacts the costs of service for consumers, producers and suppliers in the economy. Over the past ten years we have moved from a low inflation to a high inflation environment. It is important to include an inflation adjustment factor in the VGSA revenue projections so that adequate revenues are available to accomplish necessary tasks and actions. LSCE recommends that the VGSA consider including an average 3% annual inflation adjustment in the proposed revenue projections so that charges may be collected in a stable fashion. The most recent consumer price index (CPI) data indicates that higher inflation is persisting in recent months and may continue into the near future. An inflation rate of 3% was applied to all revenue needs over years 2 and 3 and 5% inflation rate applied in years 4 and 5 over the five-year period for an average inflation rate of 4% which is consistent with recent CPI inflationary trends.

GSA Charges

GSA's may levy fees and assessments within their respective subbasin boundaries, pursuant to the applicable requirements and authorities of SGMA, Proposition 13, Proposition 26, and Proposition 218. California Water Code (CWC) § 10730 et seq. describes the various financial authorities provided to GSA's to fund the costs of their GSP and groundwater sustainability management efforts. SGMA authorizes GSA's to impose charges to fund the cost of administration, operations, permitting, property and services acquisitions, water supply, a prudent reserve, and other activities necessary or convenient to implement the plan. The different authorities allow GSA's to structure funding that could be imposed upon different units of measure. Charges that are adopted by the GSA may be adjusted periodically as new needs are identified and new data becomes available. Proposition 218, which is based on a property fee, is the most common method by which GSA's currently structure funding. Additional information regarding the Proposition 218 approach to establishing potential VGSA charges is provided in **Attachment 2**. The recommended long-term funding mechanism for the VGSA is to pursue a Proposition 218 process which is the most common method applied by GSA's to date and supports a property-based charge structure for all landowners within the GSA service areas boundary.

Attachment 2 also contains additional information about Proposition 218 and 26 funding options. The Proposition 218 process allows for a majority vote whereby those subject to the charge can submit protest ballots voting against the proposed charges being considered by the GSA Board. The GSA Board would count the number of protests received at the close of the public hearing. If a majority protest is received (50% + 1, one vote per parcel) the GSA Board would not be able to approve a proposed charge. Proposition 218 has specific notice, ballot, and voting requirements that require notice to all landowners subject to a proposed charge at least 45-days before the Board would consider approving a proposed charge disclosing the time and location of the public hearing before.

Member agencies may consider paying the property fee collectively for their constituents in urban areas with smaller parcels through an MOU or similar method on an annual basis. Member agencies can decide which charge approach they want for their customers by May 2023 when the Vina GSA plans to approve the 2023 Charge Report. A draft Charge Report table of contents is included in **Attachment 3**.

Member agencies who choose to enter into a cost sharing MOU with the Vina GSA would commit to making annual contributions to the GSA with agreed to payment schedule and amount based on approved Vina GSA charges and final determination as to the appropriate cost sharing allocation for each contributing entity. It is recommended that MOUs making this payment commitment be approved in July 2023 in accordance with when the VGSA Board would consider approving new long-term GSA charges that cover the updated revenue projections included in **Tables 1-3**.

FUNDING OPTIONS - COST ALLOCATION APPROACHES

The VGSA established updated revenue projections over the upcoming five-year period for use in evaluated long-term funding options. The VGSA discussed a range of funding options and resulting cost allocation approaches. These included simpler options, such as combining GSA-level administration and its share of GSP implementation and SGMA compliance costs and uniformly distributing costs per acre within the GSA, and more complex options, such as distributing costs based on irrigator/non-irrigator delineations and considering land use hybrids that would consider land and/or water use factors. The VGSA Board expressed support for cost allocation approaches that were easy to understand and implement, fair and equitable, reasonable, and had lower implementation costs that would not significantly increase final funding recommendations. All funding options being considered were based on meeting updated VGSA revenue projections over the project planning horizon.

The VGSA Board discussed long-term funding options while developing the updated revenue projections and wanted staff to consider any legal implications for different charge options that could further increase legal expenses for the GSA or result in new legal challenges. Legal challenges challenging any funding mechanism result in increased future charges for all landowners within the Subbasin.

The VGSA Board approved the exploration of the following long-term charge options at the March 2023 meeting and directed staff to conduct a funding option evaluation process with more in-depth evaluation and analysis noting trade-offs (pros/cons) between the options that would assist the Board in selecting a preferred funding mechanism at the April 2023 Board meeting. The funding options prioritized for further evaluation include:

- **Uniform.** A uniform cost allocation would combine all costs and evenly distribute them across the Vina Subbasin on a per-acre basis. In a uniform approach, a flat fee per acre would be assessed to landowners within the VGSA Subbasin. The uniform charge is supported because it provides SGMA administration to all landowners paying the fee.
- **Irrigated/Non-irrigated.** This option would allocate a higher percentage of total GSA costs to irrigators who rely on groundwater resources and would benefit directly from achieving groundwater sustainability. Non-irrigators would be subject to lower GSA charges and pay a smaller proportion of total GSA costs. This method would require parcel-level data distinguishing between irrigated and non-irrigated parcels and would require the development of user class definitions.
- **Land Use Hybrid.** This option could consider land use, Evapotranspiration (ET), and/or estimated groundwater use criteria to refine property fees based on the inclusion of more intricate parcel-level data. This option would focus on defining parcels by their respective dependence on

groundwater use. More user classes would be included in this approach with distinct user class definitions based on levels of groundwater use. This method could include currently metered and acceptable estimated groundwater pumping based on a 15–20-year groundwater use dataset. This option would have higher implementation costs than the uniform or irrigated/non-irrigated charge options.

- **Metering Groundwater Extraction (excluded).** Metering all groundwater use in the Subbasin would be extremely expensive to implement and would significantly increase GSA charges. This option was excluded from further exploration because there is not sufficient information currently available and the projected costs to install meters and implement supporting meter reading program and data management system are high.
- **Well Registration Program (excluded).** Establishing a well registration program is a substantial and expensive undertaking. The first step is to conduct a broad survey with field verification as to the location of all wells in the Subbasin and to document key information about each well including well casing size and pumping horsepower. Then the well information would need to be incorporated into a data management system for easy access, updating, and possible future charge assessments. This option was excluded from further exploration because this information is not currently available and would be expensive to develop the well database and applying the information to a future charge approach that would take years to implement.
- **Land Use Hybrid-Real-time ET (excluded).** Open ET and other tools such as Land IQ can make real-time ET information available as a surrogate for metering water use. ET based approaches for setting GSA charges are being utilized in other parts of the State where groundwater overdraft conditions exist. While the ET data can be collected and validated with in-field instrumentation, it is very costly to implement and would increase GSA administration costs. This option was excluded from further exploration because of the higher implementation costs and impacts on future GSA revenue projections and increased complexity for charge implementation and understanding. And the GSA does not want to become the revenue collector.
- **Member Contributions (excluded).** Butte County, City of Chico and Durham Irrigation District are the member agencies of the VGSA. If all three entities had adequate reserves or available funds in their respective budgets, they could each make annual contributions based on their fair share of total GSA revenue projections to fund the GSA operations and SGMA compliance action items. This option was excluded from further exploration because the member agencies do not have adequate funds available from their respective budgets and do not expect to have adequate funds available in their future budgets to pursue a member contribution approach for meeting future GSA revenue projections.
- **Land Use Hybrid-Parcel-Area Based Charges (excluded).** This option would have separate funding structures for GSA operational costs and SGMA compliance costs. funded on a per acre basis and SGMA compliance costs funded based on a per acre basis. This option is excluded from further exploration because the parcel charge would undercharge small parcels and overcharge large parcels. In addition, this charge model has not been adopted by any other GSAs at this time.

The VGSA will assess the funding options analyzed in this TM and provide a recommendation for the proposed charges to be included in the Fee Study which will be considered at the May 2023 GSA Board meeting. Several cost allocation methods, and revenue recovery methods, would result in additional

implementation costs for additional data acquisition, monitoring and enforcement, such as remote sensing or metering, and technical support that would result in higher charges for those subject to the charges. **Table 5** summarizes funding option implementation cost estimates. These implementation costs would add to actual charges calculated using any given option below.

Table 5. VGSA Funding Option Estimated Implementation Cost (\$/ac.)					
Charge Option	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Irrigated/Non-Irrigated	\$0.17	\$0.17	\$0.18	\$0.18	\$0.19
Land Use Hybrid Crop Type	\$0.88	\$0.90	\$0.93	\$0.96	\$0.98
Land Use Hybrid Crop ET	\$1.78	\$1.83	\$1.88	\$1.94	\$1.99
Well Registration/Permit System	\$3.03	\$3.12	\$3.21	\$3.30	\$3.40
Metered Groundwater Extraction	\$10.88	\$11.40	\$11.91	\$12.43	\$12.95

Funding options consider the GSA service area information in **Attachment 4** and are guided by the factors below to help determine which charge option would be most suitable for the VGSA Board to consider for approval in 2023.

- Reasonable
- Sufficient
- Equitable
- Easy to Understand and Implement
- Low Implementation Costs

The VGSA Stakeholder Advisory Committee requested that the TM include the funding options charges on an equivalent annualized total assessment basis for discussion purposes. The annualized charge is the average of the charges over a five-year period that could be charged per year. Annual charges would be the same throughout the five-year period as long as they do not exceed the established maximum charge.

Uniform Funding Option

This option typically results in a \$/acre charge based on spreading the GSA revenue needs across the Subbasin on a per acre basis. This is the most common type of GSA charge in place throughout California. The charge is calculated by dividing the total GSA costs by the total net assessable acreage in the Subbasin. Federal, State and Tribal lands are exempt from SGMA related charges, see **Table 6** below.

Table 6. VSGSA Uniform Funding Option by Charge Basis					
VGSA Funding Option Charge Basis	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Total GSA Revenue Needs (\$)	\$534,725	\$490,718	\$481,108	\$503,801	\$513,967
Total GSA Net Assessable Acres	174,327	174,327	174,327	174,327	174,327
Proposed Total Assessment (\$/ac.)	\$3.07	\$2.81	\$2.76	\$2.89	\$2.95
Annualized Total Assessment (\$/ac.)	\$2.90	\$2.90	\$2.90	\$2.90	\$2.90

Pros: Easy to understand and implement, low implementation costs, minimal impact on GSA budget.

Cons: Inability to distinguish and categorize benefits from groundwater sustainability.

Uniform charges are presented annually as well as on the annualized basis over the five-year period to indicate the possible charge impacts. The VGSA will annually assess the GSA revenue needs and consider adjusting the assessment within the maximum allowable charge included in the Fee Study.

The annual estimated assessment using the Uniform funding option is summarized in **Table 7** below.

Table 7. VGSA Uniform Funding Option Charge Basis by Acre Parcel					
	0.5 Acre Parcel	1.0 Acre Parcel	5 Acre Parcel	10 Acre Parcel	50 Acre Parcel
Proposed Total Assessment (\$/ac.)	\$1.53	\$3.07	\$15.34	\$30.67	\$153.37
Annualized Total Assessment (\$/ac.)	\$1.45	\$2.90	\$14.48	\$28.96	\$144.80

The Uniform funding option would be levied through the landowner’s property tax bill through the County Assessor’s Office. The GSA would update annual assessments for the GSA assessment based on GSA revenue needs within the maximum allowable charge approved by the Board.

DWR Grant Funding Impact

If DWR approves some of the top priority projects in the VGSA DWR SGMA Implementation Proposition 68, Round 2 grant funding application the actual assessments could be set below the maximum charge based on lower revenue needs and corresponding lower charges are presented below for informational purposes, see **Table 8** below.

Table 8. VGSA Uniform Funding Option, with DWR Grants					
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Total GSA Revenue Needs (\$)	\$397,025	\$348,887	\$335,146	\$503,801	\$513,967
Total GSA Net Assessable Acres	174,327	174,327	174,327	174,327	174,327
Proposed Total Assessment (\$/ac.)	\$2.28	\$2.00	\$1.92	\$2.89	\$2.95
Annualized Total Assessment (\$/ac.)	\$2.41	\$2.41	\$2.41	\$2.41	\$2.41

The annual charge impact for the Uniform charge option with DWR grant funding on different users is summarized in **Table 9** below.

Table 9. VGSA Uniform Funding Impact, with DWR Grants					
	0.5 Acre Parcel	1.0 Acre Parcel	5 Acre Parcel	10 Acre Parcel	50 Acre Parcel
Proposed Total Assessment (\$/ac.)	\$1.09	\$1.92	\$9.24	\$27.77	\$141.64

Annualized Total Assessment (\$/ac.)	\$1.16	\$2.31	\$11.57	\$23.14	\$115.68
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Irrigated/Non-Irrigated Funding Option

This option typically results in a different \$/acre assessment for irrigated vs. non-irrigated lands based on allocating a higher percentage of the total GSA revenue needs to irrigated acreage which may receive more benefit from Subbasin achieving water balance and sustainability metrics by 2042. This type of assessment has recently been considered by many GSAs in California, however very few have adopted this type of assessment option. The Irrigated/Non-irrigated funding option is based on allocating more of the total GSA costs to the irrigators who will be able to continue to divert a reliable source of water if Vina Subbasin can meet its long-term water balance objective. The cost allocation for this funding option is summarized in **Table 10** below.

Table 10. VGSA Irrigated/Non-Irrigated Funding Option - Cost Allocation Summary		
	Irrigated Parcels	Non-Irrigated Parcels
GSA Administration Costs	53.52%	46.48%
SGMA Compliance Costs	87.50%	12.50%

The GSA Administrative costs are shared based on acreage with slightly more lands classified as irrigated (urban areas are included in the irrigated category). Non-irrigated cost allocation for SGMA compliance costs including cost share for the Five-Year GSP Update item because they are in the Subbasin and must be included in that Report to DWR to achieve SGMA compliance. The other SGMA compliance cost items are allocated to the irrigators because they are directly or indirectly related to groundwater use which benefits irrigated lands at a higher rate than non-irrigated. If a non-irrigated lands become irrigated (e.g., adds a new well with a County permit) the land would be reclassified as an irrigated under this option upon approval of the well permit. This option would only include net assessable acreage with Federal, State and Tribal lands exempt from SGMA related charges as indicated in **Attachment 4**.

The Irrigated assessments based on the cost allocation assumptions above are presented in Table 11 below.

Table 11. VGSA Irrigated/Non-Irrigated Funding Option – Irrigated Charge Basis					
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Total Irrigated GSA Revenue Needs (\$)	\$349,543	\$349,543	\$349,543	\$349,543	\$343,391
Total Irrigated GSA Net Assessable Acres	97,107	97,107	97,107	97,107	97,107
Proposed Total Irrigated Assessment (\$/ac.)	\$3.60	\$3.60	\$3.60	\$3.60	\$3.54
Annualized Total Irrigated Assessment (\$/ac.)	\$3.59	\$3.59	\$3.59	\$3.59	\$3.59

The Non-Irrigated charges based on the cost allocation assumptions are presented in Table 12 below.

Table 12. VGSA Irrigated/Non-Irrigated Funding Option – Non-Irrigated Charge Basis					
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Total Non-Irrigated GSA Revenue Needs (\$)	\$182,924	\$156,157	\$145,804	\$145,804	\$141,213
Total Non-Irrigated GSA Net Assessable Acres	84,328	84,328	84,328	84,328	84,328
Proposed Total Non-Irrigated Assessment (\$/ac.)	\$2.17	\$1.85	\$1.73	\$1.73	\$1.67
Annualized Total Non-Irrigated Assessment (\$/ac.)	\$1.83	\$1.83	\$1.83	\$1.83	\$1.83

The cost impact on the Irrigators is summarized in Table 13 below.

Table 13. VGSA Irrigated Funding Option Annual Charge Impact					
	0.5 Acre Parcel	1.0 Acre Parcel	5 Acre Parcel	10 Acre Parcel	50 Acre Parcel
Proposed Total Assessment (\$/ac.)	\$1.80	\$3.60	\$18.00	\$36.00	\$176.81
Annualized Total Assessment (\$/ac.)	\$1.79	\$3.59	\$17.93	\$35.87	\$179.35

The cost impact on the non-irrigators is summarized in Table 14 below.

Table 14. VGSA Non-Irrigated Funding Option Annual Charge Impact					
	0.5 Acre Parcel	1.0 Acre Parcel	5 Acre Parcel	10 Acre Parcel	50 Acre Parcel
Proposed Total Assessment (\$/ac.)	\$1.08	\$2.17	\$10.85	\$21.69	\$108.46
Annualized Total Assessment (\$/ac.)	\$0.92	\$1.83	\$9.15	\$18.31	\$91.54

There will be some additional Irrigated/Non-irrigated funding implementation costs vs. the Uniform charge which has the lowest implementation costs for any option. If considering the benefit of extraction is a critical driver for the VGSA long-term charges, then Board may wish to consider this option which accounts for benefit of extraction compared to the Uniform charge option with relatively low implementation costs. Under this funding option irrigators (those using most of the groundwater resource) would pay a majority of the SGMA compliance costs because they benefit from the majority of total groundwater extractions in the Subbasin and the VGSA’s ability to meet long-term water balance and sustainability metrics.

Pros: Considers relative benefit from groundwater extraction.

Cons: Higher implementation costs, not as easy to understand, maintain, or implement.

Land Use Hybrid Funding Options

Land use hybrid methods could allocate funding by other parcel-specific data, such as crop type, specific water use basis, geographic location of parcel, or other data that could indicate why a parcel would benefit from SGMA sustainability more or less than another parcel. To further evaluate this option, additional parcel level data would need to be developed so that more detailed cost allocation and assessment options could be analyzed for a long-term funding strategy. The challenge with this option is that the additional implementation costs associated with collecting, analyzing and applying the additional parcel level data are much higher than either the Uniform or Irrigated/Non-irrigated charge options.

Land use hybrid options evaluated are summarized in Table 15 below.

Table 15. VGSA Irrigated/Non-Irrigated Funding Option – Non-Irrigated Charge Basis					
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28
Irrigated/Non-Irrigated	\$0.17	\$0.17	\$0.18	\$0.18	\$0.19
Land Use Hybrid Crop Type	\$0.88	\$0.90	\$0.93	\$0.96	\$0.96
Land Use Hybrid Crop ET	\$1.78	\$1.83	\$1.88	\$1.94	\$1.99

Irrigated/Non-Irrigated is a simplified form of a land use hybrid option with the lowest implementation costs. There is some overlap in benefit between the Land Use Hybrid Irrigated/Non-Irrigated and Crop Type options. Both options require at least annual updates to the associated parcel level data to ensure that any GSA funding is implemented in a fair and equitable manner. The Crop ET method is relatively expensive with the idea being to collect real-time ET data to accurately measure consumption use of crop and land use types with tiered charges possible to allocate more GSA costs to high users. This method is very data intensive and would likely require more GSA staff time to administer the charges than either the Uniform or Irrigated/Non-Irrigated options. Most GSAs have declined to develop specific land use funding because of the increase in implementation costs without receiving additional benefits for the GSA and those subject to the charges. The VGSA has provided direction that funding options that would require the GSA to be responsible for billing and collections will likely result in assessments that too high to consider. The most efficient method for collecting long-term GSA charges is through the County property tax roll process.

Pros: Ability to consider specific land use data and development of tailored assessments.

Cons: High implementation costs, more difficult to implement and understand, higher charges.

Funding Option Comparison

Table 16. Funding Option Comparison					
VGSA Funding Options Comparison	Ease of Understanding	Ease of Implementation	Specific Parcel Benefit Analysis	Additional GSA Administration	Revenue Sufficiency
Uniform Charge	1	1	3	1	1
Irrigated/Non-Irrigated	2	2	2	2	1
Land Use Hybrid	3	3	1	3	2
Option Ranking: 1 = best, 3 = lowest					

The Uniform option has the highest ranking considering all funding option ranking criteria except for the specific parcel benefit analysis. The Uniform option is also proven and has been utilized successfully by many GSAs throughout California. Several GSAs who are updating their current GSA assessments are considering these same options as they update their long-term GSA charges to meet future SGMA compliance costs. The bottom line is that specific parcel benefit analysis can be achieved, however it will increase charge implementation costs. Each GSA will have to decide what level of additional funding option implementation costs they are willing to pay to improve understanding benefits at the parcel level. Many GSAs want low charges that are easy to understand and implement without burdening GSA staff.

LONG TERM FEE RECOMMENDATION

The recommendation is that the VGSA consider approving: the Uniform charge option for the lowest possible charge, and the Irrigated/Non-Irrigated charge option as the most cost-effective way to achieve parcel benefit analysis for those subject to the charge. These options would be included in the Fee Report deliverable.

FEE DETERMINATION

The goal of the VGSA Board is to establish a long-term sustainable revenue source to reliably fund the GSA operations and SGMA compliance and GSP implementation costs at the lowest possible cost for landowners within the VGSA service area. This is the first long-term charge the VGSA has considered. Working together in the watershed will be the key to success in managing local groundwater resources through a local GSA. The VGSA plans to implement its new long-term funding through the local property tax bill which is the lowest cost method available for implementing these necessary assessments. The VGSA will be using this TM to evaluate the best available funding options. During the May 2023 VGSA Board meeting the Board will consider providing direction on the recommended charge to include in the Fee Study.

The next steps in the Vina GSA’s 2023 long-term funding project are highlighted below:

- April 12 VGSA Board Meeting – consider Project Funding Option Evaluation TM and provide direction on Fee Study development.
- May 10 VGSA Board Meeting – approve Project Fee Study (with recommended charges).
- July 19 VGSA Board Meeting – hold hearing and vote on proposed long-term VGSA charges.
- August 2023 – Property Tax Roll data to Butte County Assessor’s Office.

Information regarding long-term funding will be updated regularly on the VGSA website regarding the 2023 long-term funding project and next steps in the process.