



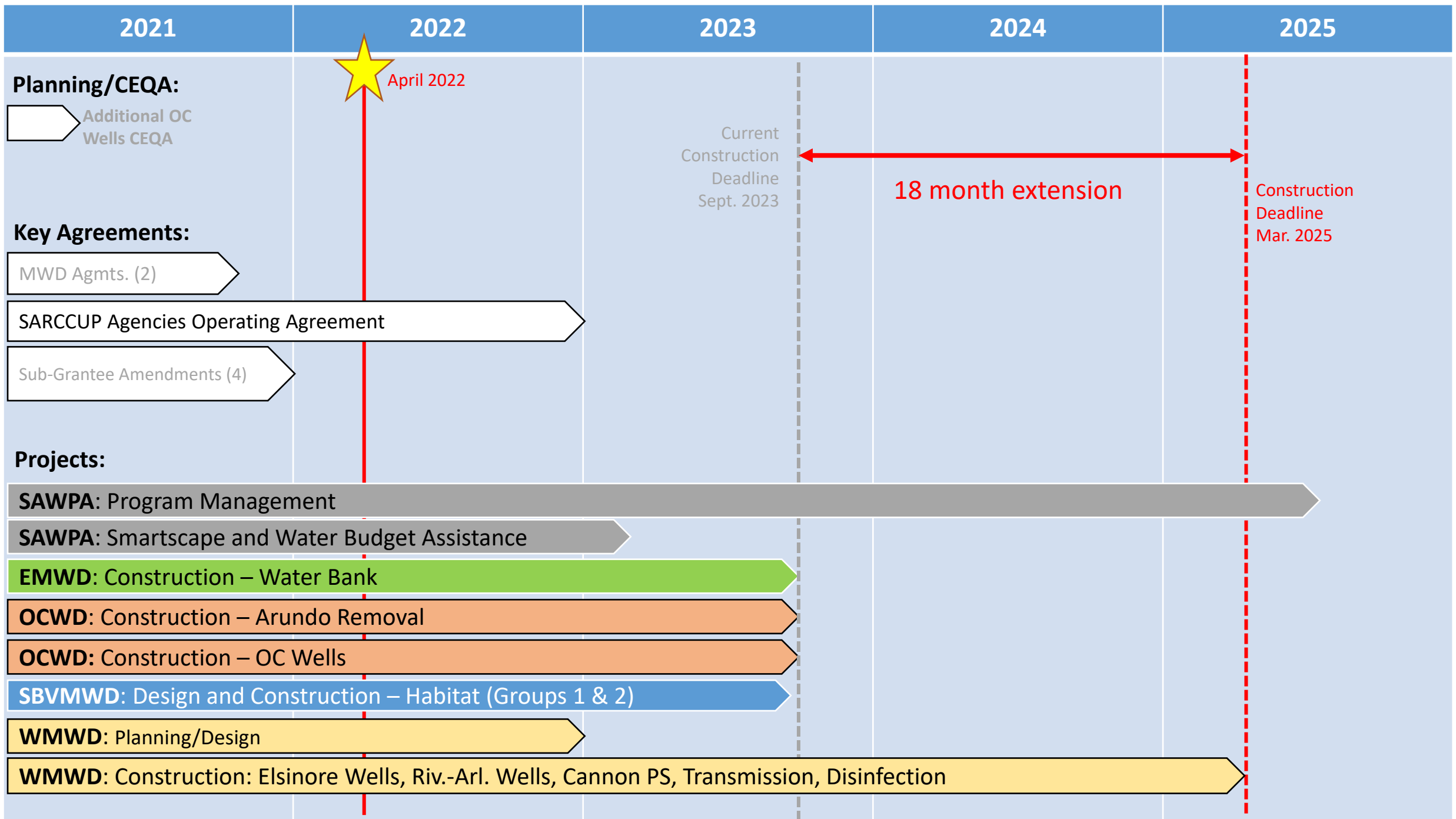
SARCCUP Schedule Overview

Brian Dietrick, Woodard & Curran

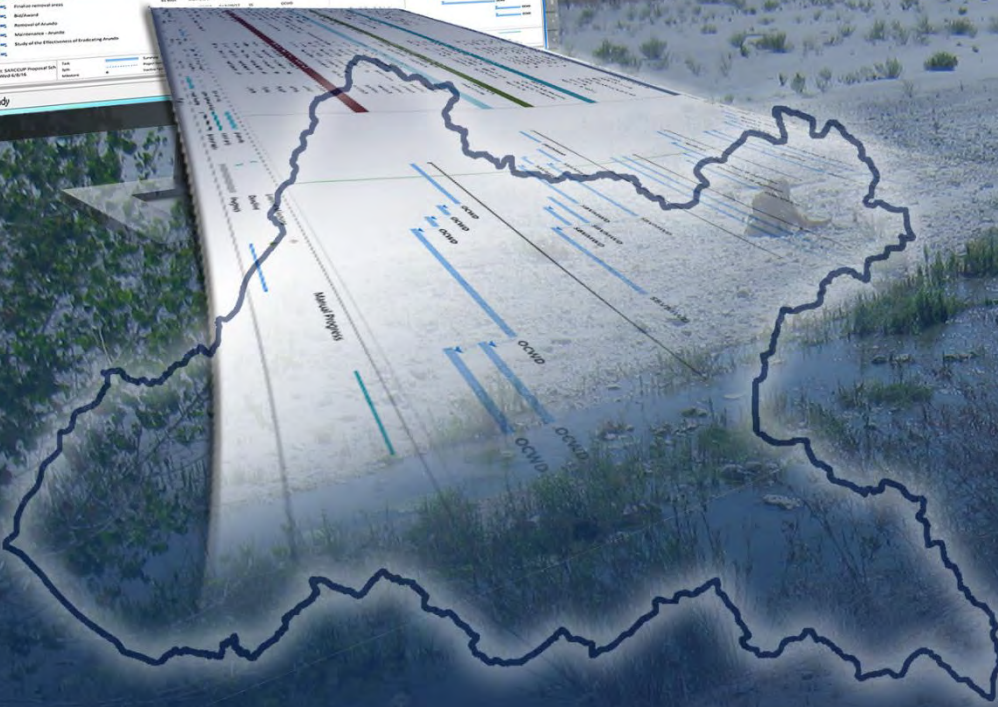
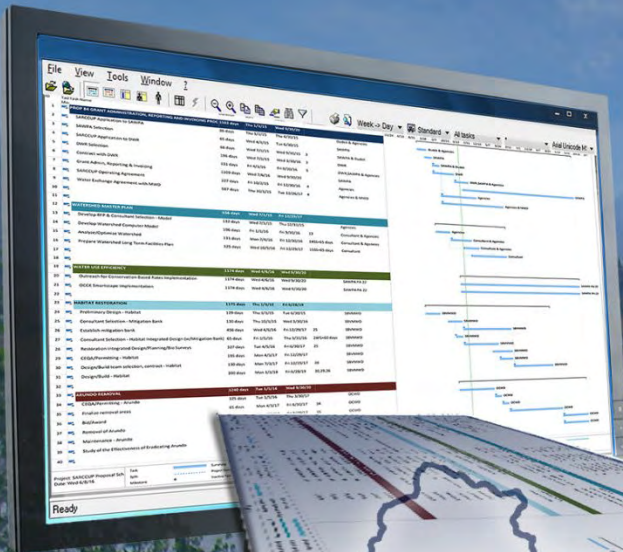
PA 23 Committee | April 5, 2022

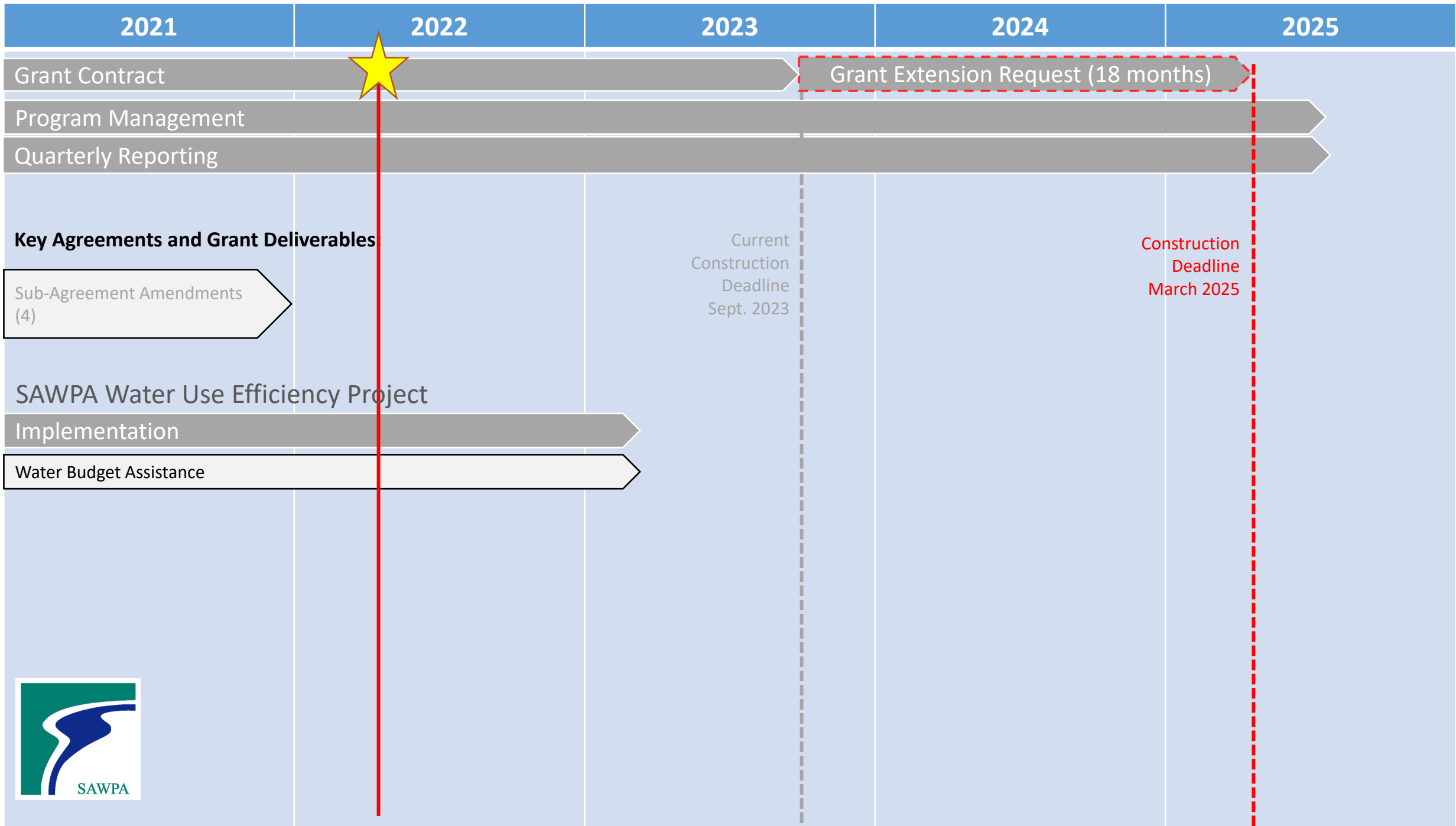
Item No. 4.A.

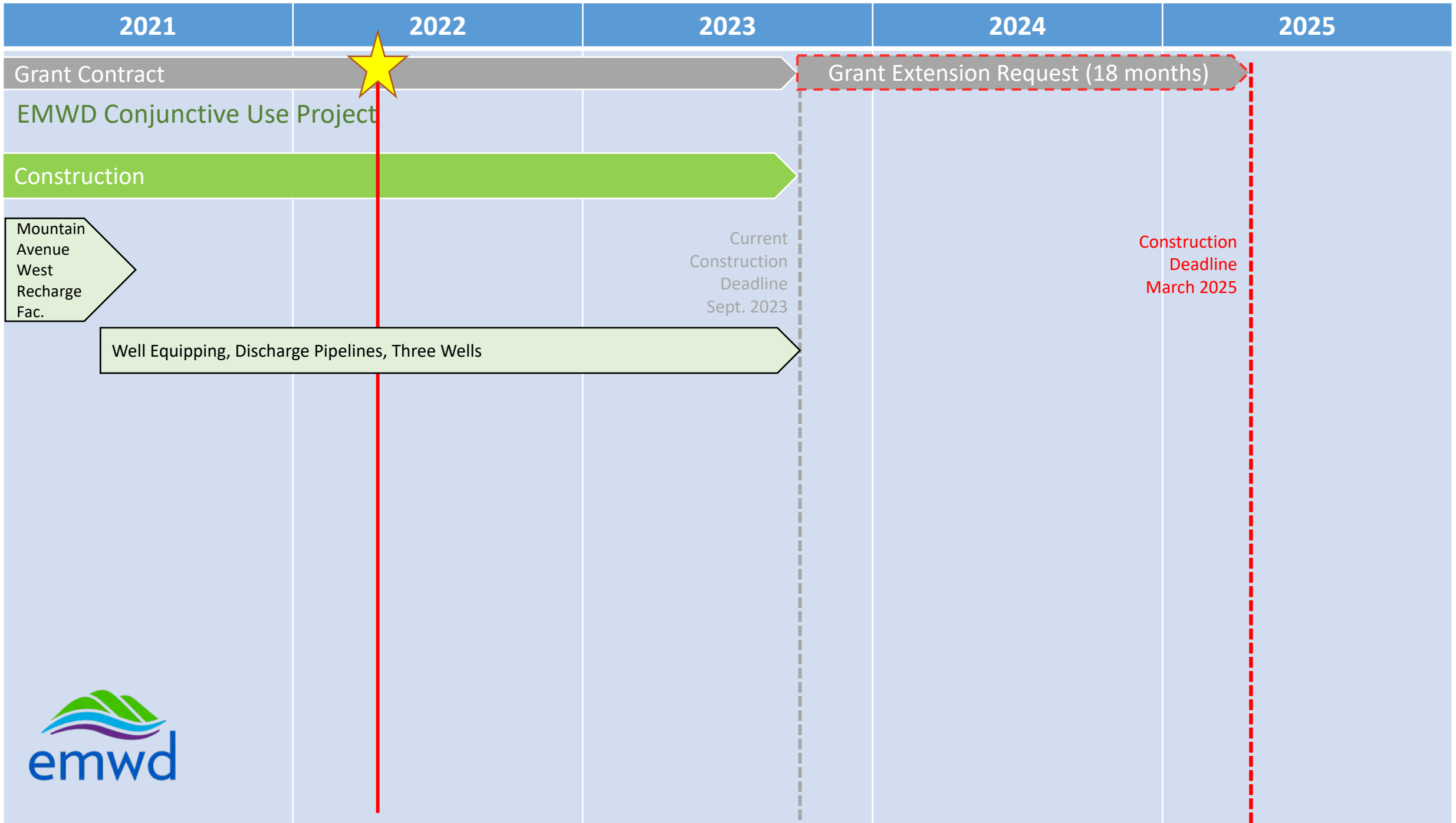


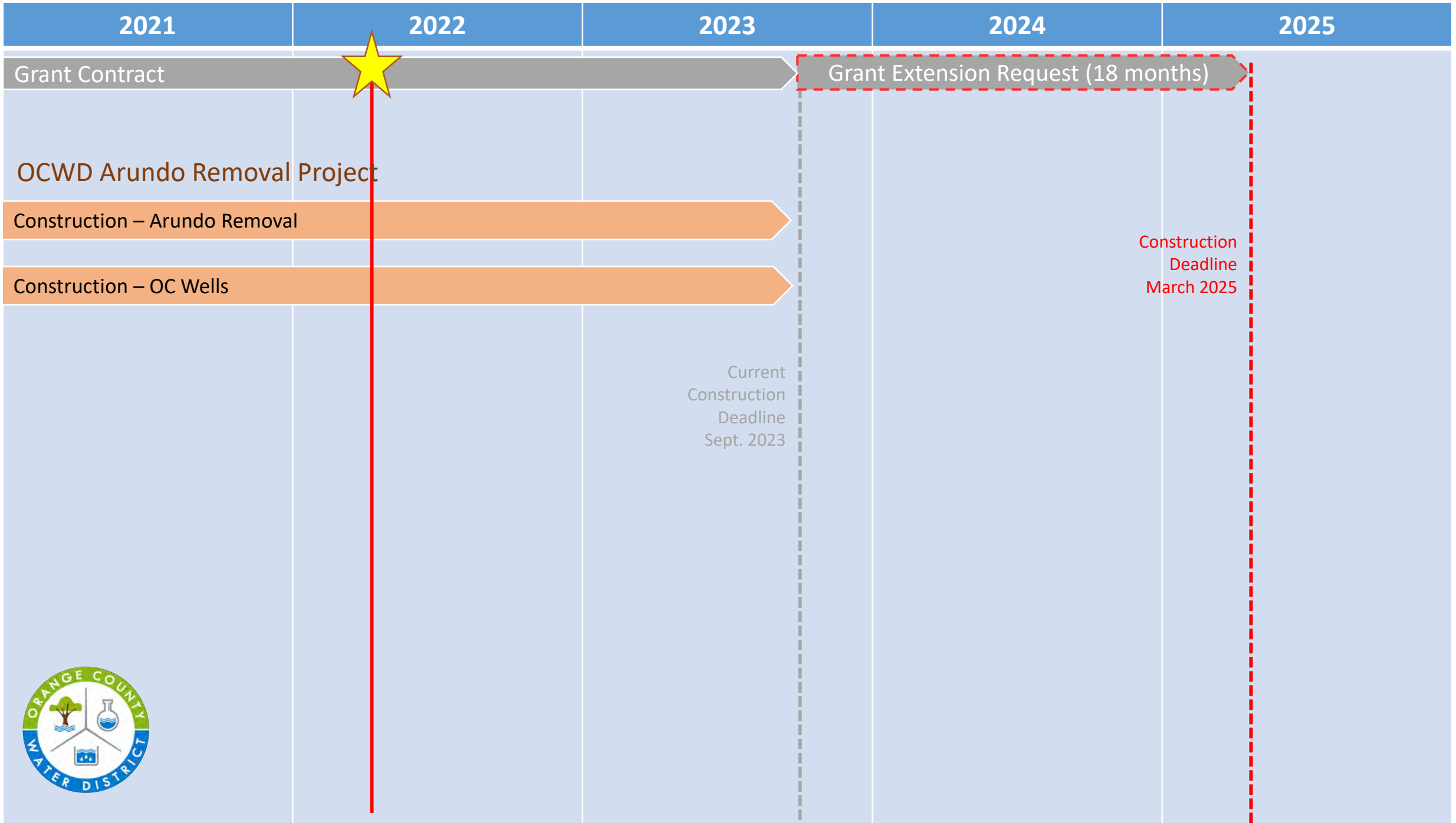


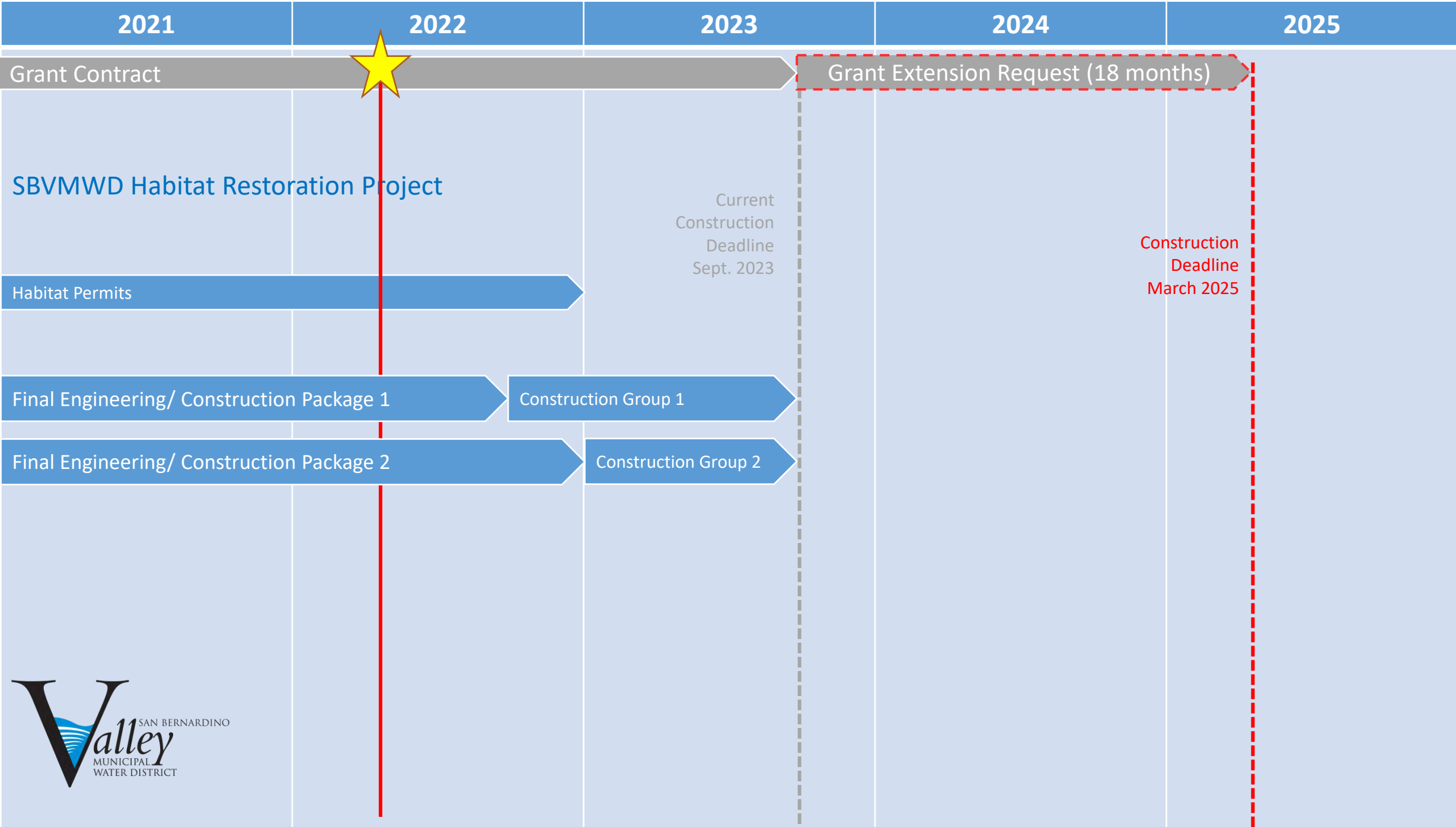
2021-2025 Agency Slides

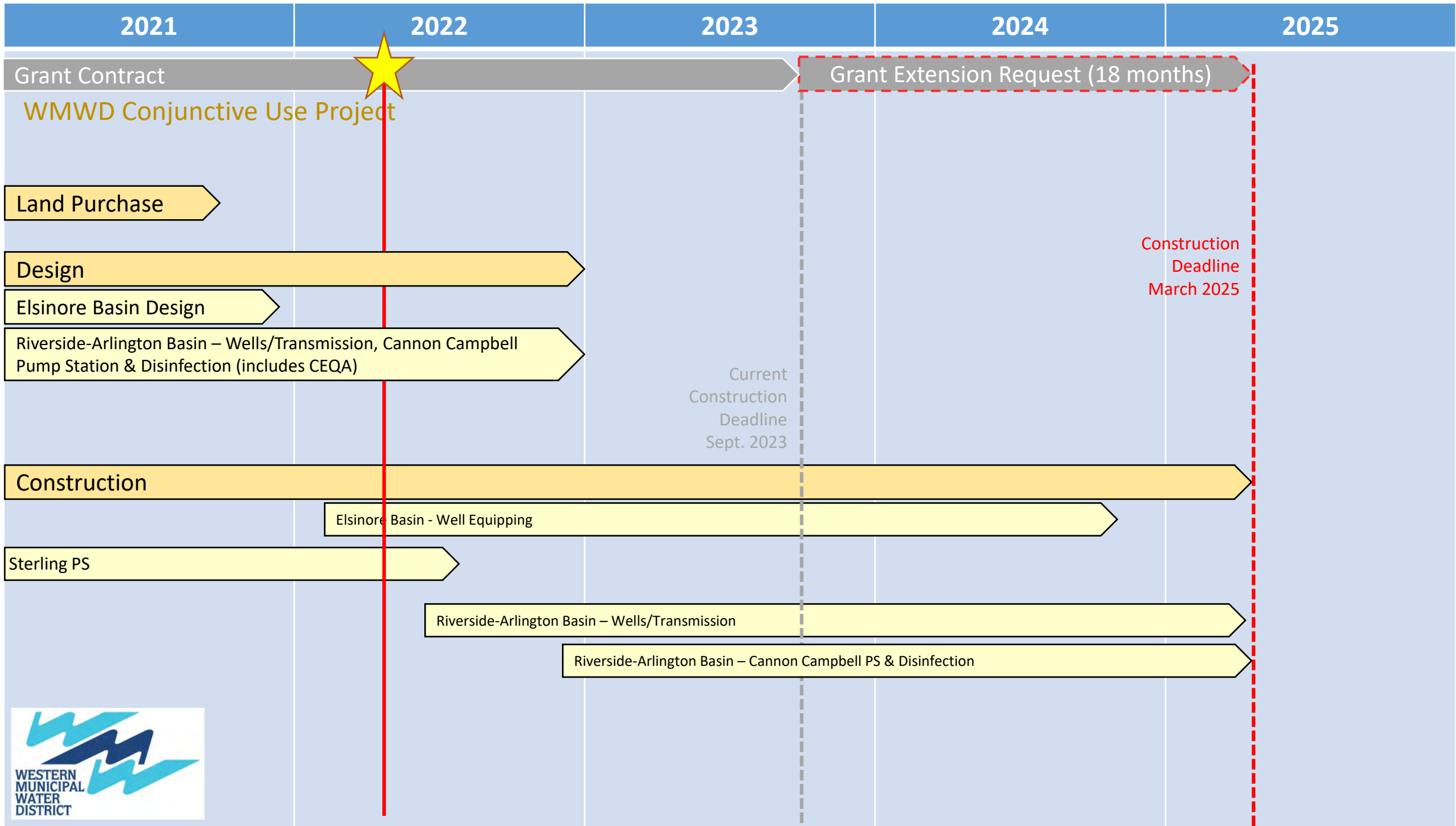














SARCCUP

SARCCUP Project Updates

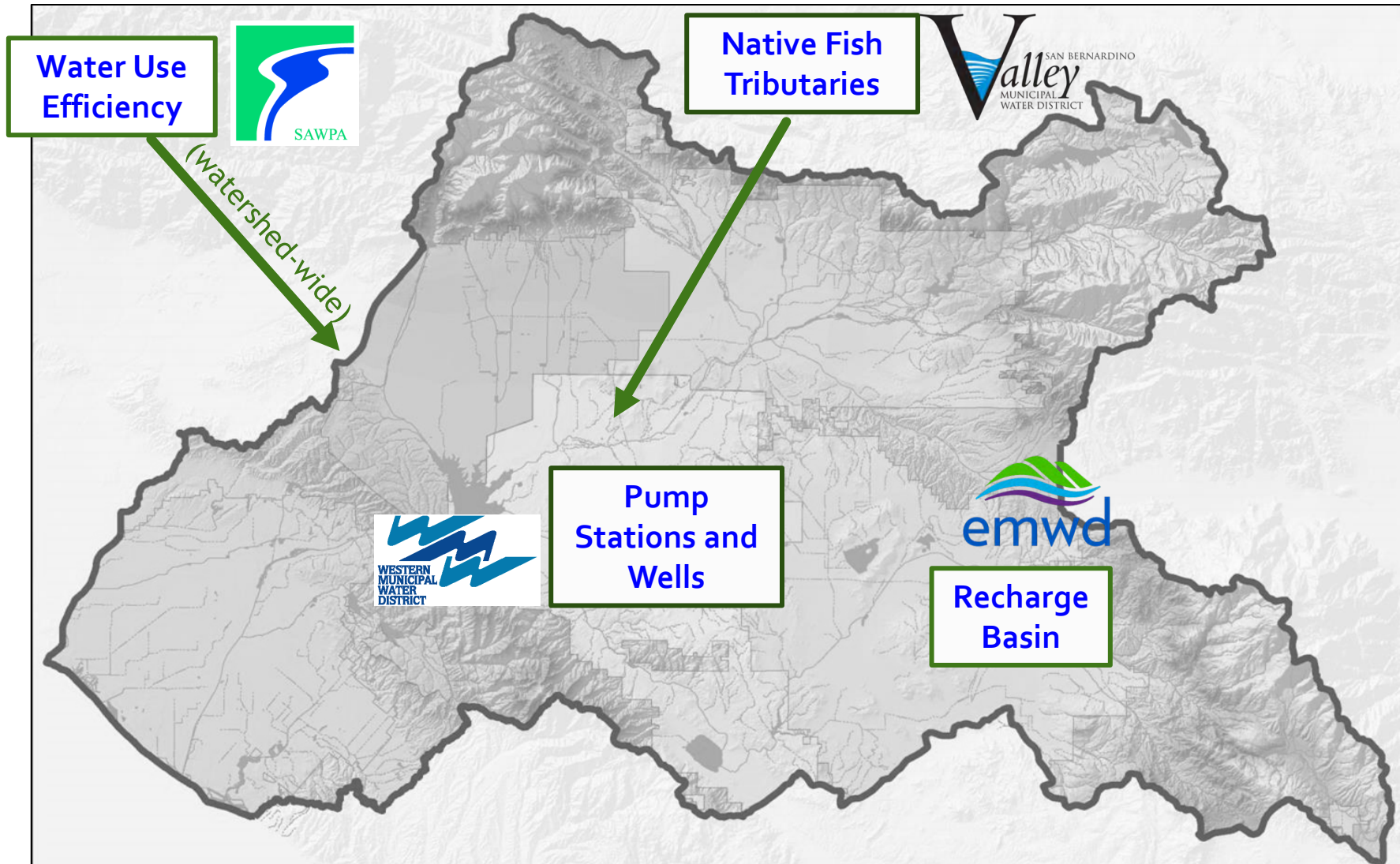
SAWPA Member Agencies & SAWPA

PA 23 Committee | April 5, 2022

Item No. 4.B.



SARCCUP Project Update Locations



EMWD Updates



San Jacinto Groundwater Basin Facilities

Wells 201, 202, 203, and 205 Program Overview



Wells 201, 202, 203, & 205 Equipping



- Awarded Construction Contract to JF Shea in July 2021 for ~\$19.5M
- Phasing: Wells 201/202
 - > 203 -> 205
- Wells 201/202
 - Block wall and generator housekeeping pad foundations in progress
- Well 203
 - Preliminary earthwork
 - Potholing
- Well 205
 - Preliminary Earthwork
- Estimated construction completion in early 2024

Wells 201, 202, 203, & 205 Equipping



Well 201 second course
of CMU
3-22-22

Wells 201, 202, 203, & 205 Equipping

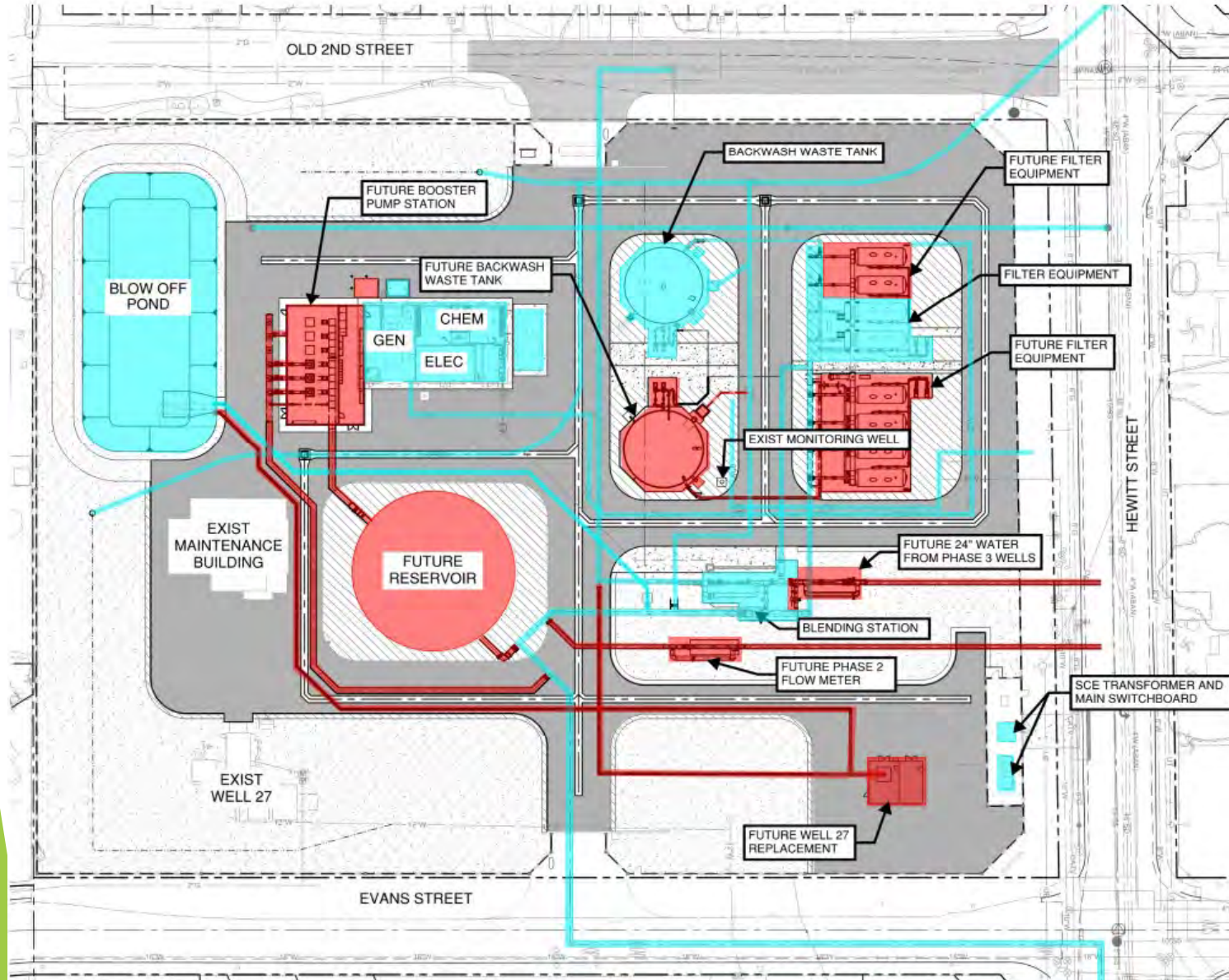


Well 201 structure backfill.

Day 3

3-21-22

Hewitt and Evans Groundwater Treatment Facility



- ▶ 100% design completed
- ▶ Spec Review in progress
- ▶ Estimated Advertisement in April 2022
- ▶ Recommendation for Award of Contract to O&E Committee scheduled for June 2022
- ▶ Approximately two-year Construction Phase

Phase 1 (Current)
Phase 2 (Future)

SAWPA Updates

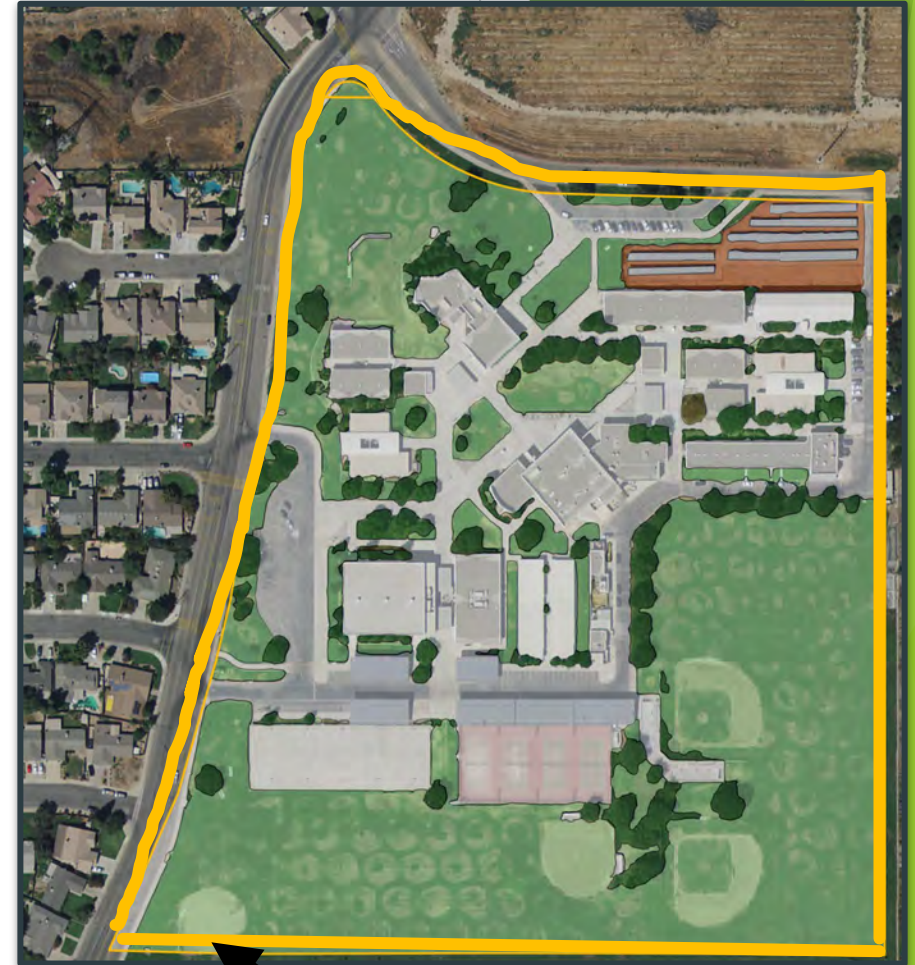


Water Use Efficiency Budget Assistance Task

Purpose of Task

- ▶ Help up to 10 retail agency partners comply with State regulations* that require water agencies to adhere to agency-wide water use efficiency budgets;
 - ▶ Side benefit: Provides retail agencies with mapping data to target their existing water use efficiency programs to inefficient water users.
- ▶ OCWD/MWDOC the lead for retail partners in North Orange County.

Dedicated Landscape Meter Customer Example



Meter service area

* Senate Bill 606 and Assembly Bill 1668

Latest Progress with Retail Partners in Upper Watershed

Agency Who Has Signed MOU	MOU Signature Date	Status Updates
Chino Hills	Nov 2, 2021	City staff provided full billing software dataset on 2/16/22 to NV5. NV5 has begun analysis of dataset.
Hemet	Aug 19, 2021	NV5 has completed the meter grouping on 2/17/22. NV5 and Hemet discussed issues on 2/22/22.
Loma Linda	March 2, 2022	Held kick-off meeting with City staff and NV5 on 3/15/22.
Monte Vista Water District	June 29, 2021	MVWD staff approved customer meter groupings on 2/10/22. NV5 now starting to draw meter service areas around the customers.
Perris	Aug 9, 2021	City staff still working on providing their billing software dataset to NV5 for their 55 dedicated landscape meters.
Riverside Public Utilities	June 29, 2021	NV5 prioritized customers based on high consumption use on 1/5/22. NV5 currently calculating meter service areas for the customers.
San Bernardino Municipal Water Dept.	Nov 10, 2021	SBMWD provided billing software data to NV5 on 2/1/22. NV5 is creating a list of GIS meter locations for SBMWD to review.

Update with OC Partners



- ▶ Seal Beach - City, MWD OC and NV5 have scheduled their project kick-off meeting,
- ▶ Newport Beach - City submitted data to NV5 for analysis,
- ▶ Fullerton - City submitted data to NV5,
- ▶ Orange - City has submitted data to NV5,
- ▶ Fountain Valley - NV5 has begun analysis of the City's data, and
- ▶ Brea - NV5 near complete with creating meter service area boundaries around customers.

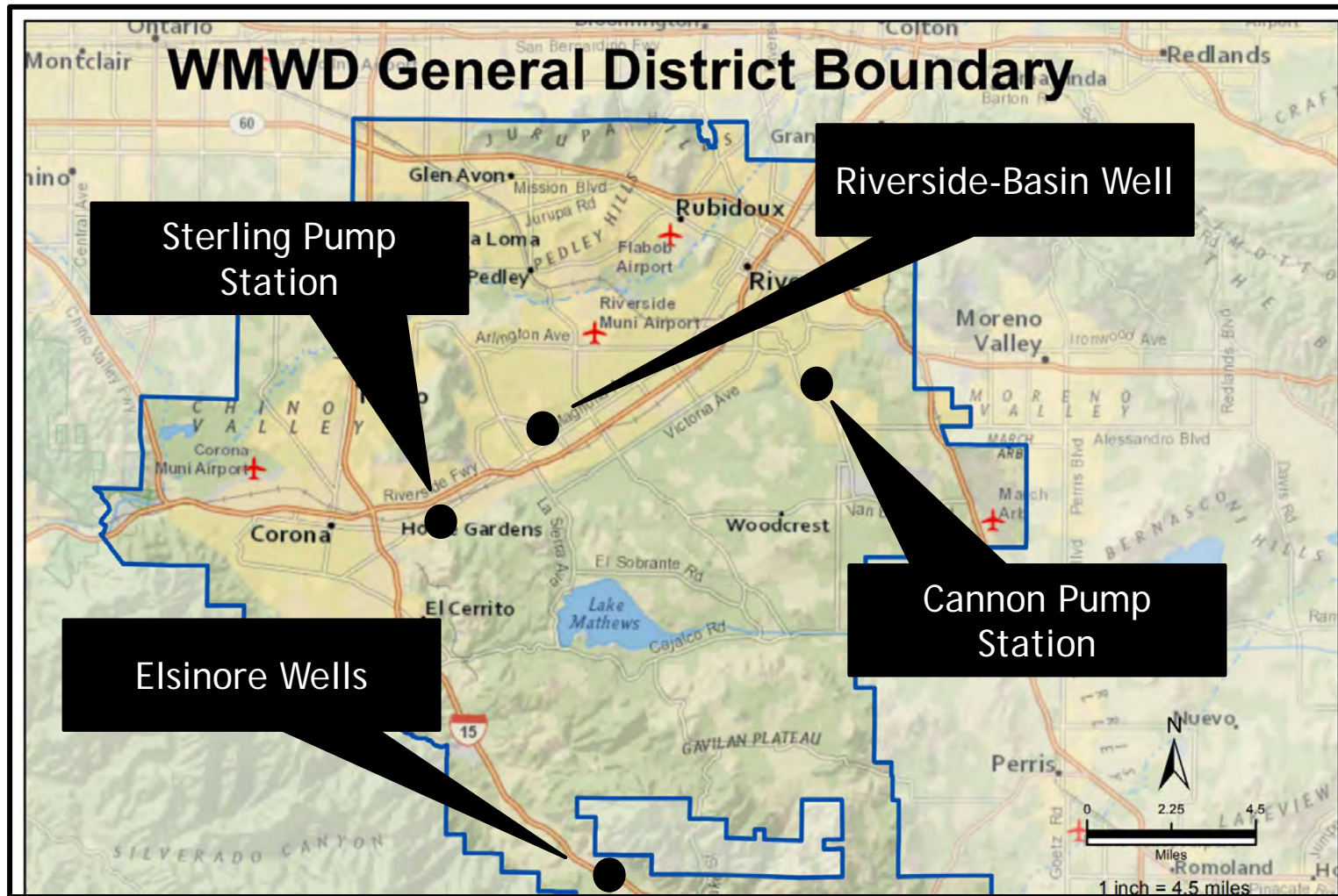


WMWD Updates



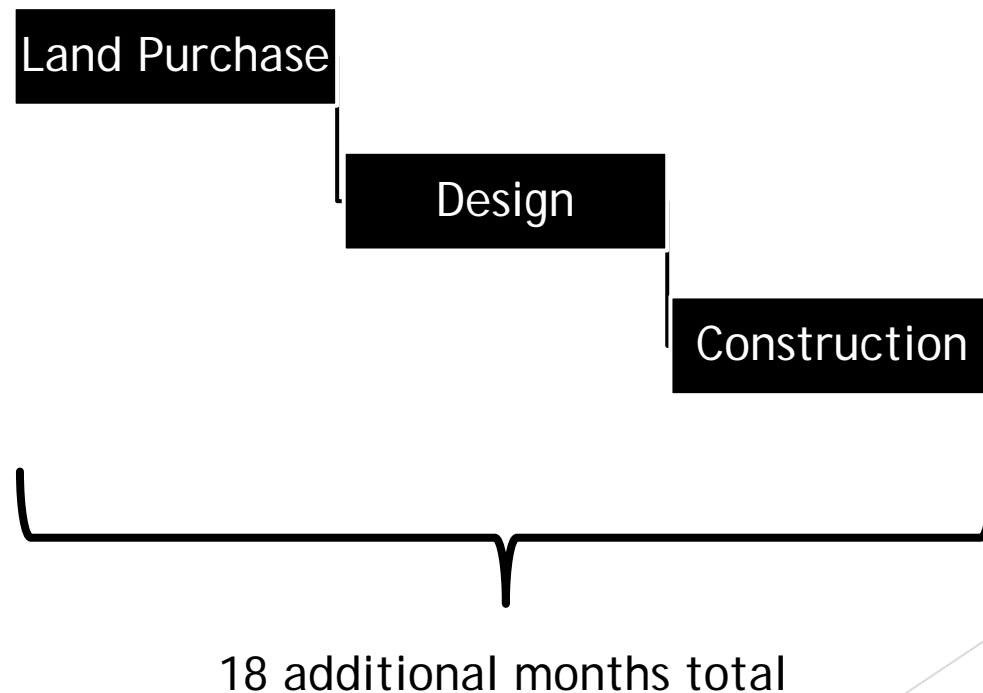
Sterling Pump Station, Riverside-Arlington Basin Facilities, And Elsinore Basin Wells

SARCCUP WMWD Facilities Included in Grant Agreement



Additional Time Requested

- ▶ Increased timelines across all projects lead to an additional 18-months needed, and
- ▶ Land purchase, design and construction phases of the projects are all contingent on one another (which leads to the overall 18 months needed).



SBVMWD Updates

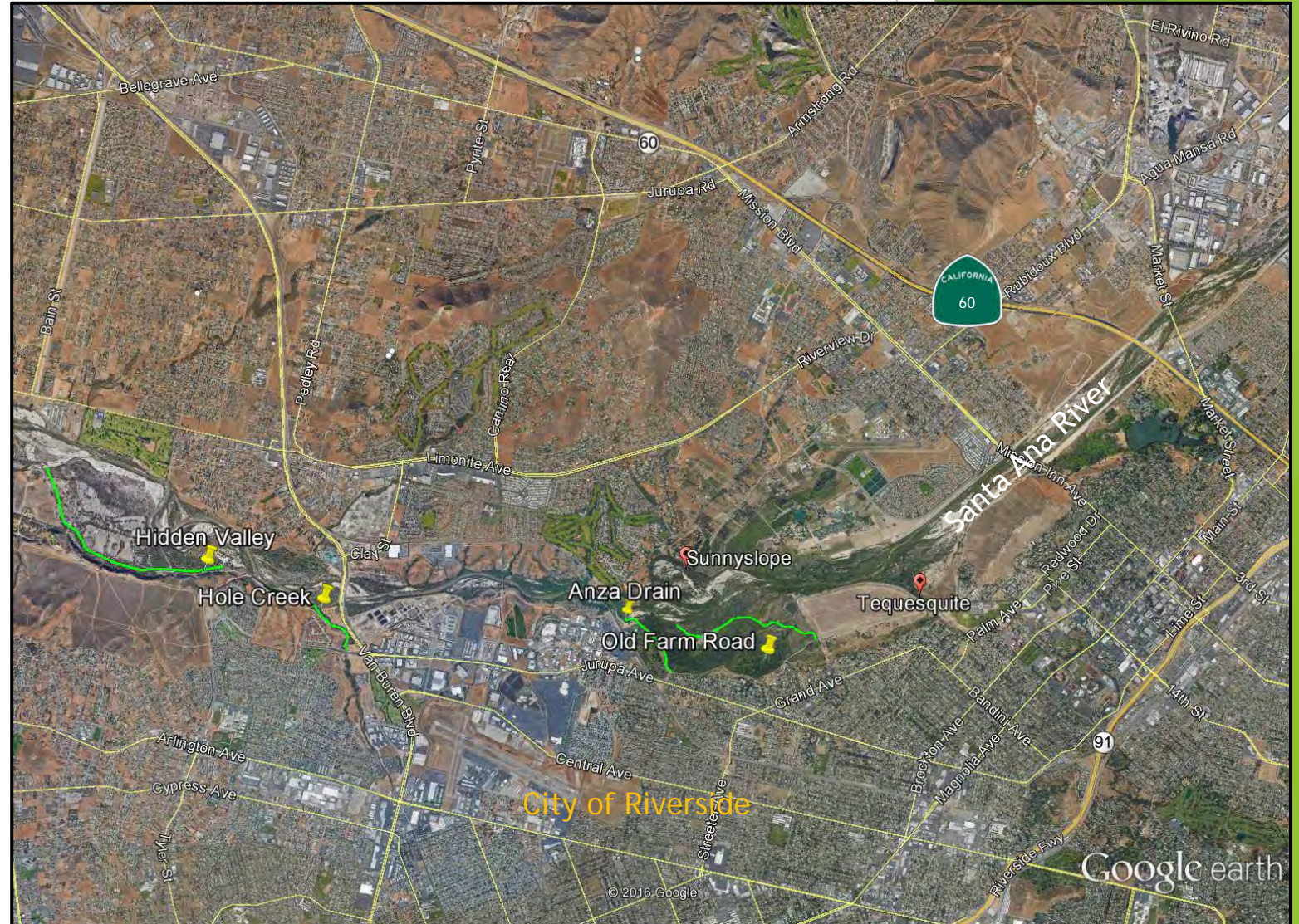


Santa Ana Sucker Habitat

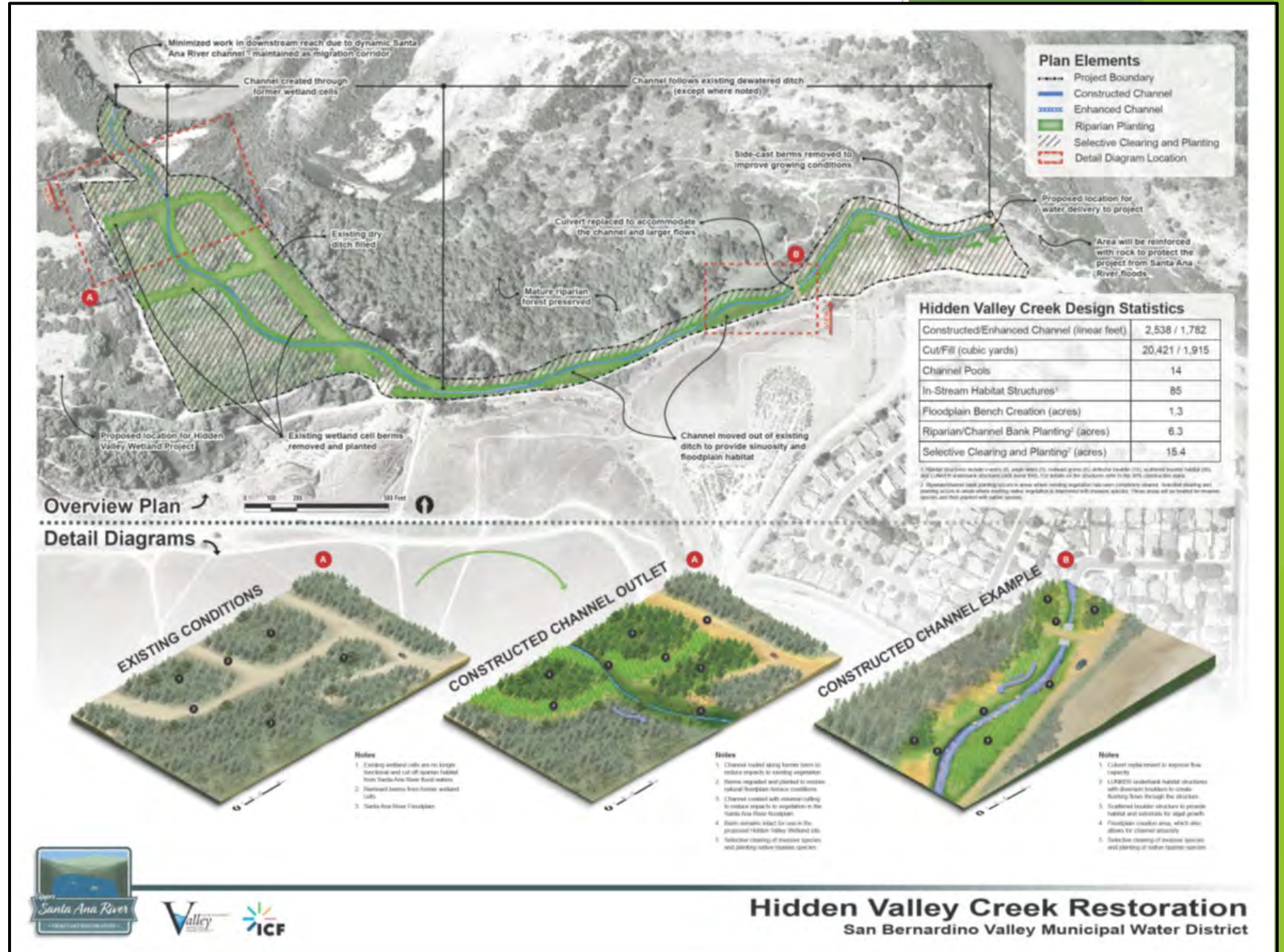
Stream/Habitat Locations and Benefits

Benefits:

- 3.5 miles of stream habitat (in green)
- 40.5 acres native plant riparian habitat surrounding the streams



Example of Tributary Restoration



Environmental Permitting and Cost Issues



- ▶ Permit applications for Hidden Valley Wetlands and Anza Drain tributaries were submitted in late 2019/early 2020.
 - ❑ Final permits were issued by regulatory agencies for Hidden Valley Wetlands in late December 2021; Anza Drain has not yet been issued.
- ▶ The Army Corps of Engineers (ACE) has taken the longest to provide final permits.
 - ❑ Major delays have come from ACE staff turnover and the effect of COVID on permit review.



- ▶ Due to COVID, costs have increased on construction supplies as well as for construction companies who are in high demand. Engineer cost estimates (based on 100% design plans) have increased significantly.

Recommendation to DWR on Tributaries

- Within the existing timeline of September 2023 - habitat improvement activities would be conducted at all four tributaries/creeks, but no channel augmentation would occur (i.e. no heavy machinery used to dig/contour streams).
- Benefit of 3.5 stream habitat miles would be reduced to approximately 2.8 miles. The original 40.5 riparian acres would be increased to 60 riparian acres due to new portions of Anza Drain being included in the project area.

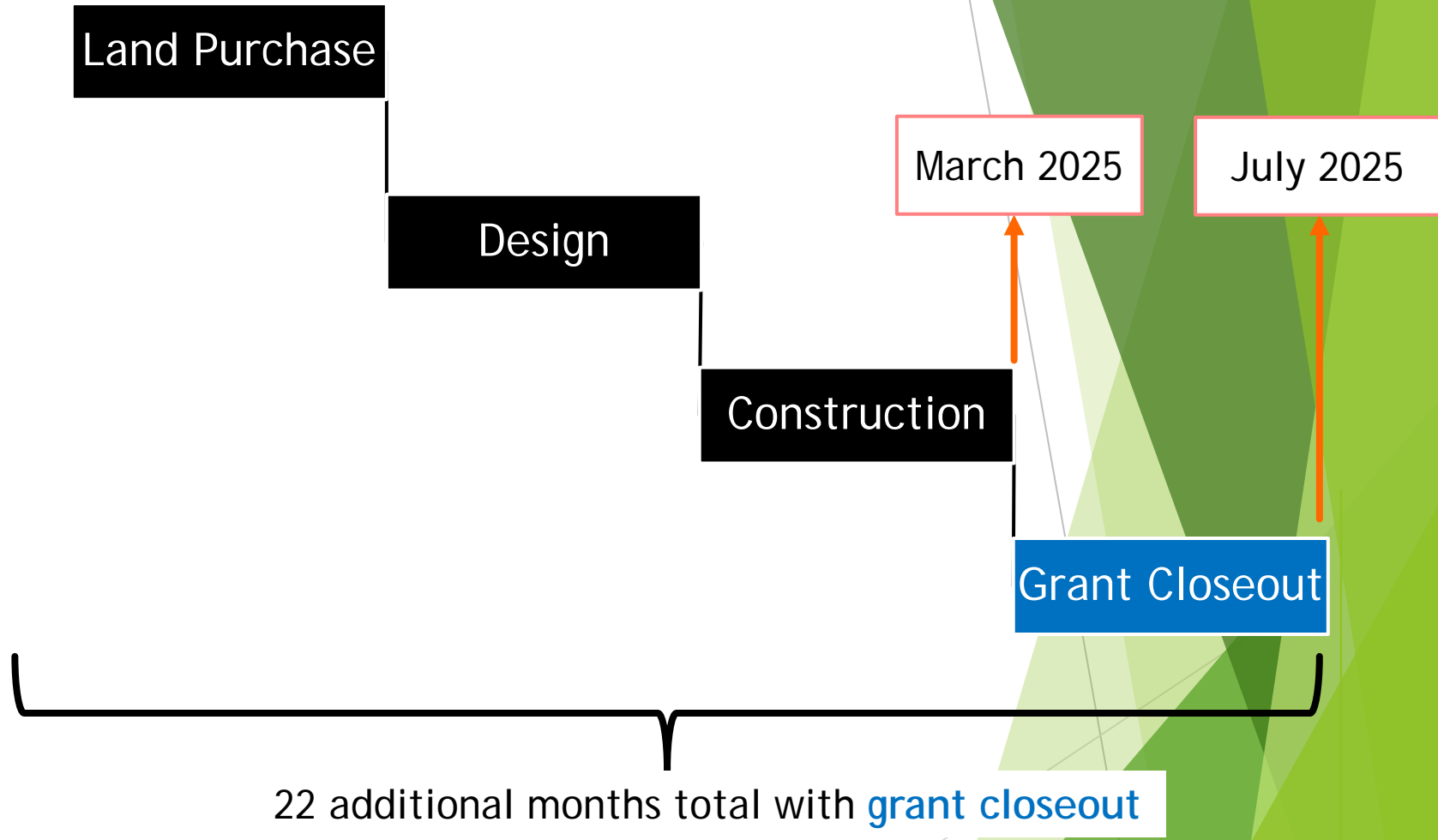
Amendment No. 3 Request

SAWPA Grant Management Update

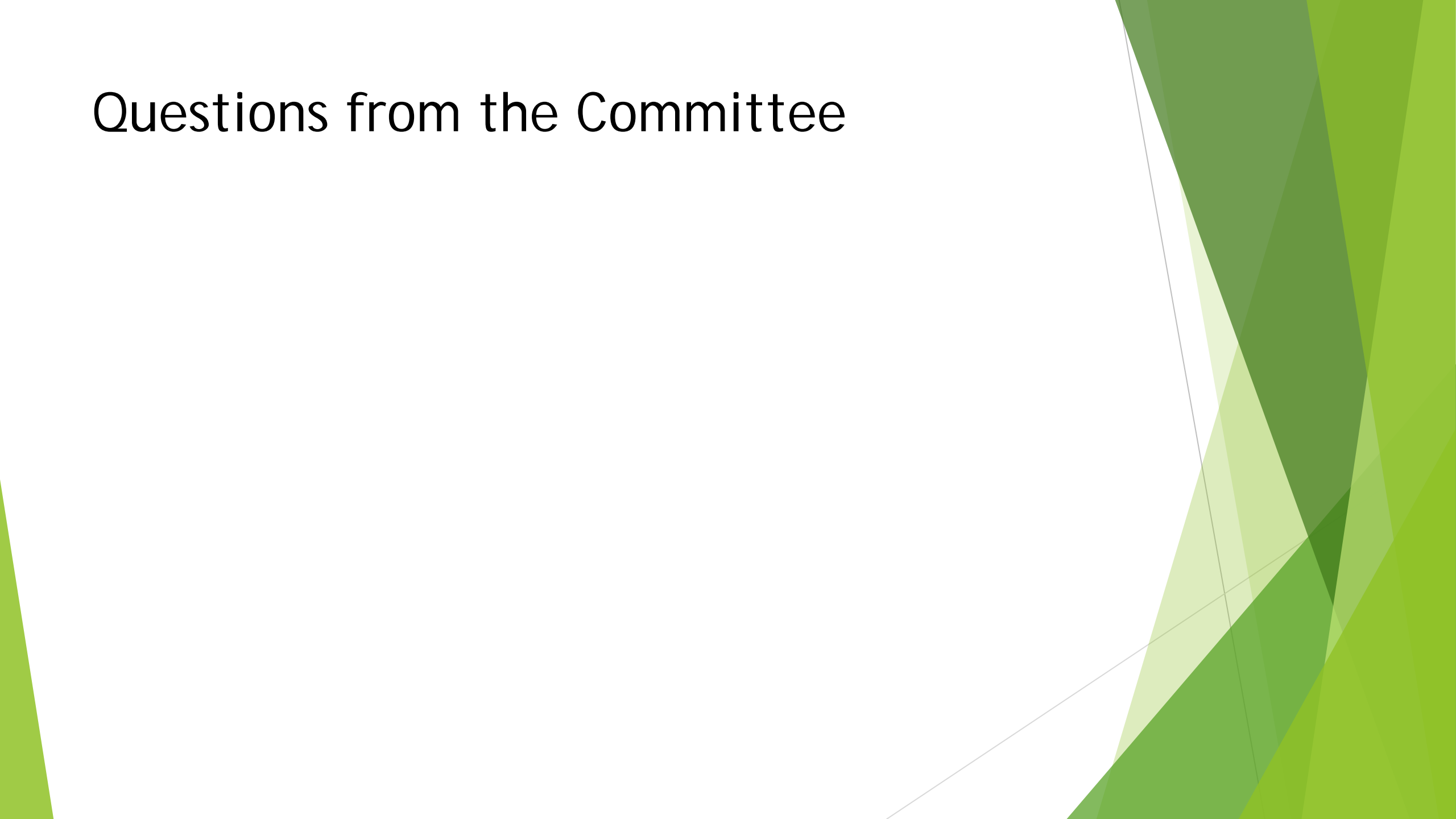


Next Steps

- ▶ Proposed changes for SARCCUP tributaries,
- ▶ Proposed 22-month total extension (with 4 months of grant closeout),
- ▶ Waiting for meeting with DWR upper management to discuss amendment, and
- ▶ Would present final amendment for PA 23 approval at June 7, 2022 Committee meeting.



Questions from the Committee





SARCCUP Data Management Tool

Leighanne Kirk, M.S. and Gordon Ng, P.E.

Eastern Municipal Water District

PA 23 Committee | April 5, 2022

Item No. 4.C



Program Background



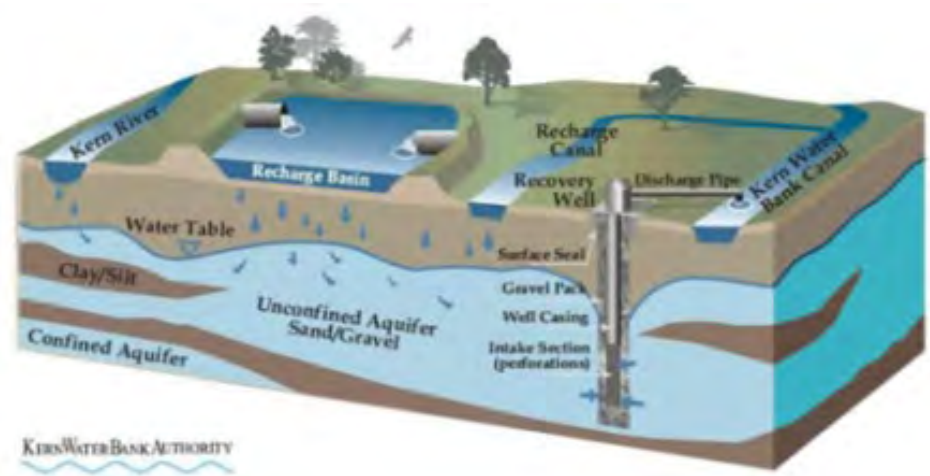
SARCCUP Overview

Objectives

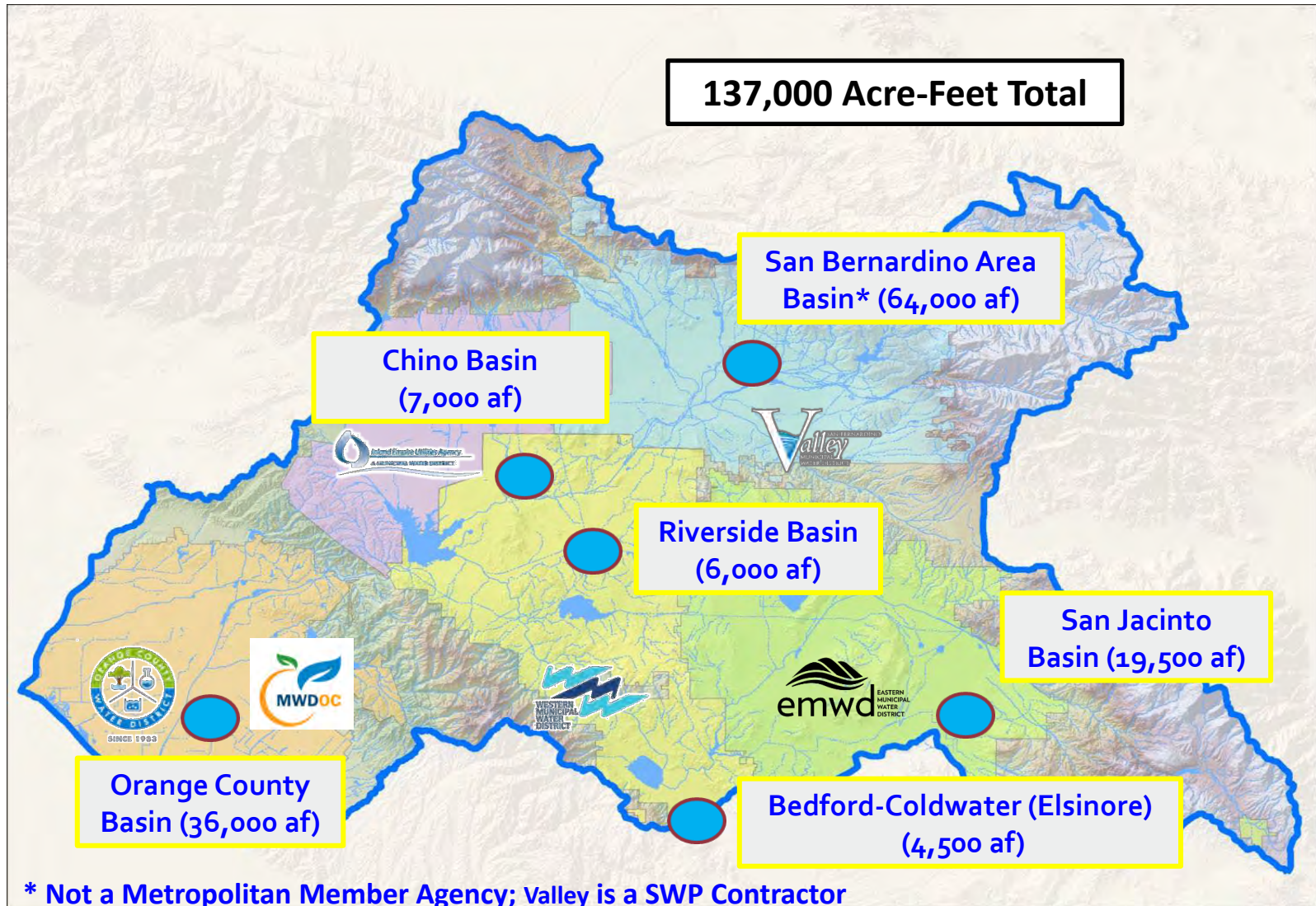
- Bank imported water in groundwater basins during wet years
- Increases available water supplies in dry years
- Provides a regional benefit to the Santa Ana River Watershed
- Enhances water supply reliability
- Provides an Extraordinary Supply benefit during a MWD Allocation

Facilities

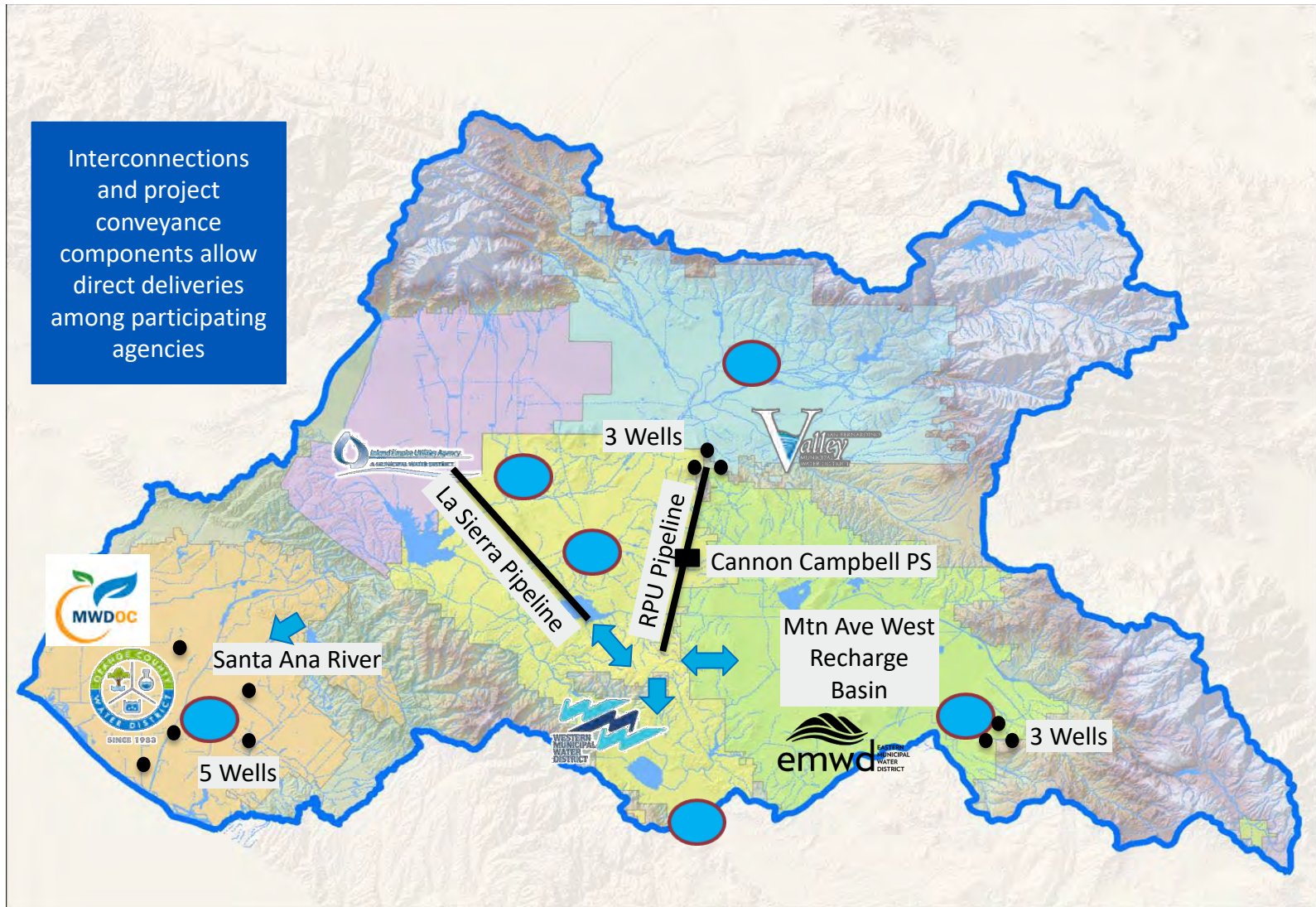
- Watershed-scale Water Bank in multiple locations
- Coordinated operations



SARCCUP Overview



Proposed SARCCUP Facilities



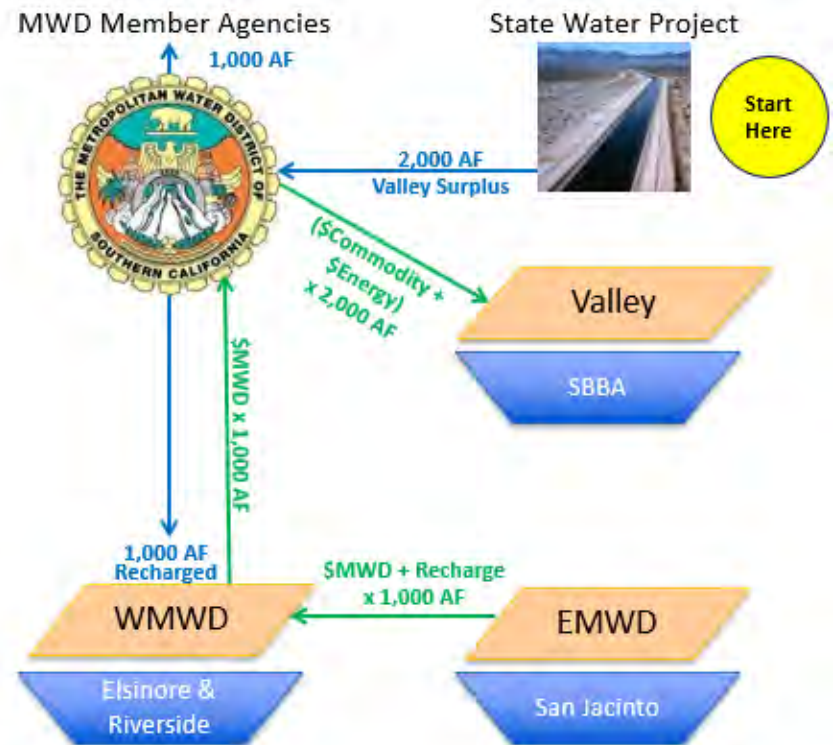
Note: Existing connections between SARCCUP agencies are not shown.

Scope of Work



Need for Data Management Software

- Complex transactions involving movement of physical and paper water between multiple agencies
- Financial tracking and reconciliation associated with transactions
- Monitor status of multiple groundwater basins and accessible volume of banked supplies
- Facilitate communication and coordination between agencies
- Support agency planning needs



Key Tracking Functions

Paper Water

- Offers to import water for banking
- Purchases of offered water by SARCCUP agencies
- Transfers and exchanges of banked water

Physical Water

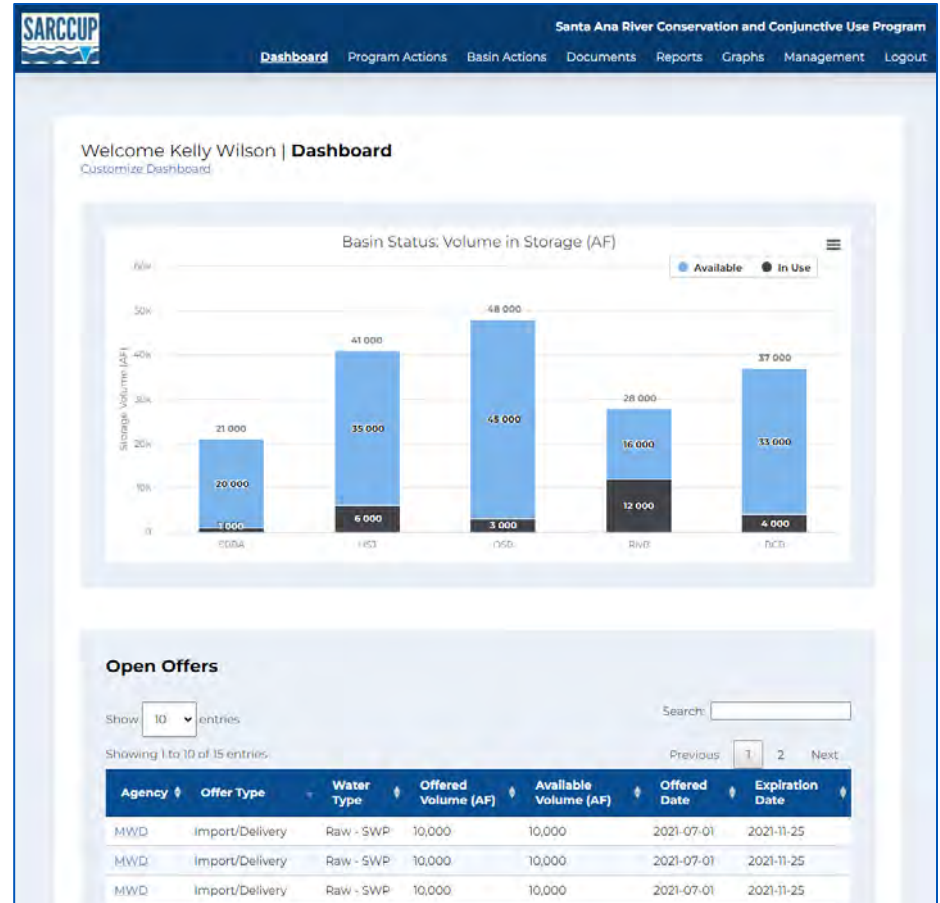
- Recharge of purchased water into designated basins
- Extraction of banked water
- Conveyance of water (to be recharged/banked or extracted for consumptive use)

Operational Planning and Financial Tracking/Reconciliation

- Understand program status “at a glance” – available volume, capacity, etc.
- Support invoicing for multi-agency transactions
- Support agency reporting requirements

Software Requirements

- Web-based application
- Security for authentication and authorization
- Dashboards providing quick access to summary information
- Detailed reporting of program activity on monthly, quarterly, and annual timelines
- Intuitive and clean graphical user interface
- Clear software documentation and user manuals
- Optional: ongoing support / maintenance



Project Management / Logistics

- Data Management Software Consultant: DBS&A
- Cost share agreement between SARCCUP banking agencies
 - EMWD
 - OCWD
 - SBVMWD
 - WMWD
- Total Cost: \$109,388 (\$27,347 each)
- Project Schedule: 6 months (~ 2 months completed)
- Annual Maintenance: DBS&A (optional \$2,500/yr) or transition to SARCCUP agency

Understanding and Approach



DBS&A at a glance:

- ♦ Developed a custom web database interface, GLA-Data, which has been customized for 17 clients
- ♦ Local staff in our Santa Barbara office.
- ♦ 36 years in business, all under the same name
- ♦ 5 years as a wholly owned subsidiary of GLA
- ♦ Access to 260 professionals in 30 corporate offices

DBS&A understands that the five regional agencies currently comprising the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) want to develop a web-based data management system to facilitate the accounting required to successfully operate a groundwater bank. For SARCCUP, this involves imports into, exchanges between, and storage and extractions of water within six groundwater basins operated by five regional agencies. The system must be able to track:

- ✓ Physical water,
- ✓ Legal rights to physical water ("paper water"), and
- ✓ Costs associated with transferring water between or storing and extracting water within specific groundwater basins.

DBS&A has experience successfully implementing all aspects of the project with dozens of clients.

DBS&A understands that SARCCUP's Software Program Goals include:

- ✓ Web-based application
- ✓ Security for authentication and authorization
- ✓ Intuitive with easy-to-use features
- ✓ Graphically-pleasing user interface
- ✓ Real-time notification of water availability and transaction approval
- ✓ Status dashboards and reports (both program-wide and agency-specific)
- ✓ User manuals and software documentation
- ✓ Application support
- ✓ Develop features, business rules, and workflows that work for all SARCCUP agencies

EMWD has developed a Mock Database that works as a proof of concept to demonstrate how a database tool would track water within the SARCCUP transactional scheme. The data relations established within this mock database would be used as a starting point for any software development. DBS&A will work closely with SARCCUP agencies to develop the tools and to establish the data relationships when designing the cost tracking component of the tool.

The system will step users through the water management process flow of offers and deliveries. This process can range from a simple purchase and delivery of water between two agencies to a complex multi-agency transaction with both physical and water rights transfers.

Development Status



Tool Development Screenshots

Filter by Agency

Filter by Offer Type

Filter by Status

OPEN OFFERS

0

AVAILABLE VOLUME FOR PURCHASE(AF)

11,440.00

PARTIALLY OR PURCHASED OFFERS

5

Show entries

Previous Next

Agency	Offer Type	Water Type	Offered Volume (AF)	Available Volume (AF)	Offered Date	Expiration Date	Status
MWD	Import/Delivery	Raw - SWP	100.00	40.00	2022-06-05	2022-07-13	Partially Purchased
MWD	Import/Delivery	Raw - SWP	1000.00	900.00	2022-03-01	2022-07-31	Partially Purchased
MWD	Import/Delivery	Raw - SWP	10000.00	5500.00	2022-03-01	2022-05-31	Partially Purchased
MWD	Import/Delivery	Raw - SWP	5000.00	4500.00	2022-03-01	2022-05-31	Partially Purchased
SBVMWD	Import/Delivery	Raw - SWP	1000.00	500.00	2022-03-01	2022-06-30	Partially Purchased

Previous Next

Tracking of the availability of surplus water

Tool Development Screenshots

Agency Storage	Ledger
Agency	Volume (AF)
* EMWD	<input type="text" value="100.00"/>
* OCWD	<input type="text" value="500.00"/>
* SBVMWD	<input type="text" value="0.00"/>
* WMWD	<input type="text" value="150.00"/>
Available Storage Space (AF)	
<input type="text" value="18750"/>	

Summary of volume banked within a given basin











Agency Storage	Ledger			
Date	Agency	Action	Volume (AF)	Available Storage Space (AF)
2022-03-07	EMWD	Delivery from MWD	-250.00	19250.00
2022-03-07	WMWD	Delivery from MWD	-100.00	19150.00
2022-03-11	WMWD	Delivery from MWD	-300.00	18850.00
2022-03-14	OCWD	Delivery from MWD	-500.00	18350.00
2022-03-16	EMWD	Delivery from MWD	-100.00	18250.00
2022-03-18	EMWD	Withdrawal	50.00	18300.00

Ledger showing history of actions taken within a given basin

Tool Development Screenshots

Riverside Basin Action Costs

Active Costs EMWD **WMWD** SBVMWD OCWD

Effective Date	Expiration Date	Recharge Cost (\$/AF)	Extraction Cost (\$/AF)	Action
07/01/2021 	06/30/2022 	150	225	Save
07/01/2022 	06/30/2023 	175	250	Save
07/01/2023 	06/30/2024 	200	275	Save
07/01/2024 	06/30/2025 	225	300	Save
mm/dd/yyyy 	mm/dd/yyyy 			Add

Active and future operational costs within each basin

Tool Development Screenshots

Conveyance Costs (from WMWD)

Active Conveyance Costs To EMWD SBVMWD OCWD

Agency	From Basin	Effective Date	Expiration Date	Conveyance Costs (\$/AF)
EMWD	Bedford Coldwater Basin	07/01/2021	06/30/2022	100
EMWD	Riverside Basin	07/01/2021	06/30/2022	75
EMWD	Chino Basin	07/01/2021	06/30/2022	125
EMWD	Wheeling	07/01/2021	06/30/2022	150
SBVMWD	Bedford Coldwater Basin	01/01/2022	12/31/2022	200
SBVMWD	Chino Basin	01/01/2022	12/31/2022	175
SBVMWD	Riverside Basin	01/01/2022	12/31/2022	225
SBVMWD	Wheeling	01/01/2022	12/31/2022	300

Matrix of costs to move water between participating agencies

Tool Development Screenshots

The screenshot shows the 'Report Builder' interface. At the top, the SARCUP logo and navigation menu are visible. The main content area is titled 'Welcome Kelly Wilson | Report Builder'. Below this, there are several form fields for configuring a report:

- Base Report Type:** A dropdown menu currently set to 'Withdrawals'.
- From:** A date field set to '01/01/2021'.
- To:** A date field set to '03/24/2022'.
- Agency:** A dropdown menu set to 'All'.
- Volume From:** A numeric field set to '0'.
- Volume To:** A numeric field set to '1000'.
- Basin:** A dropdown menu set to 'Bedford Coldwater'.

Below the form fields, there is a section titled 'Deliveries'. It includes a search bar and a table showing delivery records. The table has columns for Agency, Basin, Date, Volume Delivered (AF), Percent Loss, and Volume Lost (AF). The first three rows of data are:

Agency	Basin	Date	Volume Delivered (AF)	Percent Loss	Volume Lost (AF)
WMWD	San Bernardino	2021-06-22	7,000	10%	700
OCWD	Chino	2021-07-01	10,000	5%	500
WMWD	Orange County	2021-08-06	12,000	5%	600

The screenshot shows the 'Graph Builder' interface. At the top, the SARCUP logo and navigation menu are visible. The main content area is titled 'Welcome Kelly Wilson | Graph Builder'. Below this, there are several form fields for configuring a graph:

- Base Graph Type:** A dropdown menu currently set to 'Monthly Purchasing Agency Volume'.
- From:** A date field set to '01/01/2021'.
- To:** A date field set to '10/12/2021'.
- Offering Agency:** A dropdown menu set to 'All'.
- Purchasing Agency:** A dropdown menu set to 'All'.

Below the form fields, there is a bar chart titled 'Purchasing Agency Volume by Month'. The chart shows 'Purchased Volume (AF)' on the y-axis (ranging from 0 to 250) and months on the x-axis (from Oct 2020 to Sep 2021). The chart displays data for six agencies: EMWD (blue), IEU (black), MWD (green), OCWD (orange), SBMWD (purple), and WMWD (red). The chart shows a general upward trend in volume over the period, with significant peaks in late 2020 and early 2021.

Generate summary data and reports for program operations



Questions

Contact Information

Leighanne Kirk, M.S.
Principal Water Resources Specialist
(951) 928-3777 Ext. 4492

Email: kirkl@emwd.org

Gordon Ng., P.E.
Principal Water Resources Specialist
(951) 928-3777 Ext. 4512

Email: ngg@emwd.org





SARCCUP Grant Payment Updates

Ian Achimore, Senior Watershed
Manager

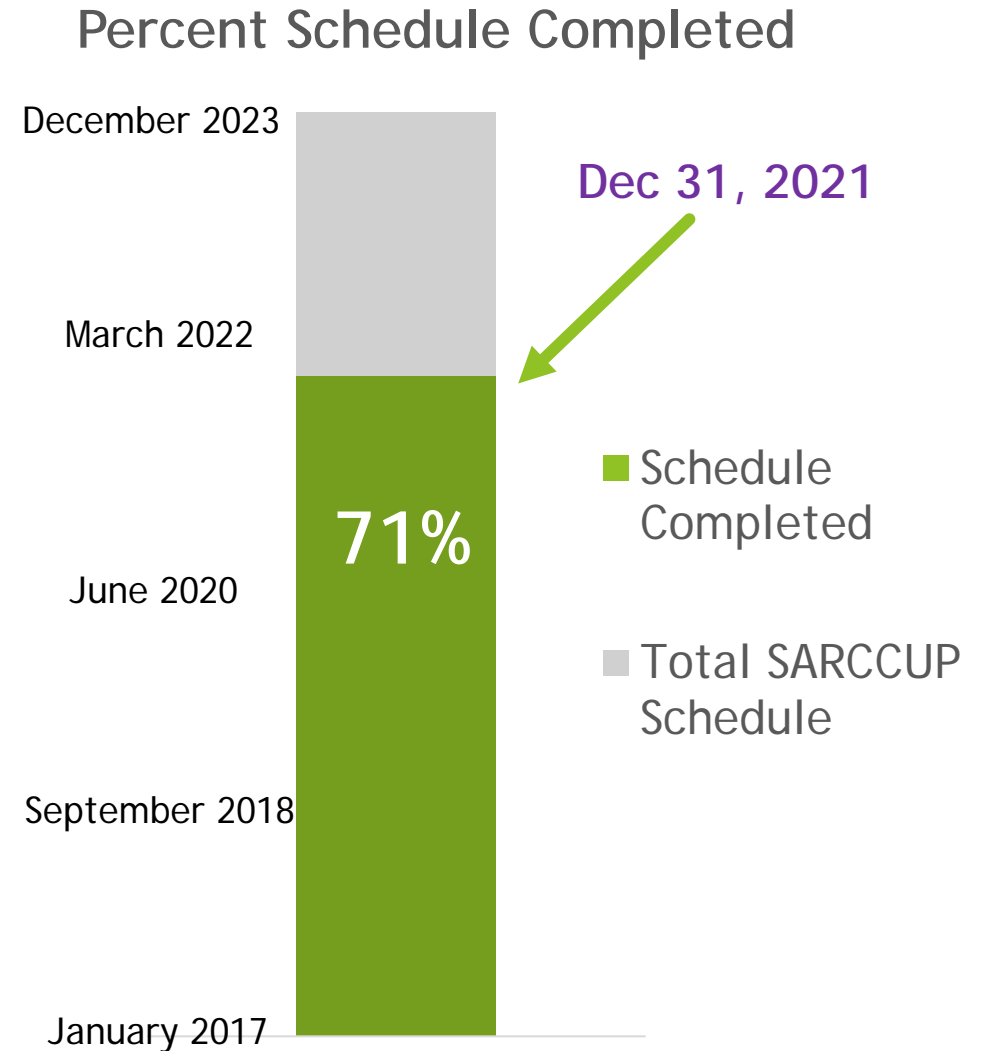
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Item No. 4.D

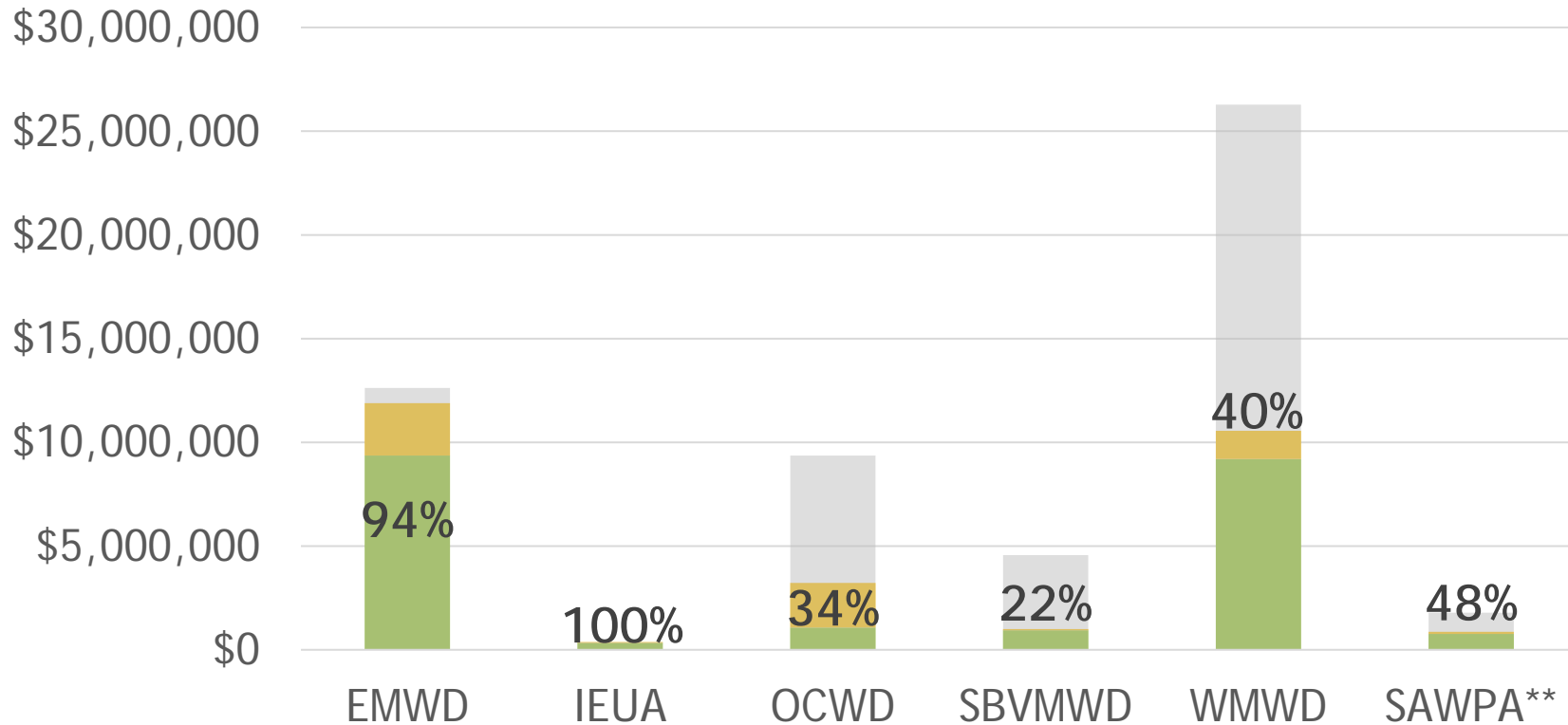


Background on Grant

- ▶ Department of Water Resources adopted grant agreement amendment No. 2 with SAWPA on May 29, 2020.
 - ▶ PA 23 Committee adopted grant amounts (as shown on next slides) at the April 2 and October 1, 2019 Committee meetings, which were incorporated into the amendment with DWR.
- ▶ Amounts shown in this presentation reflect invoices submitted through **December 31, 2021** (latest invoices received at time of publishing this agenda packet).
- ▶ As of **December 31, 2021**, the amount of grant invoiced is 51% of the total \$55M grant.



Grant Payment Status By SARCCUP Agency (Percent of Total Grant Invoiced Shown)



Notes:

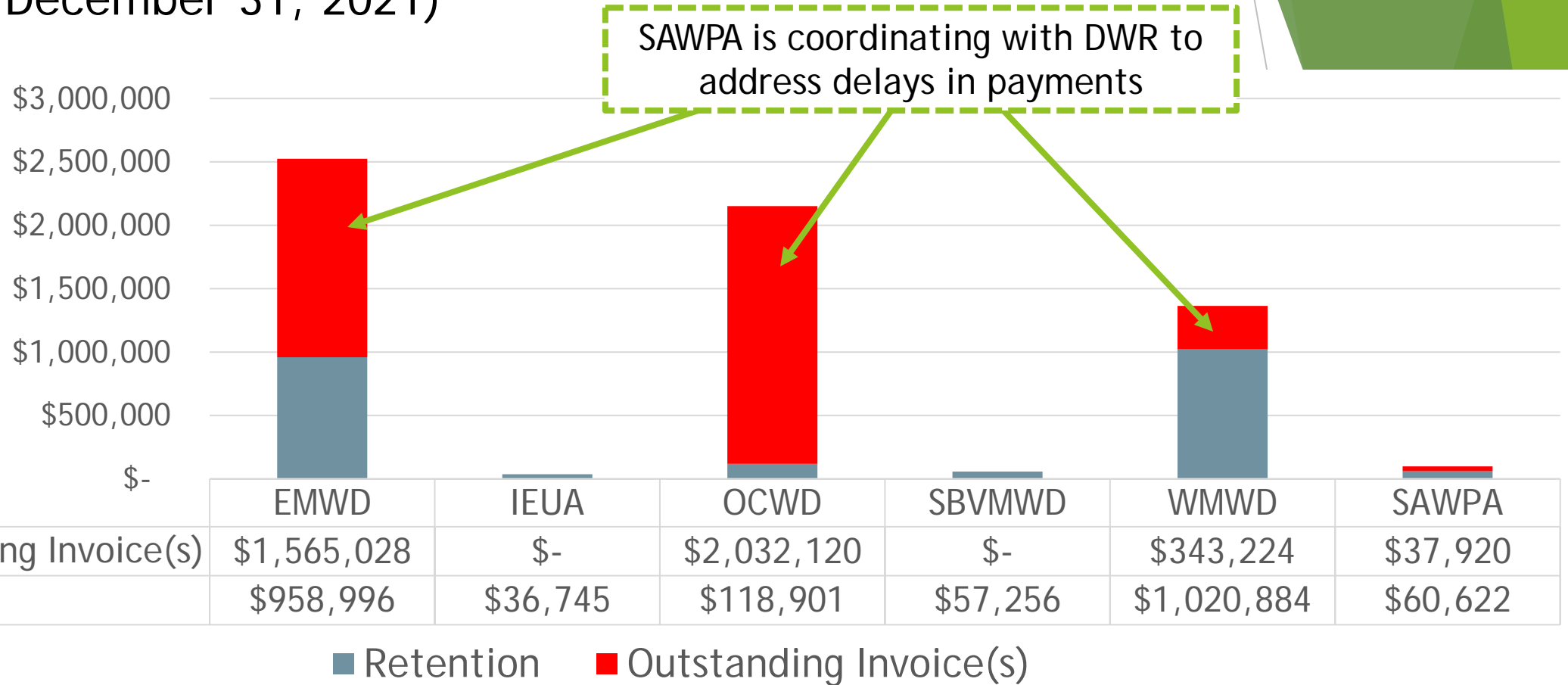
*Payment outstanding due to 10% retention withheld on each grant amount included in invoice, or lag in payment from last quarter's invoice.

**Includes funding for Woodard & Curran and Water Use Efficiency Tasks.

	EMWD	IEUA	OCWD	SBVMWD	WMWD	SAWPA**
Grant Paid	\$9,363,468	\$330,706	\$1,070,105	\$942,516	\$9,195,661	\$766,739
Total Outstanding Grant Payments*	\$2,524,023	\$36,745	\$2,151,020	\$57,256	\$1,364,107	\$98,542
Total Grant (Amendment No. 2)	\$12,621,835	\$367,968	\$9,368,344	\$4,565,932	\$26,283,723	\$1,792,199

More Detail on Outstanding Grant Payments

(Through December 31, 2021)



Notes:

- Retention will be withheld by DWR until complete invoicing of overall SARCCUP Project (scheduled for **December 2023**).
- Last paid invoice from DWR was for reimbursing expenses incurred by SARCCUP agencies through **March 31, 2021**.