

# Vina Subbasin Project Workshop Series

*Welcome to Project Workshop #1*  
*October 10, 2022*



# Vina Subbasin Project Workshop #1: Agenda

- 1) Introduction to Grant Opportunity and Project List
- 2) GSP Implementation, Outreach, and Compliance Activities
- 3) Enhancements to the Monitoring Networks
- 4) Quick Break
- 5) Update and Maintain Data Management System
- 6) Inter-Basin Coordination: GSP Evaluation
- 7) Additional Questions and Comments
- 8) Closing Remarks

October 10, 2022



# Vina Subbasin Project Workshop #1: Please Note

- 1) There are four projects to review and discuss, time allotted for each one
- 2) Transparency, compliance, and access to information
- 3) Seeking a variety of input and perspectives
- 4) Providing multiple ways to share thoughts and ideas
- 5) Information can be found at [www.vinagsa.org](http://www.vinagsa.org)

October 10, 2022



# Vina Subbasin Project Workshop #1: Introduction to Grant Opportunity and Project List

## Butte County

Christina Buck

October 10, 2022

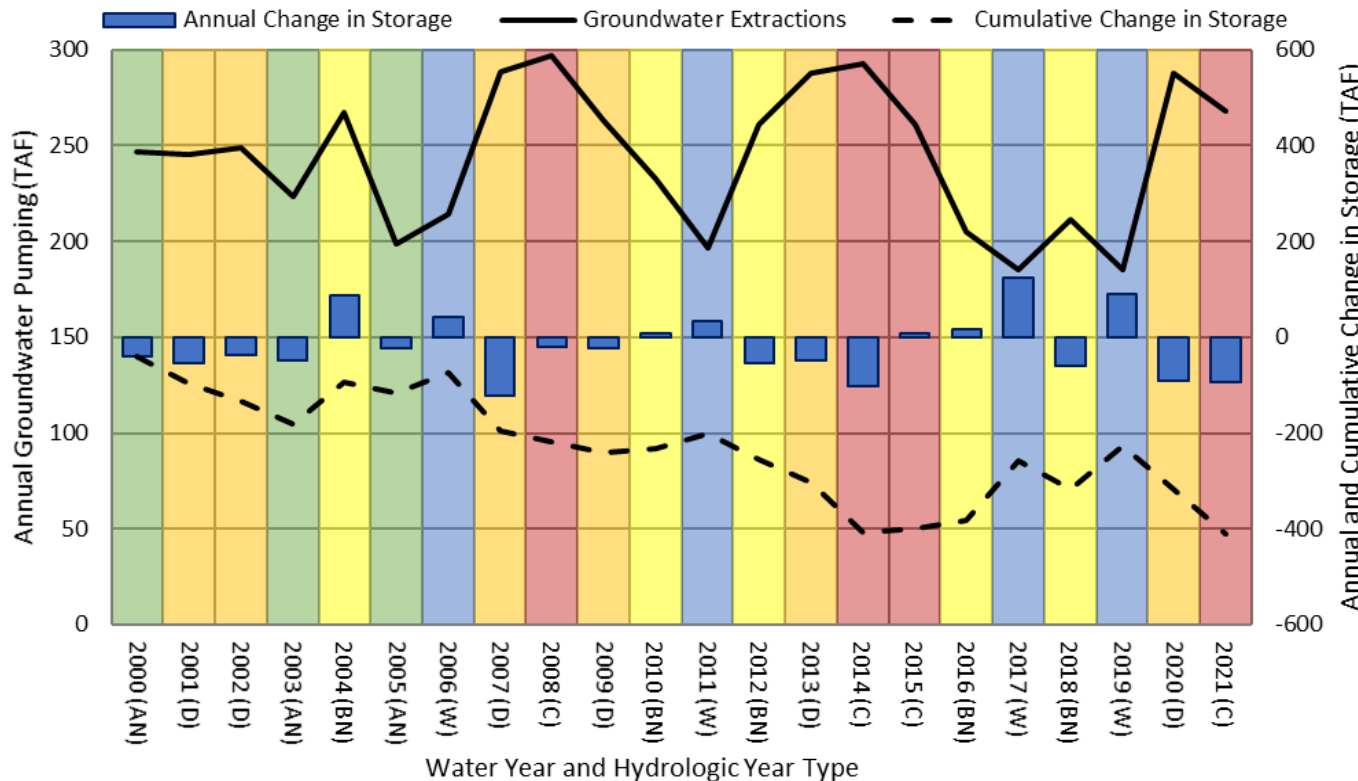


# Implementing the Groundwater Sustainability Plan in the Vina Subbasin

- Implementation has begun!
- Submission of 2021 Annual Report, early stages of 2022 Annual Report
- Request for Proposals out in September for Long Term Financing Study
- **Project Development**



# Maintaining and Achieving Sustainability Requires Action



- Action is required to address declining groundwater levels in the Vina Subbasin
- Action will also be required to continue to comply with SGMA (Annual Reports, Monitoring, Addressing Data Gaps, upcoming 5-Year Update)
- **Sustainable Groundwater Management (SGM) Grant Program** is an opportunity to obtain state funding to support some of these actions and activities



Vina Subbasin Project Workshop #1:  
Butte County Intro



# SGM Grant Program Overview

- DWR is administering the Sustainable Groundwater Management (SGM) Grant Program
- Final Guidelines and Proposal Solicitation Package (PSP) were released in December 2021
- Two rounds of grant solicitations:
  - Round 1 – funds were awarded in spring 2022 for Critically Over-drafted Basins  
~\$150 million
  - **Round 2 – solicitation opened October 4, 2022, and deadline is November 30, 2022**
    - **Grant awards will be: Minimum** – \$1 million per basin **Maximum** – \$20 million per basin
- Only one application will be accepted per basin/subbasin
- Eligible expenses incurred back to December 2021 can be reimbursed



# SGM Grant Program

Applicable projects fall under six broad categories:

- Groundwater recharge projects: feasibility studies, permitting, construction
- Groundwater contamination cleanup
- Projects that promote water supply reliability or water use efficiency
- Hydrogeological investigations, monitoring networks, and filling data gaps
- Revisions, updates, or modifications to GSPs, including modeling and water budgets
- Outreach and interbasin coordination

**Projects should have a clear scope and goals to support sustainability, per the Groundwater Sustainability Plan**



Vina Subbasin Project Workshop #1:  
Butte County Intro





# Proposed Criteria

Consider criteria that reflect Grant Program Preferences and Application Evaluation Criteria to maximize score

- Achieves basin-wide or broad benefits
- Achieves benefits in “areas of concern” (with emphasis on water levels and subsidence)
- Directly benefits SDACs, Underrepresented Communities
- Positively impacts small water systems, domestic well users
- Has potential for cost-sharing by and among beneficiaries
- Level of development (able to fully address DWR’s review questions in sufficient detail, emphasis on “shovel ready” projects)
- Has quantifiable benefits (with supporting information)

SDAC- Severely Disadvantaged Communities



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Butte County Intro



# Application Evaluation Criteria (30 pts total)

- Project description and benefits: up to 26 pts (87% of total score)
  - Scores of all projects evaluated separately and averaged -> **critical that all projects have strong supporting information**
  - Equal emphasis on:
    1. General project background (13 pts)
    2. Address Human Right to Water, Underrepresented Communities, SDACs, small water systems/domestic well users (13 pts)
- Remaining points for budget (3 pts) and schedule (1 pt)
  - Full points for budget only possible if local cost share is provided

SDAC- Severely Disadvantaged Communities



Vina Subbasin Project Workshop #1:  
Butte County Intro



# Grant Program Schedule

- ▶ SGM Grant application due November 30, 2022
- ▶ Draft Award List posted for public review in May 2023
- ▶ Final Award List posted in August 2023
- ▶ Execute Agreements from September–November 2023
  
- ▶ Reimbursable grant funds begin after the date the 2021 Guidelines and PSP were approved in December 2021
- ▶ The funding end date is June 30, 2026 or June 30, 2027 (depending on source of funds, something DWR will have to juggle), so projects need to be completed and any reports or results finalized before these dates



# Steps to Application Development and Submission

- 1. Project development (through a series of four Project Workshops)**
2. Sorting and prioritizing projects given this particular grant opportunity and its Evaluation Criteria
3. Selection of projects to include in the grant application
4. Prioritization of projects within the grant application
  - Need to make it clear to DWR what is most important to the subbasin, providing a clear path for DWR if only partial funding is awarded



# Anticipated Process and Timeline

- August: Joint GSA Board meeting (Vina GSA and Rock Creek GSA) to give direction on list of projects to develop for more detailed scope, schedule, and budget
- October: facilitated Project Workshops to develop details for potential projects
- October 26: SHAC to provide recommendation to Vina GSA Board on package of projects to include in the grant application and prioritization of those projects
- November 9: Joint GSA Board meeting to establish the list of projects to include in a SGM Grant Program application
- November 30: Staff/consultants to prepare grant application and submit by deadline



# List for Project Development

- Davids Engineering, Montgomery & Associates, and Luhdorff Scalmanini Consulting Engineers supporting this effort
- Each team has about four projects to develop with workplans, budgets, and schedules
- Montgomery & Associates will support application completion for the Vina Subbasin

#	Potential Project	Category	Implementing Agency
<b>A.</b>	<b>Grant Administration</b>	NA	Vina GSA/TBD
<b>1</b>	<b>GSP Implementation, Outreach, and Compliance Activities</b>		
1.1	Monitoring- Groundwater Levels	Monitoring	DWRC
1.2	Monitoring- Water Quality	Monitoring	DWRC
1.3	Update and Maintain Data Management System (Section 6.4)	Data Analysis	DWRC
1.4	Annual Reports	Reporting and Evaluation	GSAs
1.5	GSP Updates and Response to DWR Comments	Implementation Activity	GSAs
1.6	5-year Evaluation Report	Reporting and Evaluation	GSAs
1.7	Outreach and Education Program.	Project (planned)	GSAs/CSUC CWE
<b>2</b>	<b>Interbasin Coordination (Section 6.7)</b>		
2.1	GSP Evaluation	Data Analysis	TBD
2.2	Technical Coordination on Undesirable Result #6: Depletion of Surface Water		TBD
2.3	5.4.1** Contour Mapping	Data Collection	TBD
<b>3</b>	<b>Addressing Data Gaps</b>		
3.1	5.4.4 Interconnected Surface Water/Associated impacts on Groundwater Dependent Ecosystems	Data Collection	DWRC/GSAs
3.2	5.4.3 Community Monitoring: Domestic Well Survey	Data Collection	Vina GSA
3.3	Enhancements to Monitoring Networks	Data Collection	GSAs
3.4	5.2.4.4 Community Monitoring Program	Project (potential)	CSUC
3.5	5.4.2 Butte Basin Model Update	Data Collection	DWRC
<b>4</b>	<b>Evaluation and Implementation of Surface Water Supply and Recharge Opportunities</b>		
4.1	5.2.3.3 Scoping for Flood MAR/Surface Water Supply and Recharge	Project (planned)	Vina GSA/RCRD GSA
4.2	Sand Creek Phase 2 Implementation (5.2.4.8 Surface Water Supply and Recharge)	Project (potential)	RCRD
4.3	5.2.4.2 Agricultural Surface Water Supplies	Project (potential)	TBD
4.4	5.2.4.3 Streamflow Augmentation	Project (potential)	Vina GSA
4.5	5.2.4.8 Surface Water Supply and Recharge (ex. Sand Creek, Lindo Channel)	Project (potential)	TBD
<b>5</b>	<b>5.2.3.1 Agricultural Irrigation Efficiency</b>	Project (planned)	TBD
<b>6</b>	<b>5.2.5.1 Extend Orchard Replacement</b>	Project (conceptual)	TBD
<b>7</b>	<b>5.3.2 Domestic Well Mitigation</b>	Management Action	TBD
<b>8</b>	<b>5.3.3 Well Permitting Ordinance</b>	Management Action	Butte County
<b>9</b>	<b>5.3.6 Expansion of Water Purveyors' Service Area (ex Cal Water, Durham Irrigation District)</b>	Management Action	TBD
<b>10</b>	<b>5.2.4.5 Recycled Wastewater</b>	Project (potential)	City of Chico/Vina GSA
<b>11</b>	<b>5.2.4.7 Removal of Invasive Species</b>	Project (potential)	CSUC



# Project Development: Workshop #1

- *GSP Implementation, Outreach, and Compliance Activities – Lisa Porta*
- *Enhancements to the Monitoring Networks – Eddy Teasdale*
- *Update and Maintain Data Management System – Jeff Davids*
- *Inter-basin Coordination: GSP Evaluation – Lisa Porta*



# Vina Subbasin Project Workshop #1: GSP Implementation, Outreach, and Compliance Activities

## Montgomery & Associates

Lisa Porta

October 10, 2022





# GSP Implementation, Outreach, and Compliance Activities

Background and Summary: SGMA requires key activities and reporting that need to be submitted to DWR at specific times to stay in compliance with the GSP regulations.

Key activities include:

- Annual Report Development, for WY 2022, 2023, 2024
- GSP Updates and Responses to DWR Comments
- 5-year GSP Evaluation Report
- Outreach and Education Program



# GSP Implementation, Outreach, and Compliance Activities – Key Tasks

Annual Report	GSP Updates/ Responses to DWR Comments	5-year GSP Evaluation Report	Outreach and Education Program
Collect and analyze data for previous water year	Review DWR evaluation letter and identify areas that need to be revised	Review any new information	Identify a reasonable stakeholder outreach schedule that can be implemented on an annual basis
Develop maps and calculations	GSA meetings to review and discuss DWR comments	Summarize current groundwater conditions	Identify and implement potential smaller group check ins with specific stakeholder groups
Write report	Identify revisions to be incorporated into the 5-year evaluation report	Evaluation of updated water budgets and overdraft conditions to include changes in water use	Develop educational materials on GSP implementation progress
GSA Meeting	<i>IF</i> GSP deemed incomplete: <ul style="list-style-type: none"> <li>• DWR consultations</li> <li>• GSP revisions and modifications during 180-day resubmittal period</li> <li>• Board adoption of revised GSP</li> </ul>	Relevant actions taken by the GSAs, including a summary of regulations, ordinances, legal enforcement or action related to the implementation of the GSP	GSP website updates
Upload data and submit to DWR	Upload revised GSP and submit to DWR	Outreach activities and GSA meetings	

# GSP Implementation, Outreach, and Compliance Activities

## Approximate Budget:

- Annual Report Development, for WY 2022, 2023, 2024: \$40,000 per Annual Report; total of \$120,000 for 3 reports.
- GSP Updates and Responses to DWR Comments: \$80,000
- 5-year GSP Evaluation Report: \$250,000
- Outreach and Education Program: \$50,000

Total: \$500,000

## Anticipated Timeline:

- Annual Report Development: Work would be completed between November to March each year.
- Reports due:
  - FY 2022: April 1, 2023
  - FY 2023: April 1, 2024
  - FY 2024: April 1, 2025
- GSP Updates and Responses to DWR Comments: anticipated DWR reviews to be released by late 2023 – timeline would be early 2024 to mid 2024
- 5-year GSP Evaluation Report: start by January 2024 and submit by January 2027 – *work under this grant would end by June 2025.*
- Outreach and Education Program: January 2022 – June 2025



Vina Subbasin Project Workshop #1:  
Montgomery & Associates



# Vina Subbasin Project Workshop #1: Enhancements to Monitoring Networks

Luhdorff & Scalmanini Engineering  
(LSCE) Chico, CA

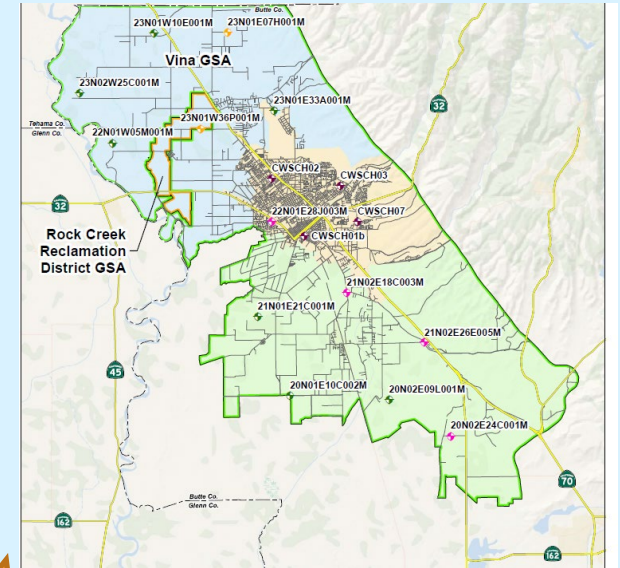
Eddy Teasdale, P.G. C.HG  
October 10, 2022



# Enhancements to Monitoring Networks

## Background and Summary:

1. Develop community domestic well monitoring program
  1. Voluntary
  2. Managed by landowners/CSU-Chico
2. Groundwater Levels & Water Quality Monitoring
  1. Install new multi-completion monitoring wells
  2. Equip with data loggers and telemetry
3. Surface Water Groundwater Monitoring
  - Install shallow (<30') monitoring wells and stream gauges
  - Support evaluation of groundwater dependent ecosystems

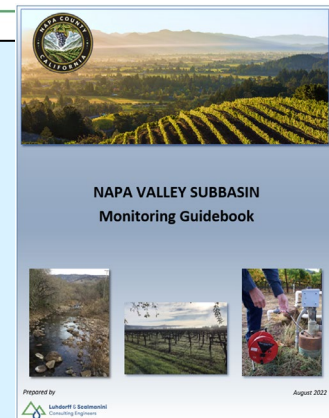
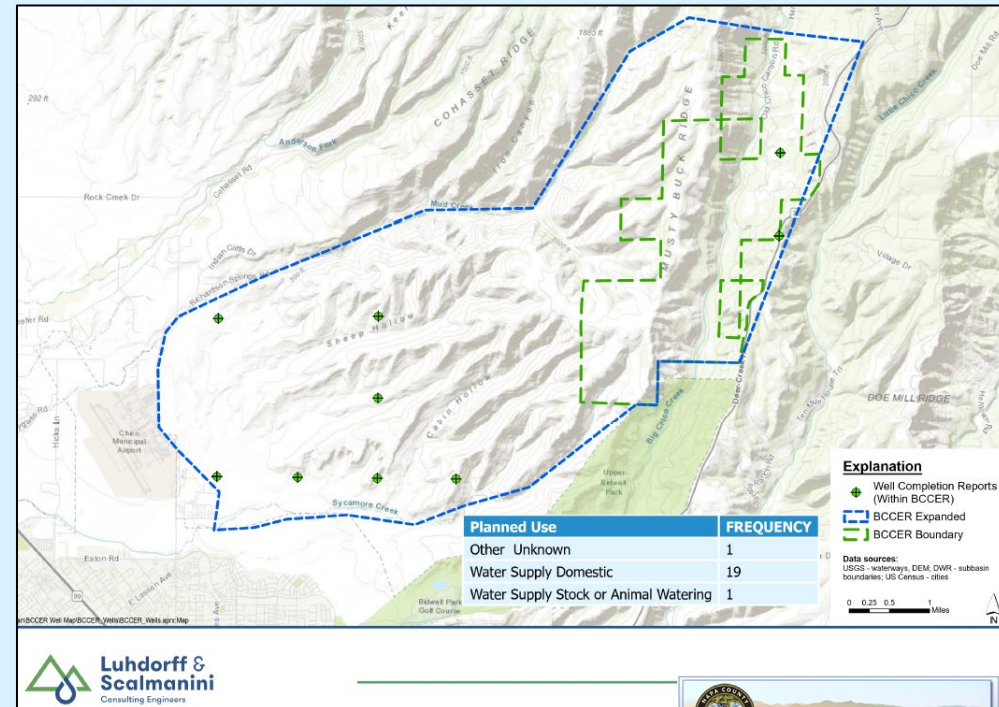


# Community Domestic Well Monitoring (Enhancements to Monitoring Networks)

## Key Tasks:

The Domestic Well Program seeks to:

- Outline domestic well-identification needs in (i.e., to build a well inventory, and conduct water sampling)
- Establish an inventory of domestic well materials and resources that can be used as part of education, outreach, and engagement efforts
- Begin planning, scheduling, and budgeting for a focused domestic well program
- Identify ways to strengthen and facilitate coordination between county and state agencies for dry well reporting, ordinances, and permitting

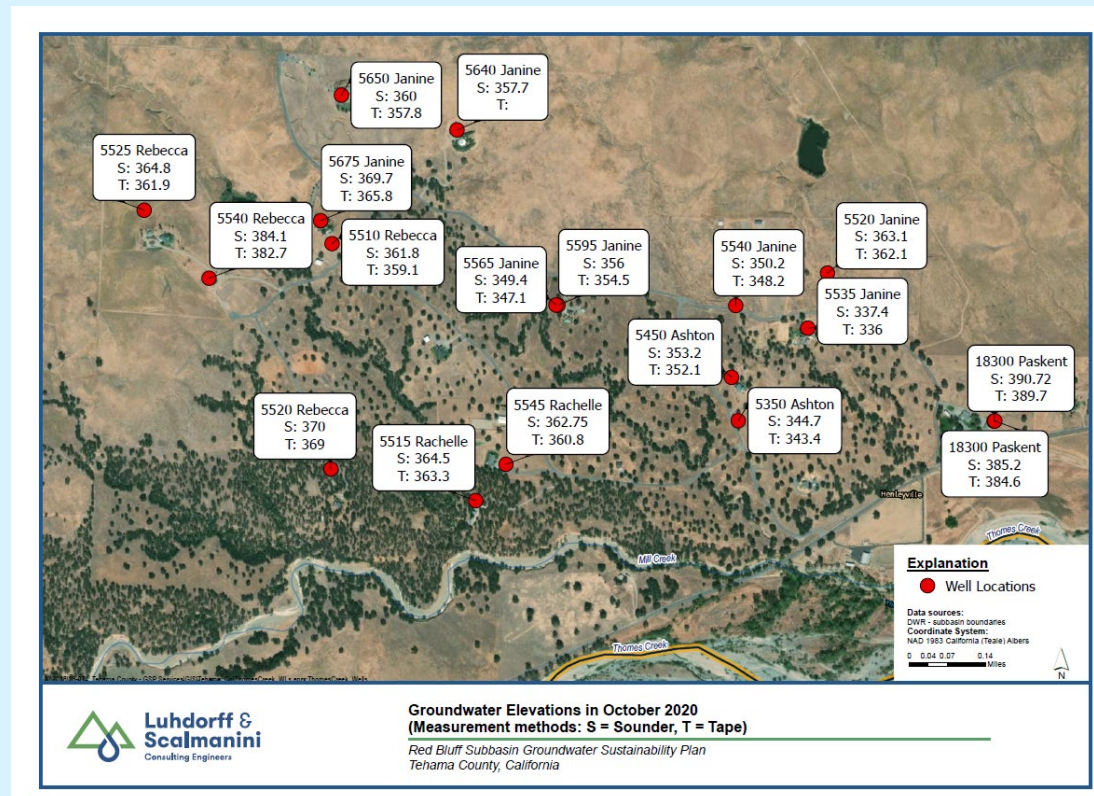
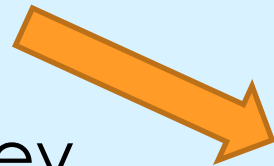


Vina Subbasin Project Workshop #1:  
LSCE



# Example: Community Domestic Well Monitoring (Enhancements to Monitoring Networks)

- **Tehama County**
  - Thomas Creek Landowners
- Indian Wells Valley
  - WellIntel Example
- McMullan GSA (Kings County)
  - Outreach to ag well owners
  - Domestic well owners also signed up



# Community Domestic Well Monitoring (Enhancements to Monitoring Networks)

Total: \$25K

## Approximate Budget:

- Task 1 – Outreach & Develop Work Plan: \$5K
- Task 2 – Implement Work Plan (Well Access/Field Sampling Overview): \$10K
  - Telemetry: \$1K/well
- Task 3 – Field Summary Report: \$3K
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: \$2K

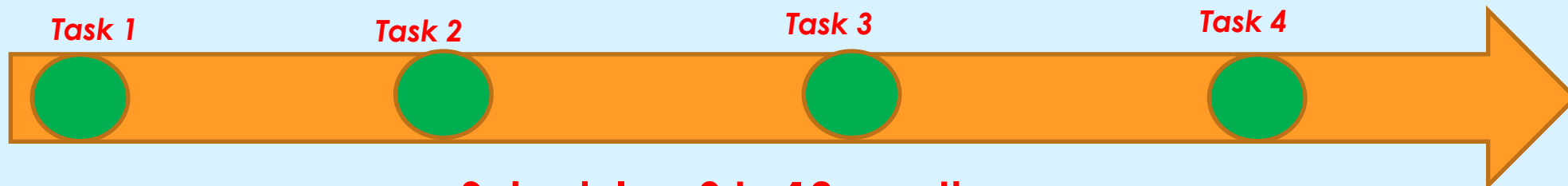
Applicable projects fall under 6 broad categories:

Hydrogeological investigations, monitoring networks and filling data gaps

## Anticipated Timeline:

- Task 1 – Outreach & Develop Work Plan: 3 Months
- Task 2 – Implement Work Plan (Well Access/Field Sampling Overview): 3 Months
- Task 3 – Field Summary Report: 3 Months
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: 3 Months

**Start by September 2023 until June 2025, on an as needed basis; need to develop a schedule with SHAC at start of the effort**



**Schedule – 3 to 12 months**



Vina Subbasin Project Workshop #1:  
LSCE

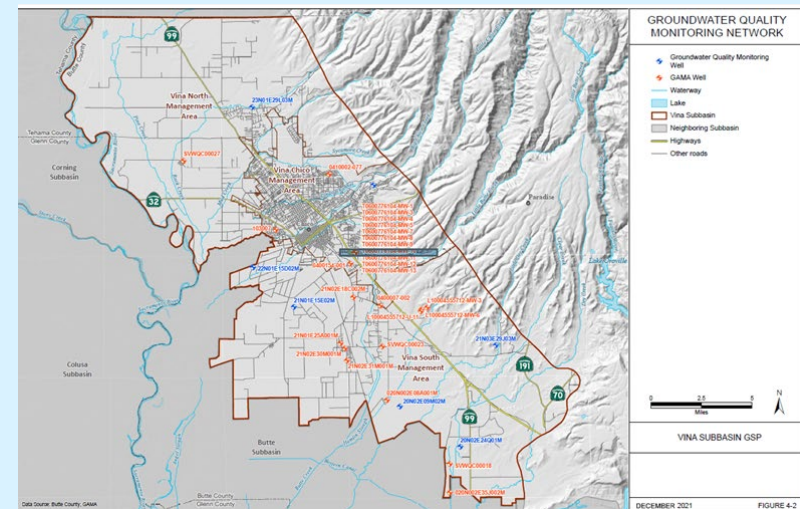
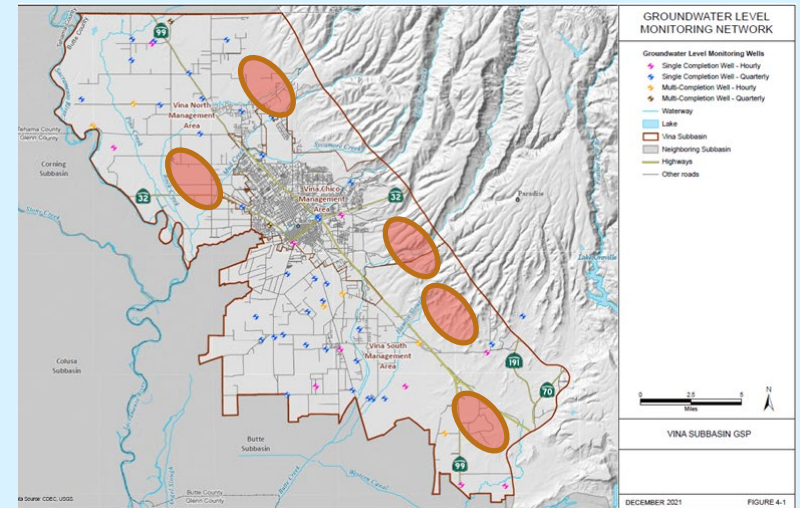




# Installation of Multi Completion Monitoring Wells (Enhancements to Monitoring Networks)

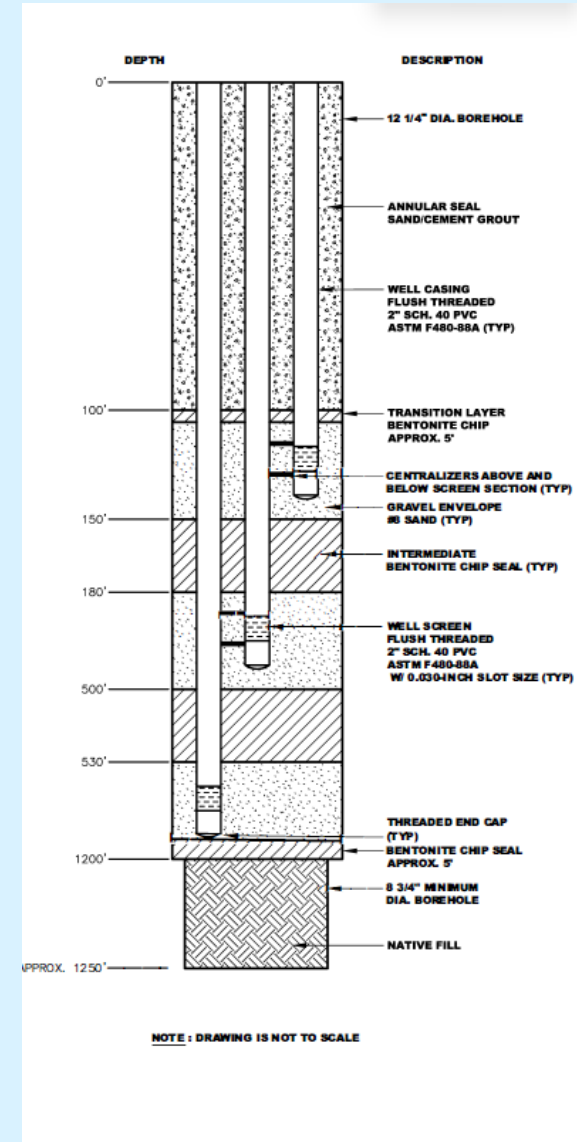
## Key Tasks:

- Add up to 10 multi-completion monitoring wells
  - would help to further refine both the horizontal and vertical understanding of groundwater flow and water quality
- Wells would be incorporated into the current monitoring well network



# Example: Installation of Multi Completion Monitoring Wells (Enhancements to Monitoring Networks)

## Westside Subbasin Example



# Installation of Multi Completion Monitoring Wells (Enhancements to Monitoring Network)

## Approximate Budget

- Task 1 – Outreach & Develop Work Plan: \$10K
- Task 2 – Implement Work Plan (Field Investigation)
  - Drilling/Construction Management/Permitting: \$150K/well
  - Telemetry/5 yrs of monitoring: \$5K
- Task 3 – Field Summary Report: \$10K
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: \$5K

Total: \$180K/well site

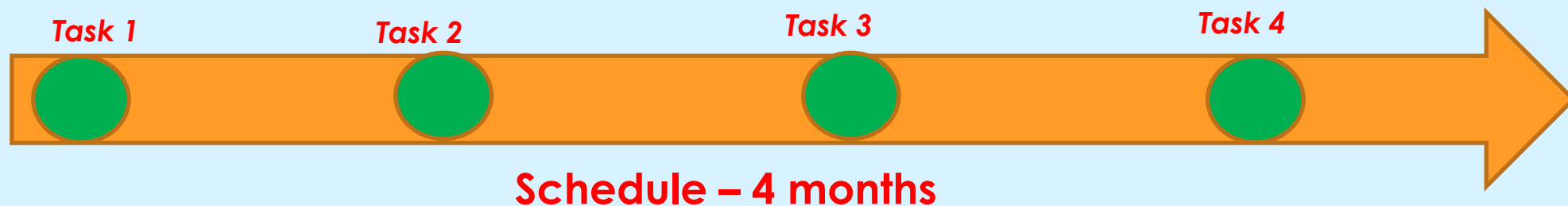
Applicable projects fall under 6 broad categories:

Hydrogeological investigations, monitoring networks and filling data gaps

## Anticipated Timeline:

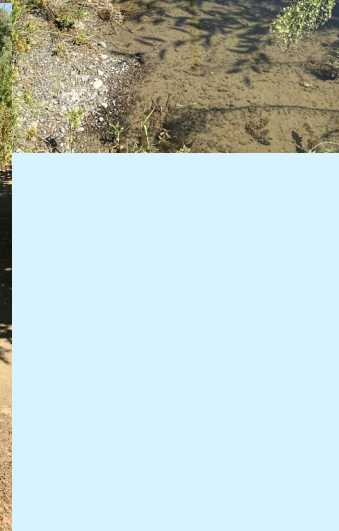
- Task 1 – Outreach & Develop Work Plan: 1 Month
- Task 2 – Implement Work Plan (Drilling/Construction/Permitting/Telemetry): 2 Months
- Task 3 – Field Summary Report: 1 Month
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: 1 Month

Start by September 2023 until June 2025, on an as needed basis; need to develop a schedule with SHAC at start of the effort



# Installation of Shallow Groundwater/Surface Water Gauge Station (Enhancements to Monitoring Networks)

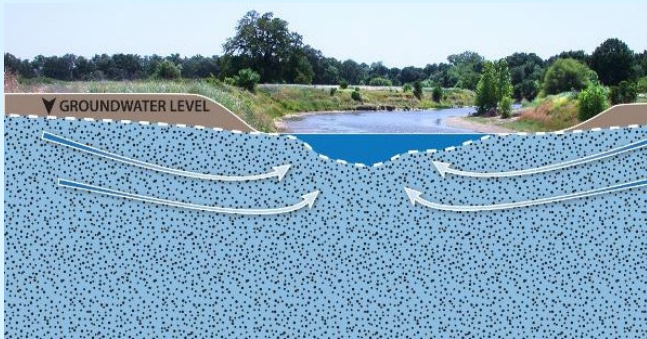
- Add up to 10 Shallow wells
  - would help to further refine both the horizontal and vertical understanding of surface water/groundwater connectivity
- Wells would be incorporated into the current monitoring well network



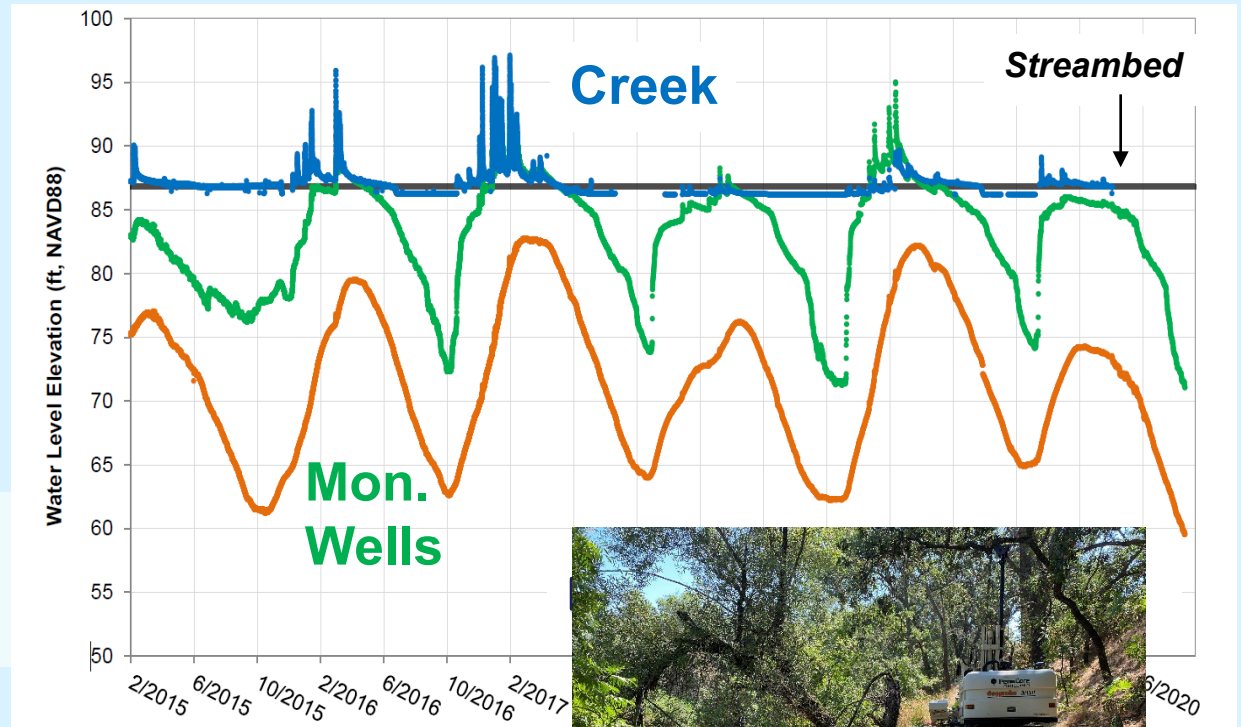
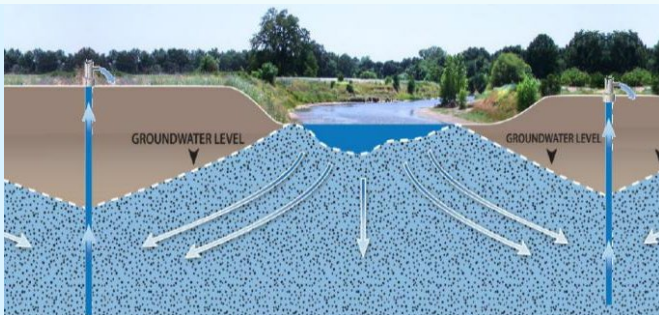
# Example: Installation of Shallow Groundwater/Surface Water Gauge Station (Enhancements to Monitoring Networks)

## Napa Subbasin Example

**Direct Connection  
Maintains/Discharges to Stream  
(Groundwater Baseflow)**



**Groundwater Pumping  
Stream Loses Water/Recharge to  
GW**



# Installation of Shallow Groundwater/Surface Water Gauge Station (Enhancements to Monitoring Networks)

Total: \$60K/Location

## Approximate Budget

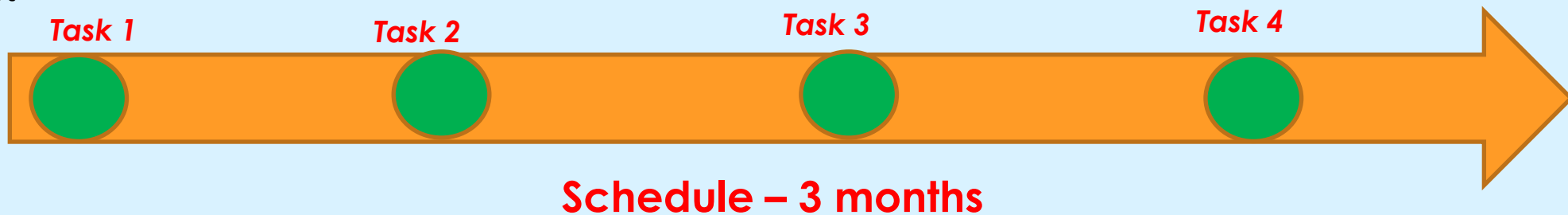
- Task 1 – Outreach & Develop Work Plan: \$5K
- Task 2 – Implement Work Plan (Field Investigation)
  - Drilling/Construction Management/Permitting: \$40K/well site
    - 3 shallow wells & 1 stream gauge
  - Telemetry/5 yrs of monitoring: \$5K
- Task 3 – Field Summary Report: \$7K
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: \$3K

Applicable projects fall under 6 broad categories:  
Hydrogeological investigations, monitoring networks and filling data gaps

## Anticipated Timeline:

- Task 1 – Outreach & Develop Work Plan: 0.5 Month
- Task 2 – Implement Work Plan (Drilling/Construction/Permitting/Telemetry): 0.5 Months
- Task 3 – Field Summary Report: 1 Month
- Task 4 – Integrate monitoring into existing GSP Monitoring Network: 1 Month

Start by September 2023 until June 2025, on an as needed basis; need to develop a schedule with SHAC at start of the effort





# Quick Break

Vina Subbasin *Project Workshop #1*



# Vina Subbasin Project Workshop #1: Update and Maintain Data Management System

## Davids Engineering

Jeff Davids

October 10, 2022





# Data Management System (DMS) - Background

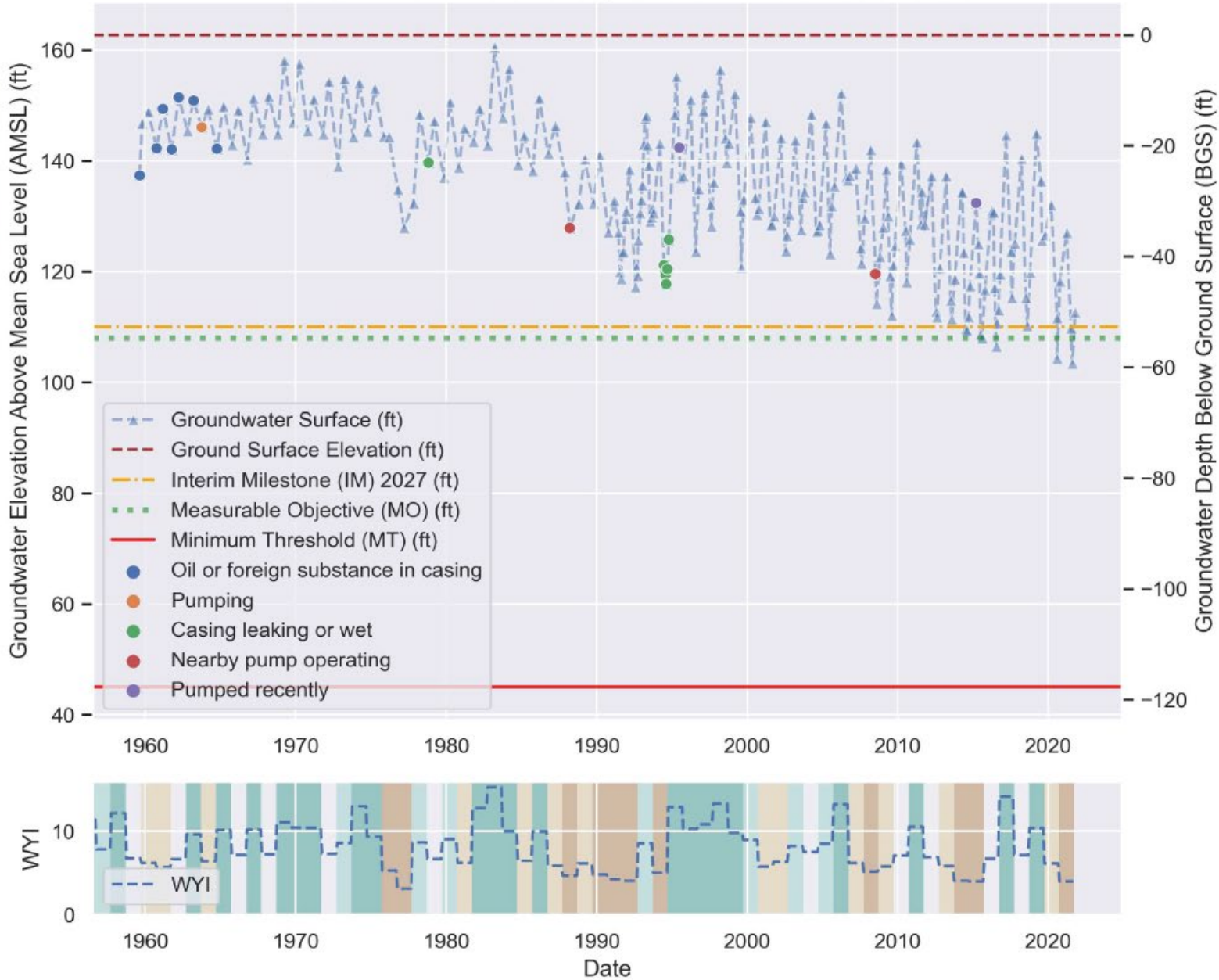
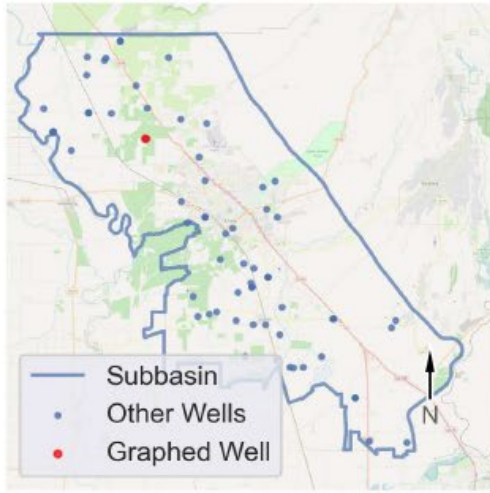
- California Code of Regulations (23 CCR) § 352.6 requires a Data Management System (DMS):
  - *“Each Agency shall develop and maintain a data management system that is capable of storing and reporting information relevant to the development or implementation of the Plan and monitoring of the basin.”*



# VINA Subbasin - State Well Number (SWN): 23N01W36P001M

Perforation 1: 240.0 - 300.0 ft BGS; Perforation 2: 448.0 - 508.0 ft BGS

Well Location Map



## Sustainable Management Criteria:

IM (2027) = 110.0 ft AMSL  
 MO = 108.0 ft AMSL  
 MT = 45.0 ft AMSL

Sacramento Valley Water Year Index (WYI) shown on lower right. Meaning of colors defined below.



# Data Management System (DMS) - Considerations

- Data types:
  - Continuous data from sensors (e.g., groundwater level/quality, etc.)
  - Remotely sensed data (e.g., land use, precipitation, etc.)
  - Manual observations (e.g., groundwater level/quality, streamflow, etc.)
  - Participatory monitoring (*i.e.*, citizen science)?
- Meta data (*i.e.*, data about the data) is important:
  - Geospatial information
  - Photographs
  - Date and time
- Requirements:
  - Centralized - one version of reality
  - Accessible - GSA staff, County, members of the public?
  - Quality-controlled - traceable process
  - Updates - manual, semi-automated, or automated?
  - Reports - manual, semi-automated, or automated?



# Data Management System (DMS) - Tasks, Budget, and Timeline

## Key Tasks:

- Develop DMS requirements
- Evaluate DMS alternatives (e.g., custom or off-the-shelf)
- Implement preferred DMS alternative
- Test DMS functionality
- Update DMS as necessary

## Approximate Budget:

- GSP estimated between \$50,000 and \$200,000
- Other subbasins ranged from approximately \$50,000 to \$500,000
- Budget requirements depend on desired functionality and customizations

## Anticipated Timeline:

- GSP estimated work from 02/01/22 and 02/01/23 (12 months)
- 12 to 24 months from start date



# Vina Subbasin Project Workshop #1: Inter-Basin Coordination: GSP Evaluation

## Montgomery & Associates

Lisa Porta

October 10, 2022



# Inter-Basin Coordination Activities

## Background and Summary:

- In the Sacramento Valley inter-basin coordination is critical due to the interconnectedness of groundwater, as each Subbasin implements its GSP.
- The Vina Subbasin participated with the surrounding 10 subbasins (Antelope, Bowman, Butte, Colusa, Corning, Los Molinos, Red Bluff, Sutter, Wyandotte Creek, and Yolo) in the North Sac River Corridor in inter-basin coordination efforts focused on establishing a foundation and guidelines by identifying priorities and resources.
- The main objective of the coordination efforts is to identify any significant discrepancies in the GSPs, understand why those differences exist, and evaluate to the extent they need to be reconciled.



# Inter-Basin Coordination Activities

## Key Tasks:

- Information sharing
- Conducting joint analysis and evaluation of GSPs
- Coordination on mutually beneficial activities
- County contour mapping to help identify inter-basin flow patterns and influences on surface water flows and replenishment locations
- Coordinated communication and outreach, including issue resolution process development



# Inter-Basin Coordination Activities

## Approximate Budget:

- Information sharing: \$30,000
- Joint analysis and evaluation of GSPs: \$100,000
- Coordination on mutually beneficial activities: \$50,000
- County contour mapping: \$40,000
- Coordinated communication and outreach: \$40,000

Total: \$260,000

## Anticipated Timeline:

- Information sharing: **conduct annual interbasin workshop, early March**
- Joint analysis and evaluation of GSPs
- Coordination on mutually beneficial activities
- County contour mapping
- Coordinated communication and outreach
  - start by September 2023 until June 2025, on an as needed basis; need to develop a schedule with the inter-basin group at start of the effort





# Vina Subbasin *Project Workshop #1*

# Questions? Comments.

[vinagsa@gmail.com](mailto:vinagsa@gmail.com)



# Vina Subbasin Project Workshop Series

**#1 October 10, 2022, 9:00 a.m.-noon**

**#2 October 11, 2022, 3:30-5:30 p.m.**

**#3 October 12, 2022, 9:00-11:00 a.m.**

**#4 October 17, 2022, 1:00-3:00 p.m.**

**[vinagsa.org/sgm-grant-program-workshop-series](http://vinagsa.org/sgm-grant-program-workshop-series)**

