



# S A W P A

SANTA ANA WATERSHED PROJECT AUTHORITY  
11615 Sterling Avenue, Riverside, California 92503 • (951) 354-4220

## AGENDA

### **REGULAR MEETING OF THE PROJECT AGREEMENT 23 COMMITTEE**

Santa Ana River Conservation and Conjunctive Use Program (SARCCUP)

Committee Members:

Thomas P. Evans, Chair, Western Municipal Water District Governing Board President  
Jasmin A. Hall, Vice Chair, Inland Empire Utilities Agency Governing Board Secretary/Treasurer  
Susan Lien Longville, San Bernardino Valley Municipal Water District Governing Board President  
Paul D. Jones, Eastern Municipal Water District General Manager  
Michael Markus, Orange County Water District General Manager

**TUESDAY, DECEMBER 5, 2017 – 8:30 A.M.**

1. **CALL TO ORDER** (Thomas P. Evans, Chair)

2. **PUBLIC COMMENTS**

Members of the public may address the Committee on items within the jurisdiction of the Committee; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

3. **APPROVAL OF MEETING MINUTES: August 1, 2017** .....3

**Recommendation:** Approve as posted.

4. **COMMITTEE DISCUSSION ITEMS**

A. **SARCCUP REVISED PROJECT RECOMMENDATIONS (PA23#2017.6)**.....7

- 1. Decision Support Model Findings  
**Presenter: CH2M**
- 2. Revised Grant Cost Sharing Proposal  
**Presenter: WMWD**
- 3. Operational Examples  
**Presenter: EMWD**

**Recommendation:** Approve revisions to the SARCCUP Project Facilities and authorize SAWPA to work with DWR to amend the DWR/SAWPA agreement and the subagreements among SAWPA and SARCCUP agencies to reflect these changes.

5. **INFORMATIONAL REPORTS**

**Recommendation:** Receive and file the following oral/written reports/updates.

A. **LOWER HOLE CREEK HABITAT PRESENTATION** .....39

**Presenter: SBVMWD**

**B. SARCCUP SUB-AGREEMENTS STATUS**

Presenter: SAWPA

**C. SARCCUP SCHEDULE .....49**

Presenter: Woodard & Curran

**6. COMMITTEE MEMBER REQUESTS FOR FUTURE AGENDA ITEMS**

**7. ADJOURNMENT**

**PLEASE NOTE:**

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Clerk of the Board at (951) 354-4230. Notification at least 48 hours prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility to this meeting.

Materials related to an item on this agenda submitted to the Committee after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at [www.sawpa.org](http://www.sawpa.org), subject to staff's ability to post documents prior to the meeting.

**Declaration of Posting**

I, Kelly Berry, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on Thursday, November 30, 2017, a copy of this agenda has been uploaded to the SAWPA website at [www.sawpa.org](http://www.sawpa.org) and posted in SAWPA's office at 11615 Sterling Avenue, Riverside, California.

/s/

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 Kelly Berry, CMC

**2018 Project Agreement 23 Committee Regular Meetings**

First Tuesday of Every Other Month (February, April, June, August, October, December)

(Note: All meetings will be held at 8:30 a.m., unless otherwise noticed, and are held at SAWPA.)

<b>February</b> 2/6/18 Regular Committee Meeting	<b>April</b> 4/3/18 Regular Committee Meeting
<b>June</b> 6/5/18 Regular Committee Meeting	<b>August</b> 8/7/18 Regular Committee Meeting
<b>October</b> 10/2/18 Regular Committee Meeting	<b>December</b> 12/4/18 Regular Committee Meeting

**Note:** Per Action of the PA 23 Cmte on 4-4-2017 (agenda item No. 4), beginning June 2017 the regular PA 23 Committee meetings shall be held at 8:30 a.m. on the first Tuesday of every other month, with the next regular meeting held on June 6, 2017. This action changed the every-other-month rotation to June, August, October, December, February, April (formerly January, March, May, July, September, November).



**PROJECT AGREEMENT 23 COMMITTEE**  
Santa Ana River Conservation and Conjunctive Use Program (SARCCUP)  
**REGULAR MEETING MINUTES**  
**August 1, 2017**

**COMMITTEE MEMBERS PRESENT**

Thomas P. Evans, Chair, Western Municipal Water District Governing Board Vice President  
Susan Lien Longville, San Bernardino Valley Municipal Water District Governing Board President [8:33 a.m.]  
Paul D. Jones, Eastern Municipal Water District General Manager  
Michael Markus, Orange County Water District General Manager

**ALTERNATE COMMITTEE MEMBERS PRESENT [Non-Voting]**

Gil Navarro, San Bernardino Valley Municipal Water District Governing Board Vice President

**COMMITTEE MEMBERS ABSENT**

Jasmin A. Hall, Vice Chair, Inland Empire Utilities Agency Governing Board Secretary/Treasurer

**MEMBER AGENCY STAFF PRESENT**

**Eastern Municipal Water District**

Nick Kanetis  
Brian Powell  
Kelley Gage

**Inland Empire Utilities Agency**

Sylvie Lee

**Orange County Water District**

Adam Hutchinson

**San Bernardino Valley Municipal Water District**

Bob Tincher

**Western Municipal Water District**

John Rossi  
Craig Miller  
Tim Barr

**Santa Ana Watershed Project Authority**

Rich Haller  
Larry McKenney  
Mark Norton  
Dean Unger  
Ian Achimore  
Sara Villa  
Kelly Berry

**OTHERS PRESENT**

Brian Dietrick, Woodard & Curran

**1. CALL TO ORDER (Thomas P. Evans, Chair)**

The special meeting of the PA 23 Committee was called to order at 8:30 a.m. by Chair Evans at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.

**2. PUBLIC COMMENTS**

There were no public comments.

**3. APPROVAL OF MEETING MINUTES: June 6, 2017**

**MOVED**, approve the June 6, 2017 meeting minutes.

Result:	<b>Adopted (Unanimously)</b>
Motion/Second:	Longville/Jones
Ayes:	Evans, Longville, Jones, Markus
Nays:	None
Abstentions:	None
Absent:	Hall

**4. INFORMATIONAL REPORTS**

**Recommendation:** Receive and file the following oral/written reports/updates.

**A. SARCCUP DETAILED SCHEDULE**

**Presenters: RMC | Woodard & Curran**

Brian Dietrick provided a PowerPoint presentation and the updated SARCCUP Project Schedule.

**B. OVERVIEW OF SARCCUP PROGRESS, INCLUDING METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AGREEMENTS STATUS**

**Presenters: EMWD | SBVMWD**

Bob Tincher, SBVMWD, and Kelley Gage, EMWD, provided a PowerPoint presentation with a background and overview of SARCCUP and status report on the MWD Coordinated Operating Agreement with SBVMWD, which will require MWD board approval, and EMWD, which will not require MWD board approval. The Committee concurred a joint invitation from the PA 23 Committee members and SAWPA member agency General Managers should be sent to Grant Davis, recently appointed Director of the California Department of Water Resources, offering a tour and project briefing.

**C. DISCUSSION OF COST SHARE FOR SARCCUP (PA23#2017.5)**

**Presenter: SAWPA**

Ian Achimore provided an oral presentation reviewing information contained in his PA 23 Committee memorandum regarding the cost sharing letter agreement giving SAWPA authority to collect the member agencies cost share for the conservation component of SARCCUP and subsequent concurrence to tie the payment of the cost share to the two year SAWPA budget (FYE 2018-19). Going forward, SAWPA will invoice three of the SAWPA member agencies (WMWD, OCWD, IEUA) once the budget is approved by the SAWPA member agencies. Two of the SAWPA member agencies (EMWD, SBVMWD) have already adopted the Sub-Grantee Agreement for SARCCUP, which includes a provision giving SAWPA authority to invoice them for the SARCCUP cost share amount and can be invoiced without waiting for the SAWPA two year budget to be approved. Though they can be invoiced, SAWPA will wait till the budget is approved before using the funds for SARCCUP implementation.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.C.

**D. CALIFORNIA ENVIRONMENTAL QUALITY ACT DOCUMENTS STATUS**

**Presenter: IEUA**

Sylvie Lee, IEUA, provided an oral status report.

**E. SUB-AGREEMENTS STATUS**

**Presenter: SAWPA**

Mark Norton advised EMWD and SBVMWD have executed their sub-agreements with SAWPA for SARCCUP. The remaining three agencies are anticipating early 2018 for execution of the sub-agreement. Norton remains optimistic we can achieve the five-year timeframe for project completion.

**5. COMMITTEE MEMBER REQUESTS FOR FUTURE AGENDA ITEMS**

There were no requests for future agenda items.

**6. ADJOURNMENT**

There being no further business for review, Chair Evans adjourned the meeting at 9:19 a.m.

**Approved at a Regular Meeting of the Project Agreement 23 Committee on Tuesday,  
December 5, 2017.**

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Thomas P. Evans, Chair

Attest:

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Kelly Berry, CMC  
Clerk of the Board

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## COMMITTEE MEMORANDUM NO. 2017.6

**DATE:** December 5, 2017

**TO:** SAWPA Project Agreement 23 Committee

**SUBJECT:** Decision Support Model Results and Recommendations for SARCCUP Project Facilities

**PREPARED BY:** Mark Norton, Water Resources & Planning Manager & SARCCUP Planning Managers

### RECOMMENDATION

It is recommended that the PA 23 Committee approve revisions to the SARCCUP Project Facilities and authorize SAWPA to work with DWR to amend the DWR/SAWPA agreement and the subagreements among SAWPA and SARCCUP agencies to reflect these changes.

### DISCUSSION

Based on direction supported by the PA 23 Committee in April 2017, the SARCCUP agencies have run additional scenarios using the SARCCUP Decision Support Model (DSM) to demonstrate that the same 180,000 acre feet of water benefit from the SARCCUP conjunctive use project can still be realized and optimized by replacing certain components of the SARCCUP project with others. Based on these results, the SARCCUP agencies are proposing to remove some project elements from SARCCUP conjunctive use project and replacing them with new facilities.

As a result of the new DSM scenarios, several components of the original SARCCUP infrastructure are no longer needed to realize the benefits proposed under the grant agreement with DWR. The SARCCUP Agencies propose the projects in Table 1 be removed.

**Table 1.**

<b>Proposed Projects to be Removed</b>	<b>Total Cost</b>
<b>Baseline Feeder (BLF) Extension &amp; Associated Chino Basin Facilities</b>	\$29,302,340
<b>Elsinore Basin Aquifer Storage &amp; Recovery (ASR) Wells</b>	\$6,140,000
<b>San Bernardino Basin Area Project</b>	\$24,255,000
<b>TOTAL</b>	<b>\$59,697,340</b>

As a result of the new DSM scenarios, new infrastructure projects are proposed under the grant agreement with DWR. The SARCCUP Agencies propose the projects in Table 2 be added.

**Table 2.**

<b>Proposed Projects to be Added</b>	<b>Total Cost</b>
<b>Chino Basin Project</b>	\$15,000,000
<b>Elsinore Basin Project</b>	\$4,662,000
<b>Riverside Basin Project</b>	\$12,228,000
<b>La Sierra Pipeline &amp; Sterling Pump Station</b>	\$10,800,000
<b>TOTAL</b>	<b>\$42,690,000</b>

The DWR/SAWPA Proposition 84 Integrated Regional Water Management (IRWM) grant agreement currently includes detailed descriptions of the infrastructure projects listed in Table 1. Removing the infrastructure projects listed in Table 1 and replacing these facilities with the infrastructure projects listed in Table 2 in the SARCCUP scope of work would require DWR’s approval through a Proposition 84 Integrated Regional Water Management (IRWM) grant agreement amendment. These modifications would also require changes to the Sub-Grantee agreements between SAWPA and the SARCCUP agencies. Since the total amount of the new facilities is less than the total amount of the facilities in the grant application, it is proposed that the savings be applied toward the local share for the SARCCUP Agencies. The amount of grant funding defined for this project, \$55 million, is still fully used by SARCCUP project proponents and the overall benefits will remain the same as promised to the State. Sufficient local match will still be provided by the SARCCUP project proponents to meet the minimum local match requirements by the State.

### BACKGROUND

In January 2016, Inland Empire Utilities Agency, Eastern Municipal Water District, Orange County Water District, San Bernardino Valley Municipal Water District and Western Municipal Water District (SARCCUP Agencies) selected CH2M to develop the DSM that could be used to optimize SARCCUP facilities with the overarching goals to (1) simulate the anticipated operations of the facilities, (2) quantify the benefits, and (3) quantify the costs.

The initial DSM results indicated that the BLF Extension and the ASR wells were not needed to meet the required benefits under the DWR/SAWPA grant agreement. The SARCCUP Agencies then tasked CH2M to perform additional modeling efforts to see if the SARCCUP conjunctive use project could be further optimized and refined.

The additional effort put forth to utilize CH2M proved to be worthwhile, as after several iterations of DSM scenarios were developed, the SARCCUP Agencies have identified several ways to further optimize the operation of SARCCUP, while still meeting the benefits in the DWR/SAWPA grant agreement and reducing the overall capital cost. Table 3 shows the original capital cost included in the DWR/SAWPA grant agreement and the proposed capital cost following the additional modeling efforts.

**Table 3.**

DWR/SAWPA Grant Agreement	Original Total Capital Cost	Proposed Total Capital Cost
Conjunctive Use Project	\$84.5 M	\$65.6 M

The removal and addition of capital projects described above also resulted in a shift of storage location. The SARCCUP Agencies will still have the ability to store 180,000 AF of water in the watershed, as required under the DWR/SAWPA grant agreement. Table 4 shows the shift in storage location.

**Table 4.**

Storage Location	Original Storage (AF)	Proposed Storage (AF)
San Bernardino Basin Area	60,000	64,000
Chino Basin	96,000	50,000
Orange County Basin	0	36,000
San Jacinto Basin	19,500	19,500
Riverside Basin	0	6,000
Elsinore Basin	4,500	4,500
<b>TOTAL</b>	<b>180,000</b>	<b>180,000</b>



### **CRITICAL SUCCESS FACTORS**

The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

### **RESOURCE IMPACTS**

The changes proposed to the SARCCUP project will result in DWR amendments and modifications to the SARCCUP sub-agreements. The SAWPA labor time associated with these changes will be charged to SAWPA's grant administration budget for Prop 84 2015 IRWM grant program and sufficient funding has been budgeted for such changes.

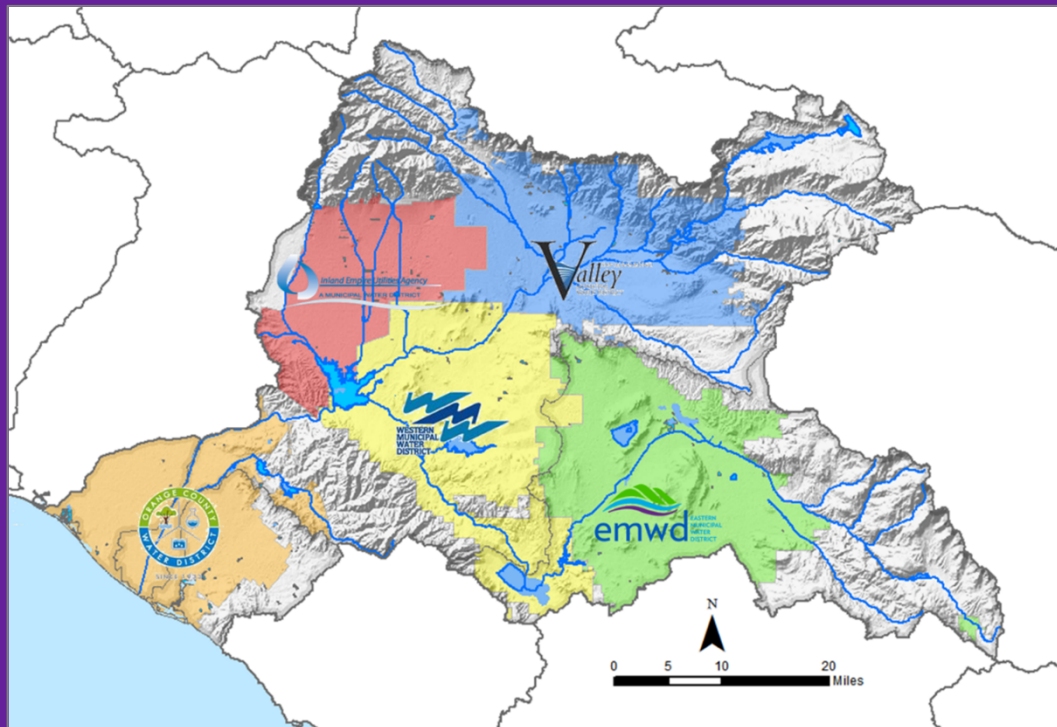
CM 2017.XX DSM Findings

# SARCCUP Optimization Using the Decision-Support Model

DSM Scenarios and Findings

PA 23 Meeting

December 5, 2017



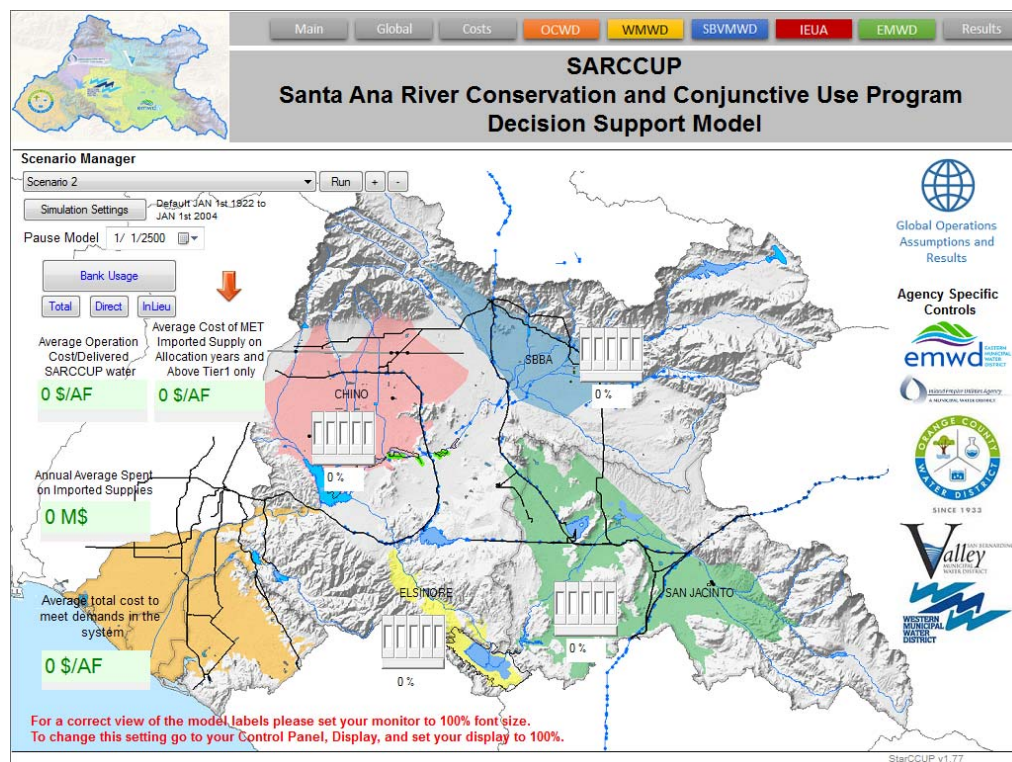
ch2m.<sup>SM</sup>

# Presentation Outline

- DSM Scenarios
- Summary Results
- Decision Process and Dependencies
- Recommendations
- Next Steps

# DSM Model Overview

- Maximize the storage of wet year SWP water to produce “dry year yield”
- Simulate operations
- Identify any constraints
- Optimize operations and quantify the benefits and costs
- Determine ultimate size of the bank



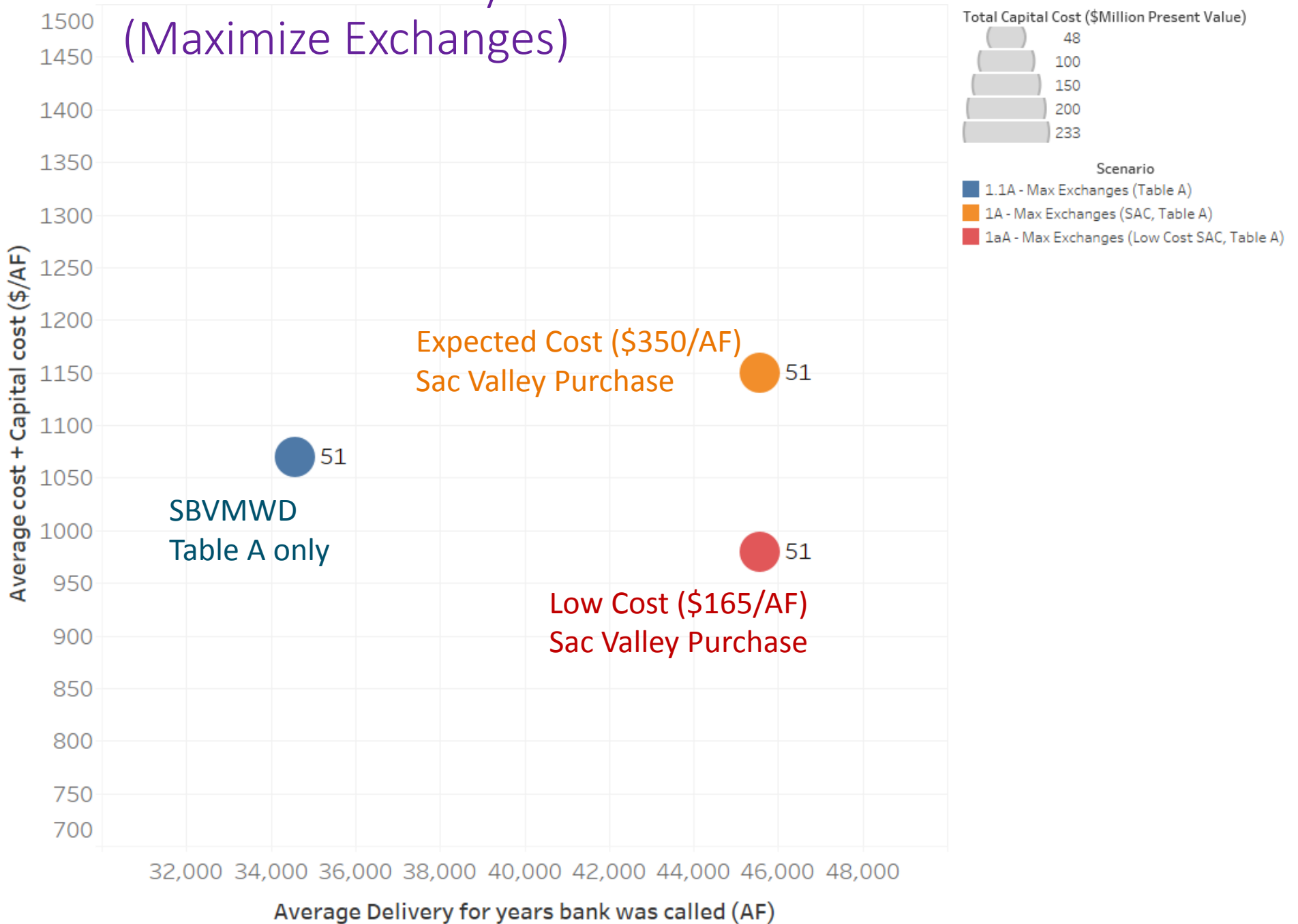
## DSM Scenarios Evaluated

- Scenario 1 – Maximize Exchanges (Baseline)
  - Production wells and treatment in Chino/IEUA
  - San Jacinto Recharge Project
  - La Sierra pipeline
- Scenario 2 – New Facilities to Deliver Non-MWD Supplies (Sac Valley purchases)
  - Baseline Feeder Extension, SBBA production wells
  - RPU facilities, SBBA production wells
  - Riverside-Corona Feeder, Cannon Campbell pipeline, SBBA production wells
- Scenario 3 – Chino Basin Bank Resizing
  - Reduce Chino Bank to 48,000 AF and 0 AF
  - Add storage at OCWD (36,000 AF) and WMWD (10,500 AF)
- Scenario 4 – Local Conveyance with Reduced Chino Bank
  - Baseline Feeder Extension and RPU + Cannon Campbell
  - Reduced Chino Bank size and OCWD/WMWD bank storage

# Information/Modeling Updates

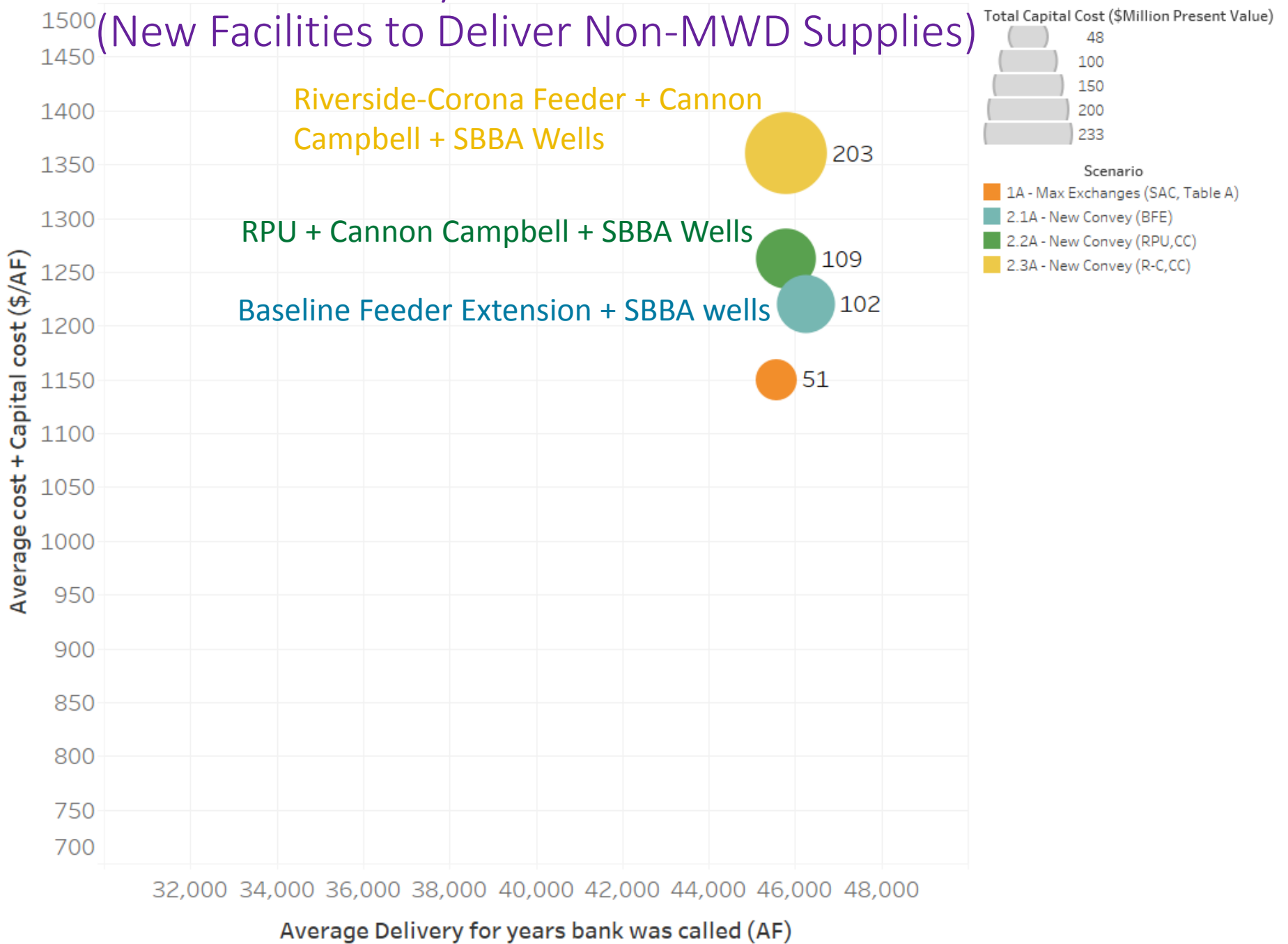
- Cost Assumptions
  - Reviewed and refined substantially
- Model Enhancements
  - Capacity limits, cost approach, available supply refinements
- Chino Basin losses
  - Refined estimate of one time, five percent loss for Chino Basin
  - Losses are now consistent with all other basins
- Baseline Feeder Extension costs and limits
  - Grant application costs were found appropriate
  - Five SBBA extraction wells
  - BFE constrained by quantity of treated water demand
- OCWD infrastructure needs

# Scenario Summary Results – Scenario 1 (Maximize Exchanges)



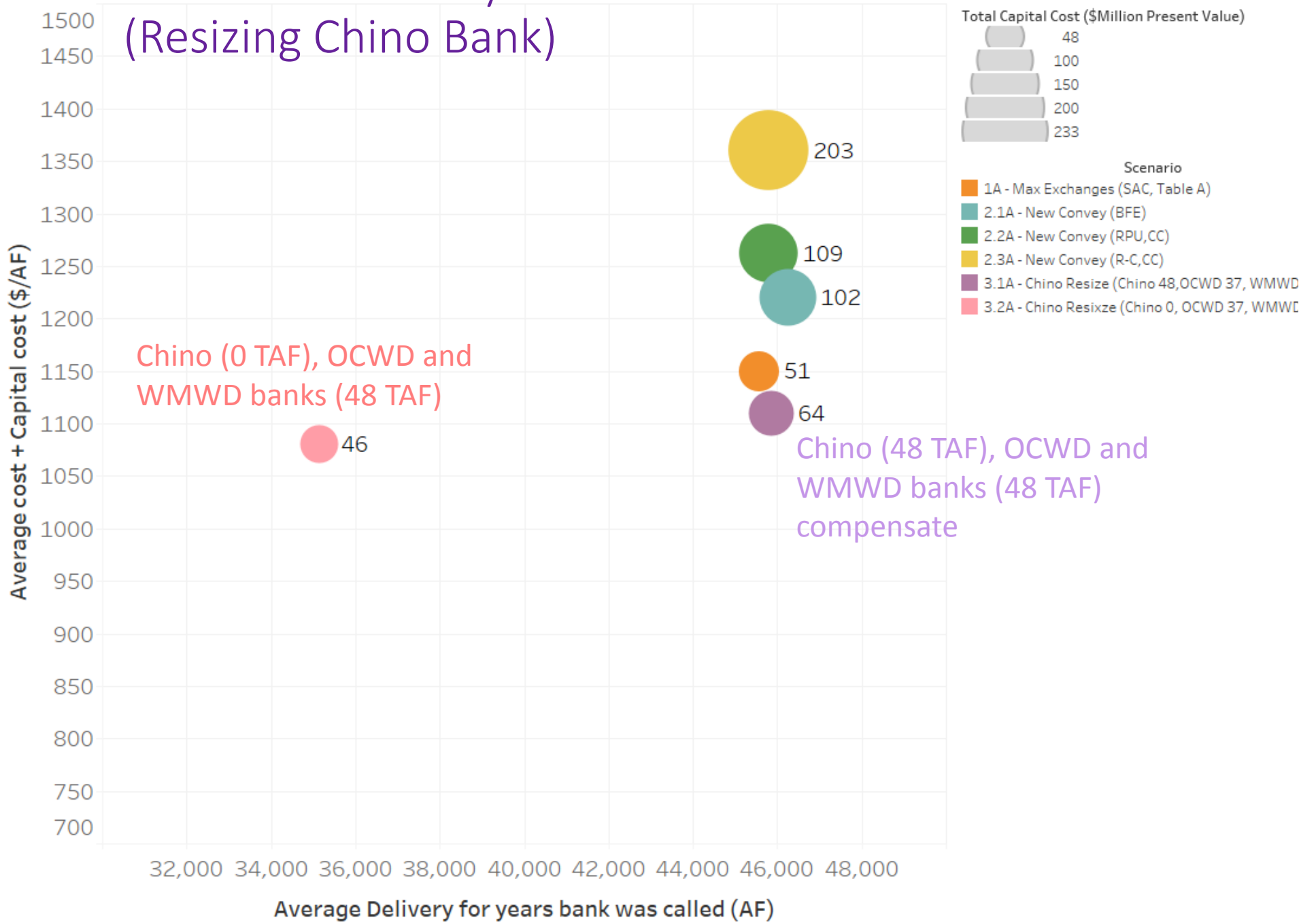
# Scenario Summary Results – Scenario 2

(New Facilities to Deliver Non-MWD Supplies)

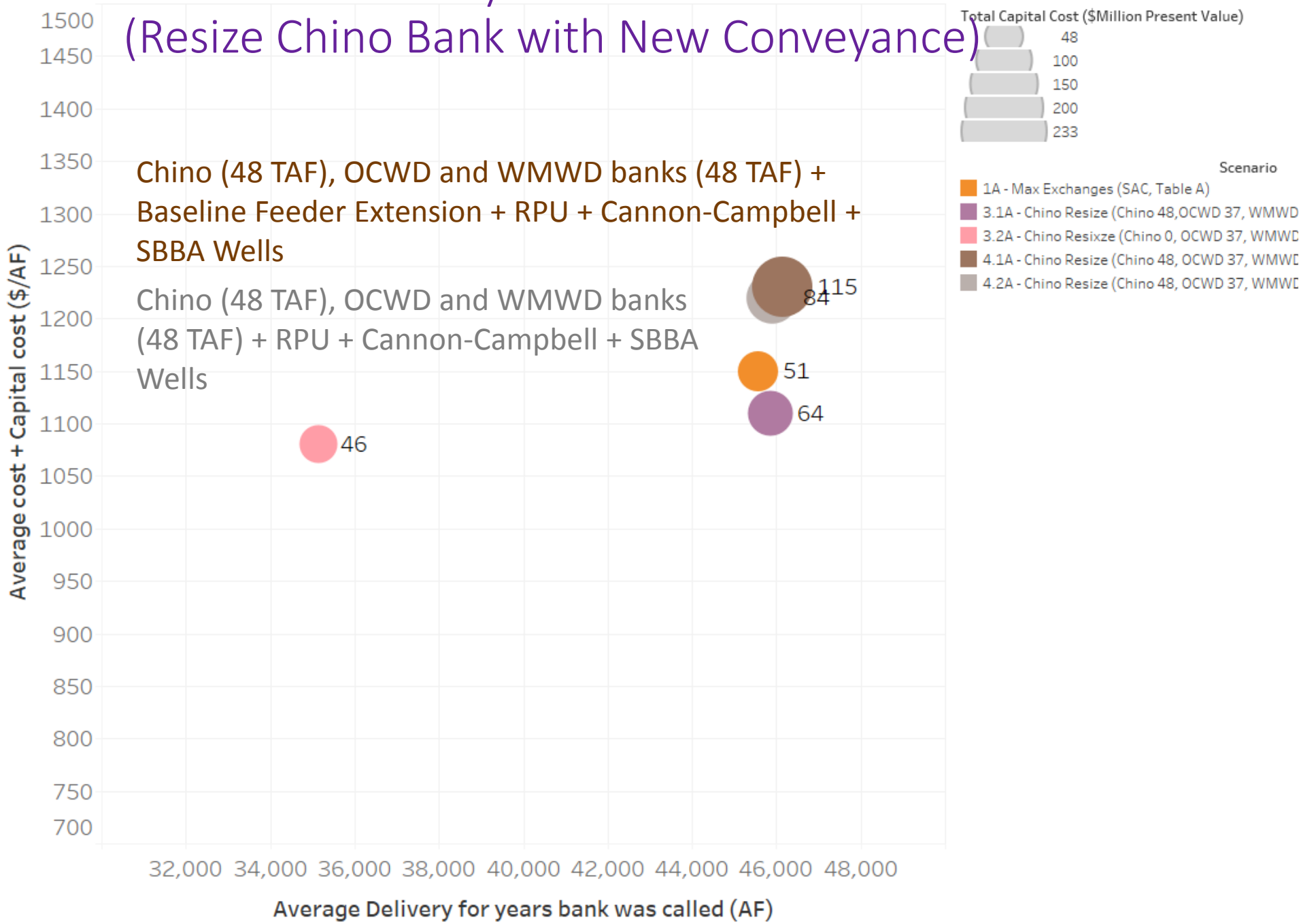




# Scenario Summary Results – Scenario 3 (Resizing Chino Bank)



# Scenario Summary Results – Scenario 4 (Resize Chino Bank with New Conveyance)



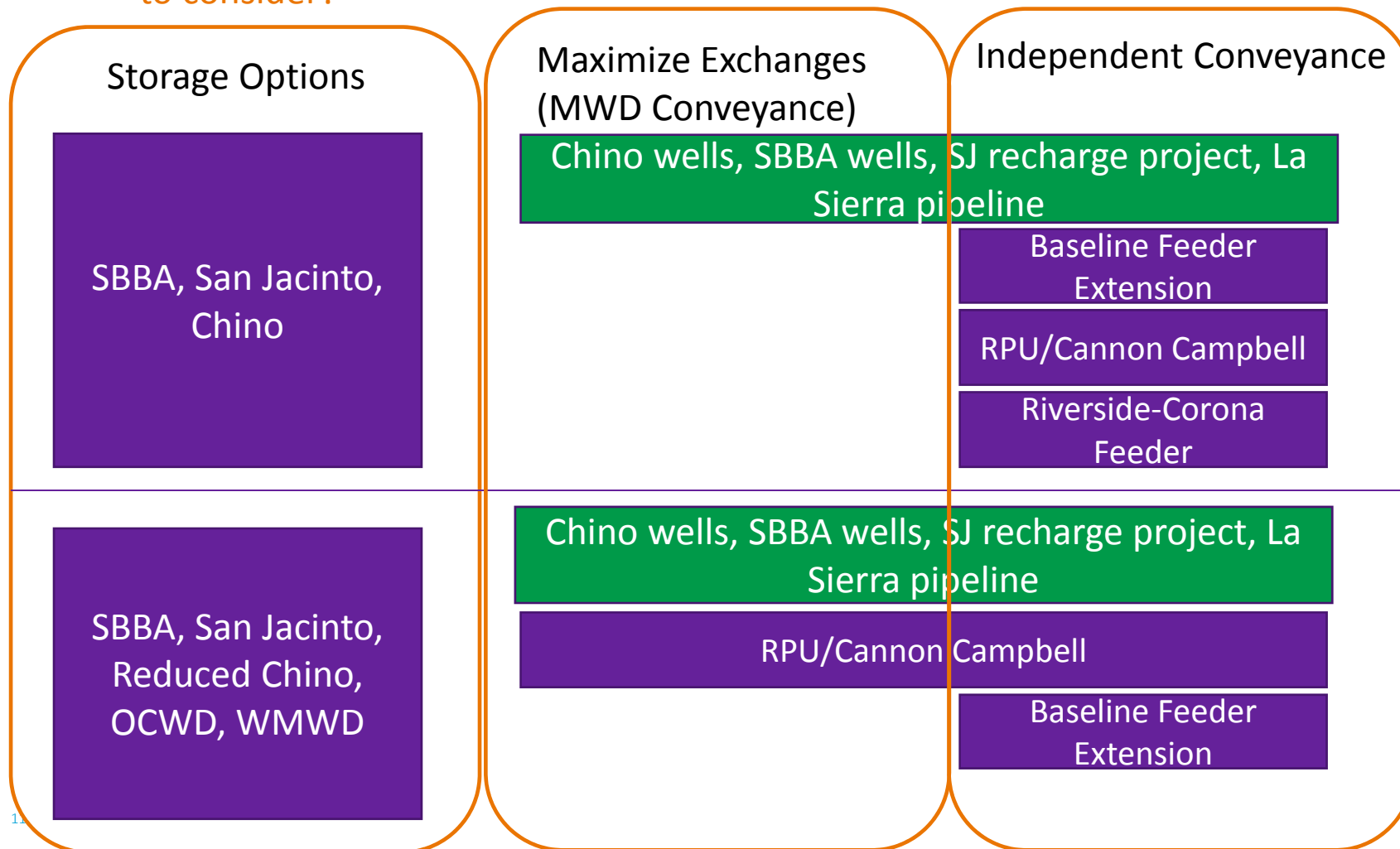
## Summary of Modeling Results

Scenario	Dry Year Yield (AF/Yr)	Unit Cost (\$/AF, includes capital cost recovery)	Capital Cost Recovery (\$/AF)	Capital Cost (\$M)
<b>1A – Maximize Exchanges</b>	<b>45,600</b>	<b>\$1,150</b>	<b>\$62</b>	<b>\$51</b>
2.1A – New Conveyance (Baseline Feeder Extension)	46,300	\$1,220	\$123	\$102
2.2A – New Conveyance (RPU + Cannon Campbell)	45,800	\$1,220	\$87	\$72
2.3A – New Conveyance (Riverside-Corona Feeder + Cannon Campbell)	45,800	\$1,360	\$247	\$203
<b>3.1A Chino Resize (Chino 48 TAF, OCWD 37 TAF, WMWD 10.5 TAF)</b>	<b>45,900</b>	<b>\$1,110</b>	<b>\$78</b>	<b>\$64</b>
3.2A Chino Resize (Chino 0 TAF, OCWD 37 TAF, WMWD 10.5 TAF)	35,100	\$1,080	\$73	\$46
4.1A Chino Resize (Chino 48 TAF, OCWD 37 TAF, WMWD 10.5 TAF) + BFE + RPU + Cannon Campbell	46,100	\$1,230	\$139	\$115
<b>4.2A Chino Resize (Chino 48 TAF, OCWD 37 TAF, WMWD 10.5 TAF) + RPU + Cannon Campbell</b>	<b>45,900</b>	<b>\$1,220</b>	<b>\$102</b>	<b>\$84</b>

# Decision Process and Dependencies

What storage contributions to consider?

What conveyance is desirable/ permissible?



# MWD Policy Uncertainties

## 1. Storage of MWD member agency water in SBV Bank - outside of MWD Service Area

- MWD can only bill for water when it crosses the meter into their system. Consistent with MWD policies, MWD will not allow MWD member agencies to purchase then store water outside their service area to bring it back in at a later date
  - OPTION 1: Valley stores its own water, for benefit of SARCCUP (energy cost paid by SARCCUP agencies at the time its stored?); when MWD moves the water into its system via in-lieu SWP delivery of Valley's water, MWD pays the \$100/AF to Valley that includes energy cost, and MWD member agencies pay Full Service Rate to MWD at time of delivery, and get reimbursed energy cost by Valley. SARCCUP agencies cannot exceed 50% of total available SBV water for purchase, counts as Extraordinary Supply. This option is preferred by MWD.
  - OPTION 2: MWD purchases/obtains physical storage in Valley's bank; MWD buys 100% of the water & stores it (water is *all* MWD-agency water); SARCCUP agencies can purchase up to 50% of the water in the future, when in allocation as it counts as Extraordinary Supply water, at the full rate in effect at the time of 'take'. MWD staff not sure if this option would fly with mgt.

## MWD Policy Uncertainties – cont'd

- 2. Once MWD member agencies have purchased Valley Surplus SWP water and stored in their banks (i.e., within MWD service area), is there a cost associated with in-lieu deliveries provided via MWD at the time of “take”?**
- Yes, it's different water. Let's say Valley surplus water is purchased by Western and stored in IEUA's bank for future use. Western then calls for the water:
    - i. IEUA pumps it and uses it locally and foregoes their MWD delivery of the same volume
    - ii. Western then asks MWD to deliver that in-kind amount to them in addition to their normal MWD deliveries
    - iii. Western pays for that additional increment of MWD water at the current MWD rate at the time of delivery, and that additional water may be counted as Extraordinary Supply

## MWD Policy Uncertainties – cont'd

### **3. Does MWD allow for wheeling of non-Table A water (i.e. SAC Valley/transfer water) through Valley's system for delivery directly to MWD member agency?**

- This question was not resolved by staff; MWD needs legal input
- MWD did state that any scenario cannot compete with MWD's purchase of water or harm MWD in any way
  - For example, demands on MWD are diminished by another agency providing supply to meet a MWD member agency demand

# Recommendations

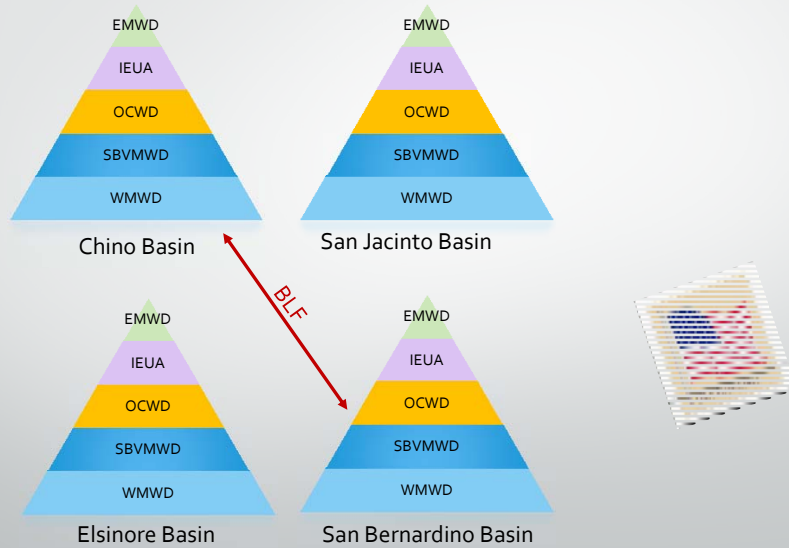
- Determine storage contributions first
  - SBBA, Chino, San Jacinto, OCWD, WMWD Basins
  - **Recommendation: SBBA (64 TAF), Chino (50 TAF), San Jacinto (19.5 TAF), OCWD (36 TAF), WMWD (10.5 TAF)**
- Resolve MWD policy issues to determine whether independent conveyance is desired/useful for SARCCUP
- Match conveyance facilities with storage and MWD policy findings
  - e.g. Riverside Public Utilities pipeline and Cannon Campbell pump station required if Riverside bank is included,
  - e.g. No independent conveyance would be recommended if MWD policy does not color water to SARCCUP agencies on “put”
  - **Recommendation: Chino/IEUA South Zone production wells, San Jacinto Recharge Project, La Sierra pipeline, Riverside Public Utilities pipeline, Cannon Campbell pump station**

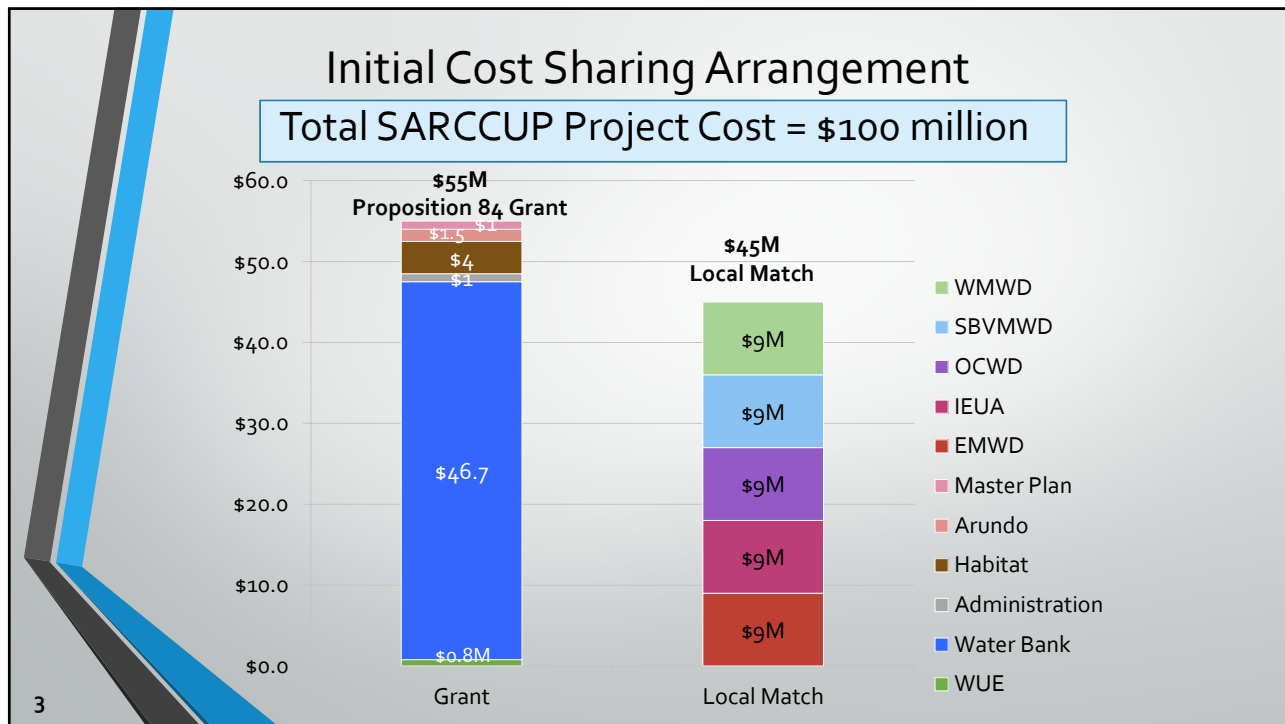


# A Proposal for the Sharing of SARCCUP Local Match Costs

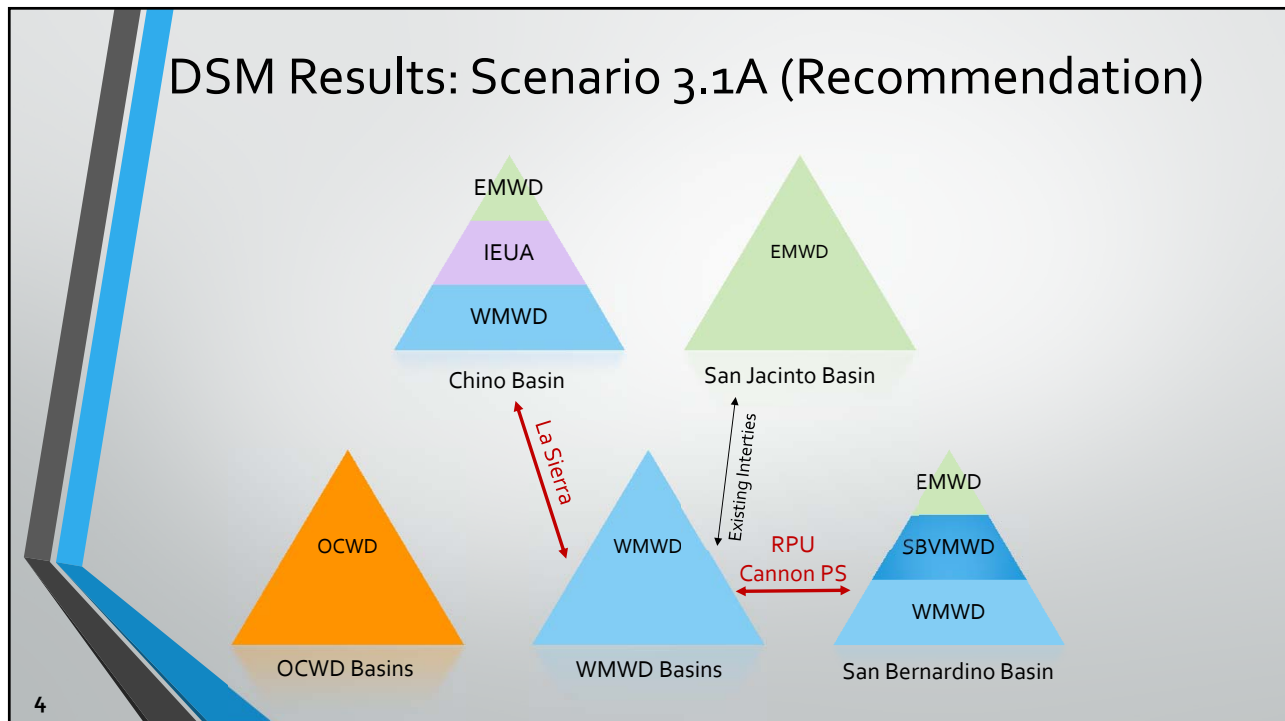
PA 23 Committee  
December 5, 2017  
**(Draft)**

## Initial Grant Concept





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## SARCCUP Local Match Cost Sharing Refinement

	PM/WUE/MP-DSM	Arundo Removal	Habitat Restoration	Water Bank Infrastructure*
EMWD	✓			✓
IEUA	✓			✓
OCWD	✓	✓		
SBVMWD	✓		✓	
WMWD	✓			✓

\* Water bank infrastructure benefits are based on the capital projects in scenario 3.1A

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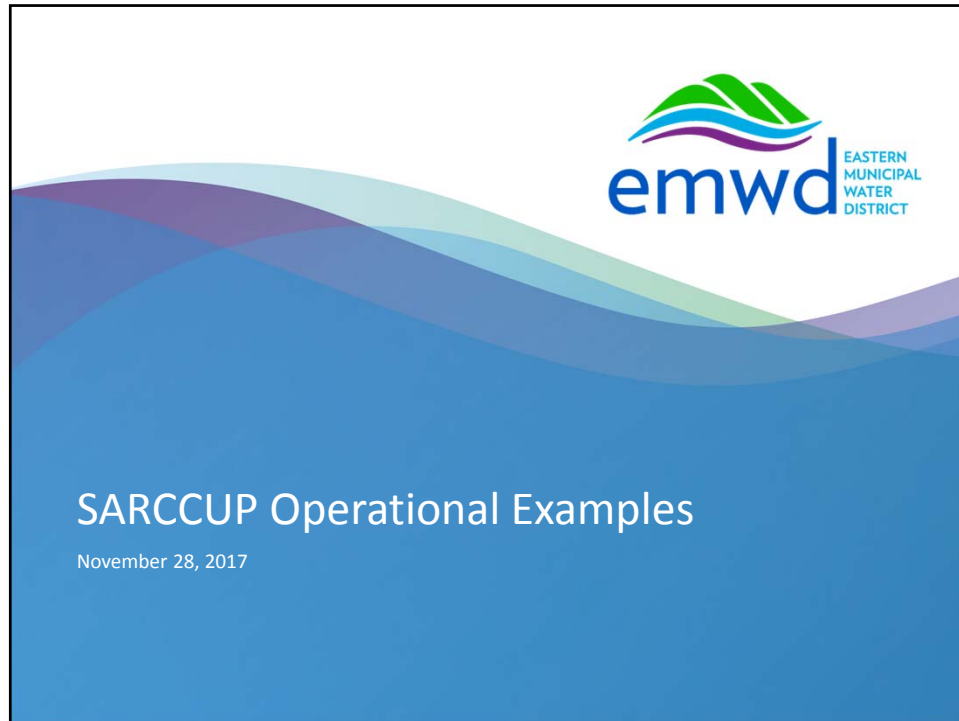
## SARCCUP Scenario 3.1A Capital Program Cost Sharing Recommendation

	PM/WUE/MP-DSM	Arundo Removal	Habitat Restoration	Water Bank Infrastructure	Total Cost Share
EMWD	\$636,649	\$0	\$0	\$6,923,133	\$7,559,782
IEUA	\$636,649	\$0	\$0	\$6,923,133	\$7,559,782
OCWD	\$636,649	\$2,488,053	\$0	\$0	3,124,702
SBVMWD	\$636,649	\$0	\$5,034,282	\$0	\$5,670,931
WMWD	\$636,649	\$0	\$0	\$6,923,133	\$7,559,782
<b>TOTAL</b>	<b>\$3,183,245</b>	<b>\$2,488,053</b>	<b>\$5,034,282</b>	<b>\$20,769,399</b>	<sup>(a)</sup> <b>\$31,474,979</b>

(a) Locally funded cost share is 37.1% of project cost (total project = \$84,849,560).

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## SARCCUP Operational Examples

- Developed to demonstrate different SARCCUP Bank operating scenarios in line with Metropolitan Water District (MWD) policies
  1. San Bernardino Valley Water District Surplus State Water Project Water
    - Direct Delivery using SARCCUP facilities
    - In-Lieu Exchange using MWD facilities
  2. Non-State Water Project Transfer Water
    - Wheeled through MWD facilities
    - Wheeled through Valley facilities (+ SARCCUP facilities)
- Take-aways, under all scenarios:
  - SARCCUP Agencies and MWD made whole
  - SARCCUP Banks operating in line with MWD Policies
  - SARCCUP MWD member agencies receive Extraordinary Supply credit

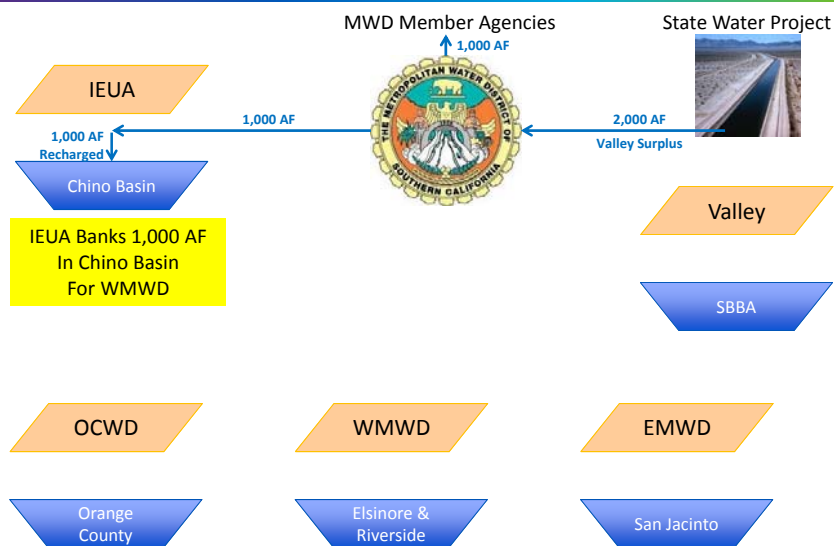
## SARRCUP Operational Examples (cont'd)

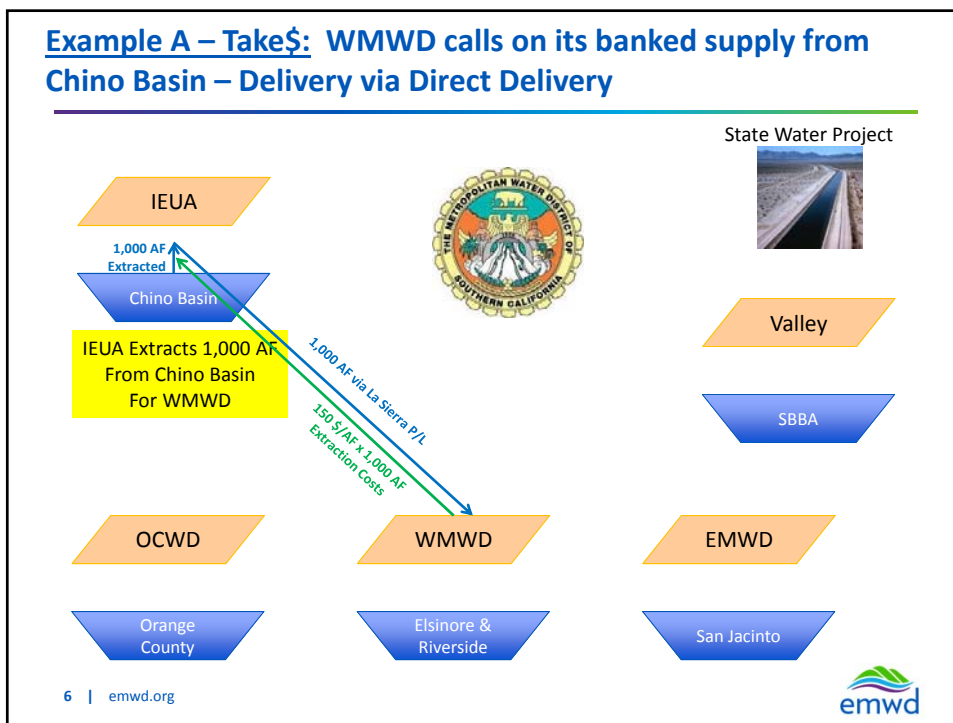
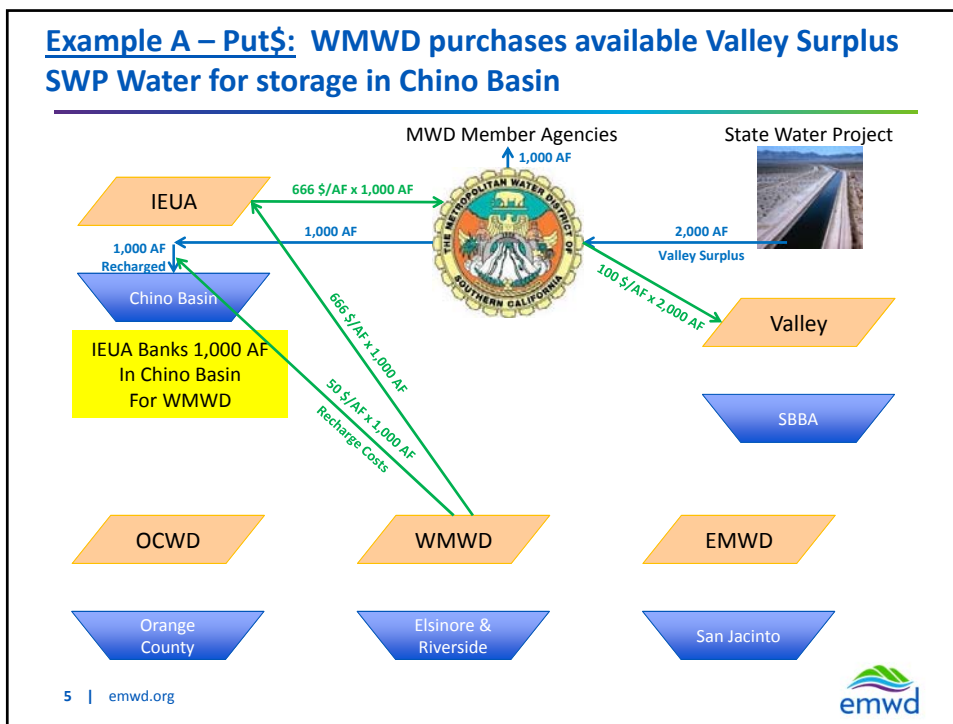
### 1. San Bernardino Valley Water District Surplus State Water Project Water

- Direct Delivery using SARCCUP Facilities - Example A



### Example A – Put: WMWD purchases available Valley Surplus SWP Water for storage in Chino Basin





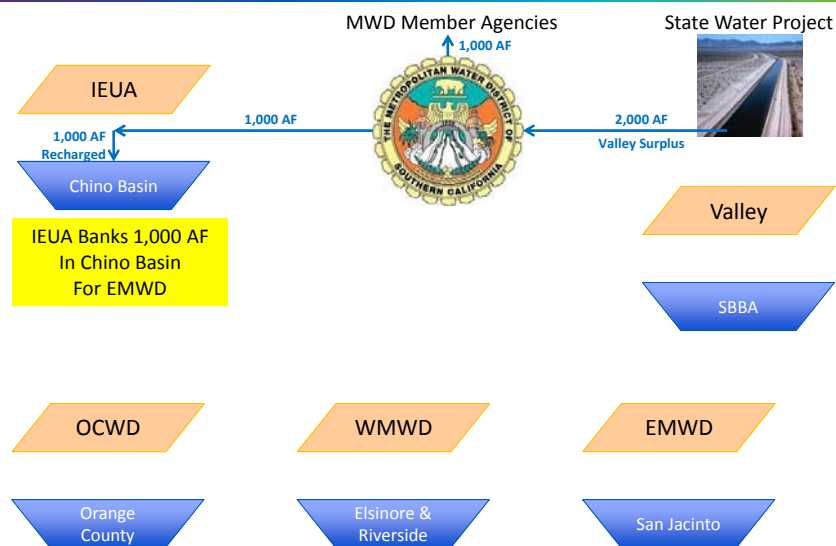
## SARRCUP Operational Examples (cont'd)

### 1. San Bernardino Valley Water District Surplus State Water Project Water

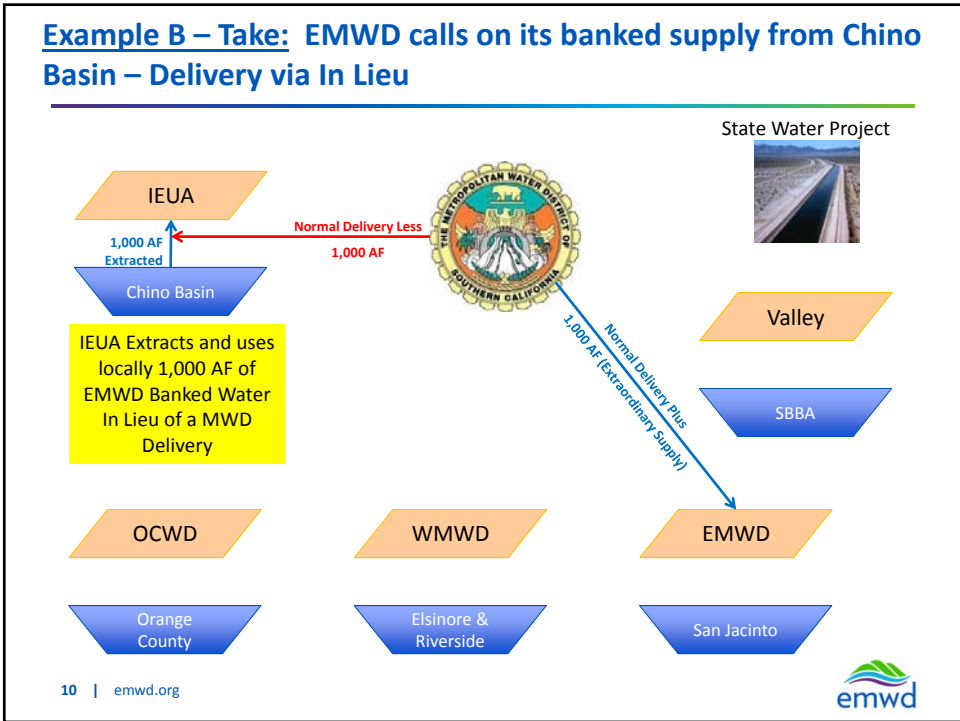
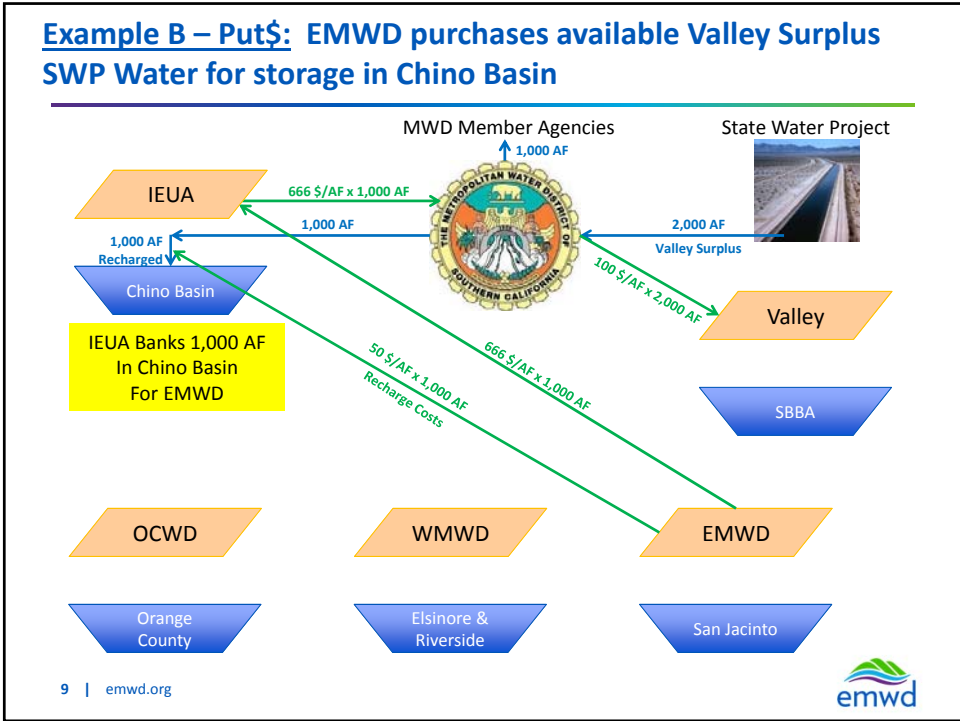
- Direct Delivery using SARCCUP Facilities - Example A
- In-Lieu Exchange using MWD facilities – Example B

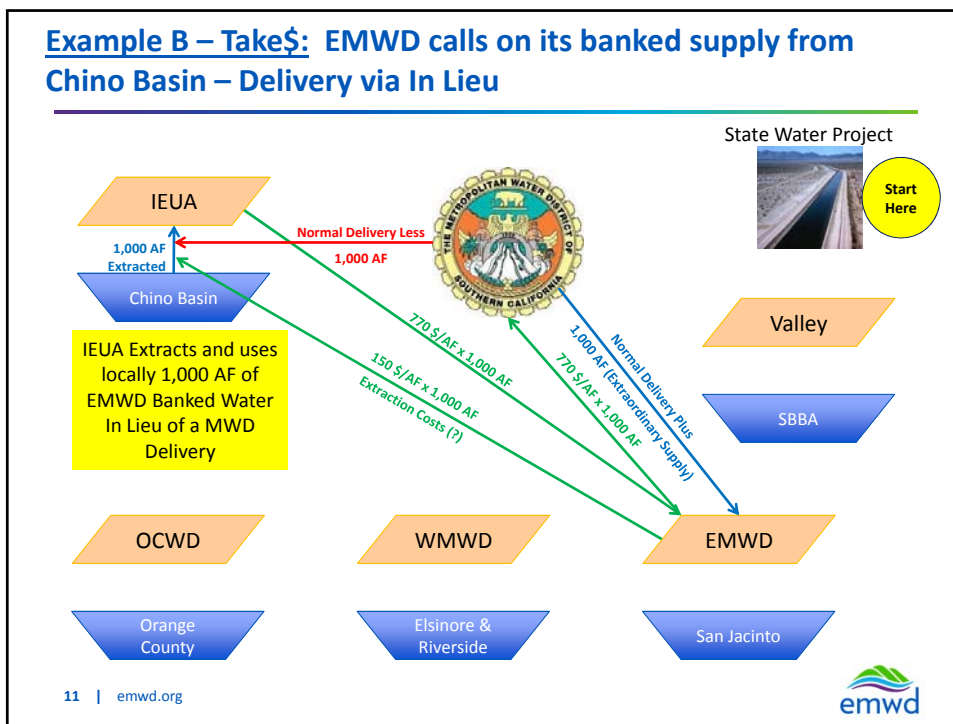


### Example B – Put: EMWD purchases available Valley Surplus SWP Water for storage in Chino Basin

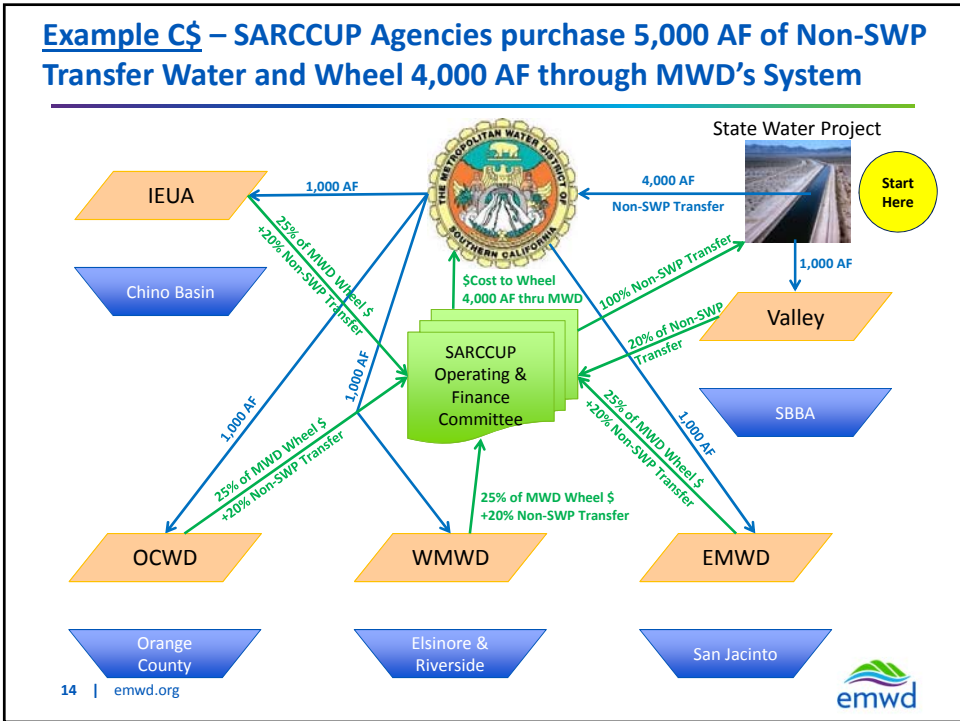
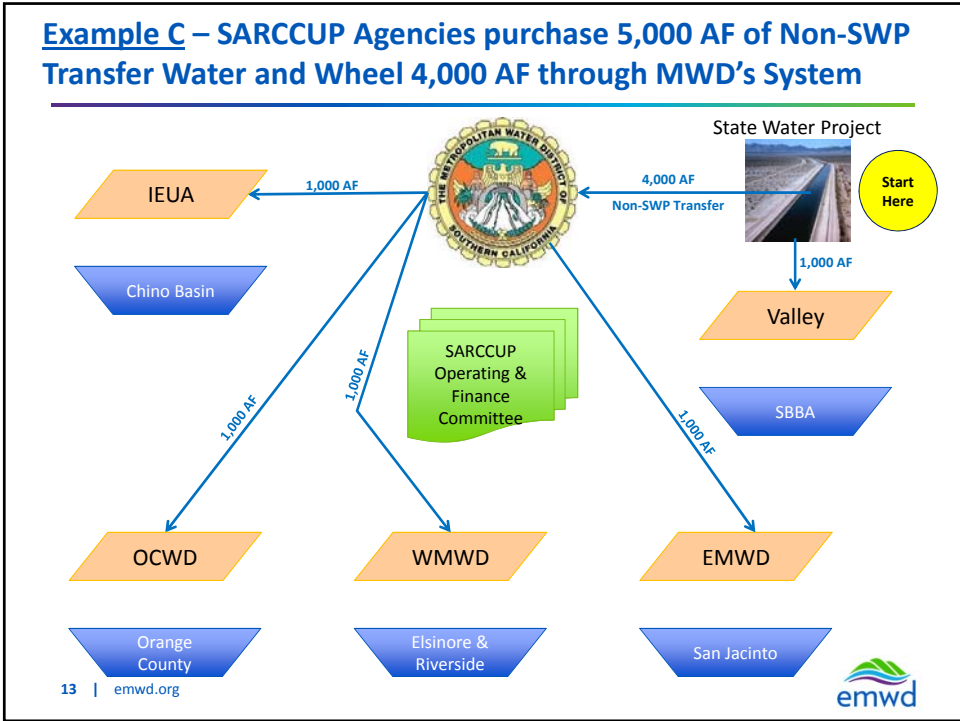








- ### SARRCUP Operational Examples (cont'd)
- San Bernardino Valley Water District Surplus State Water Project Water
    - Direct Delivery using SARCCUP Facilities – Example A
    - In-Lieu Exchange using MWD facilities – Example B
  - Non-State Water Project Transfer Water
    - Wheeled through MWD facilities – Example C
- 12 | emwd.org



## SARRCUP Operational Examples (cont'd)

### 1. San Bernardino Valley Water District Surplus State Water Project Water

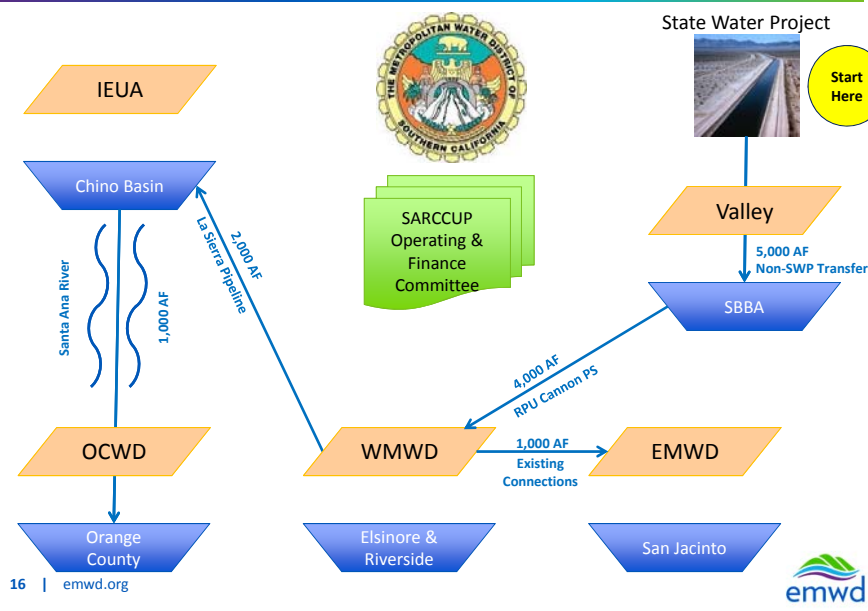
- Direct Delivery using SARCCUP Facilities – Example A
- In-Lieu Exchange using MWD facilities – Example B

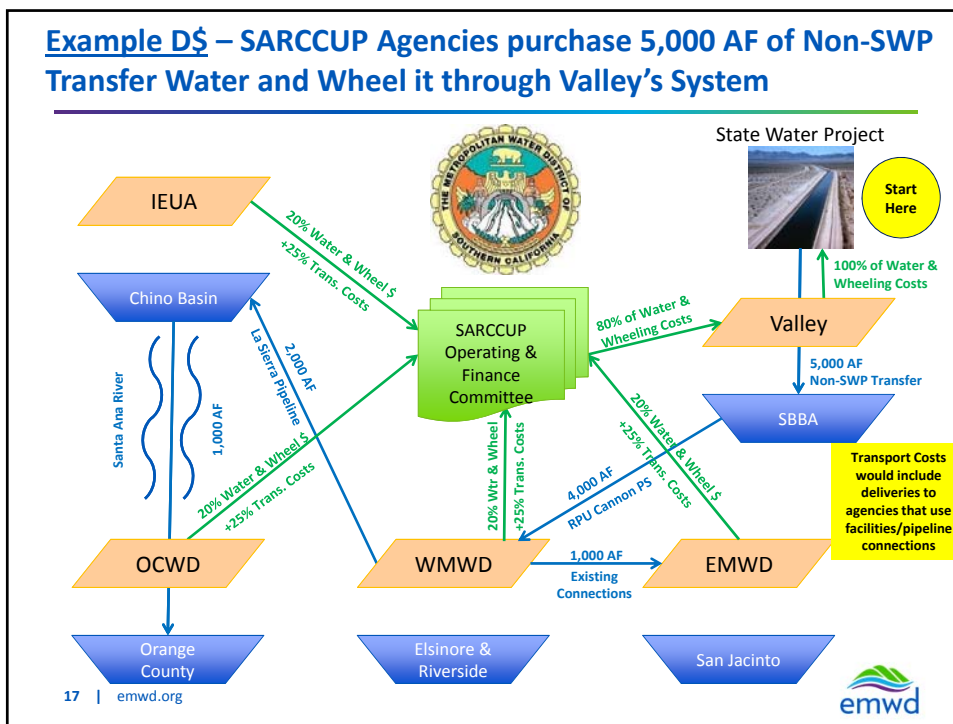
### 2. Non-State Water Project Transfer Water

- Wheeled through MWD facilities – Example C
- Wheeled through Valley facilities (+ SARCCUP facilities) – Example D



### Example D – SARCCUP Agencies purchase 5,000 AF of Non-SWP Transfer Water and Wheel it through Valley's System





### SARRCUP Operational Examples - Summary

- Take-aways, under all scenarios:
  - SARCCUP Agencies and MWD made whole
  - SARCCUP Banks operating in line with MWD Policies
  - SARCCUP MWD member agencies receive Extraordinary Supply credit
- Next steps
  - Meet with MWD staff and new AGM to finalize terms
  - Develop final SARCCUP-MWD Operating Agreement



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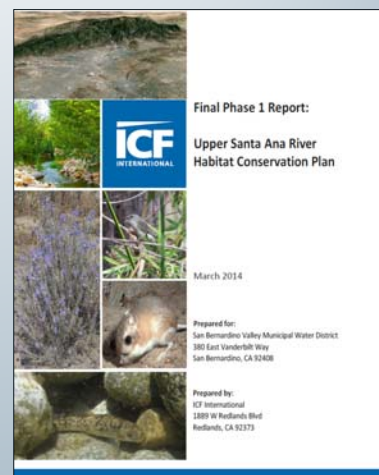
## Santa Ana River Conservation & Conjunctive Use Project PA 23 HOLE CREEK RESTORATION UPDATE



Heather Dyer, Water Resources Project Manager/Biologist  
San Bernardino Valley Municipal Water District

## UPPER SANTA ANA RIVER HABITAT CONSERVATION PLAN

- **May 2013** – HCP idea grew out of a meeting between Valley District and Ren Lohofner, former Regional Director of US Fish and Wildlife Service (USFWS)
- **September 2013** – Phase I: HCP Scoping Study approved
- **April 2014** – Phase 2: HCP Team was assembled and plan development began
- **2018** – CEQA/NEPA Process
- **2019** – Incidental Take Permit Expected
- <http://www.uppersarhcp.com/>



## HCP COVERED ACTIVITIES

□ Endangered Species  
 “Incidental Take” Coverage for  
 Over 60 Covered Activities

- New projects construction and operations
- Existing Facilities Operations & Maintenance
- New or existing projects with Hydrologic Effects to Santa Ana River
  - Stream Diversions for groundwater recharge
  - Increased capacity of basins
  - Reductions in WWTP effluent



## HCP PERMITTEES

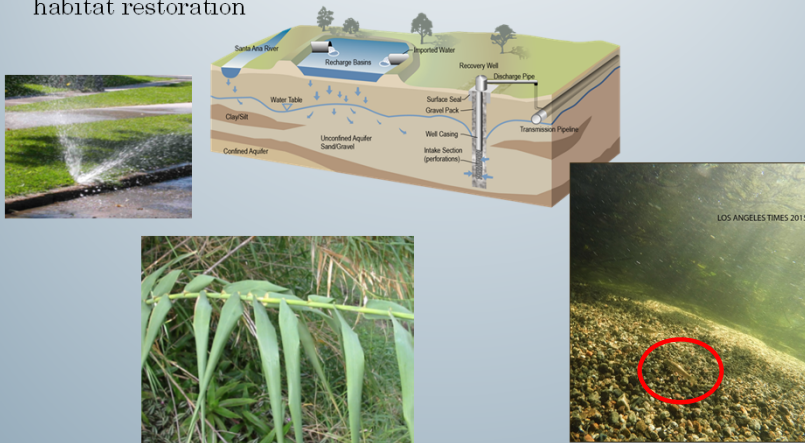
1. San Bernardino Valley Municipal Water District
2. San Bernardino Valley Water Conservation District
3. San Bernardino Municipal Water Department
4. Western Municipal Water District
5. East Valley Water District
6. West Valley Water District
7. Riverside Public Utilities
8. San Bernardino County Flood Control District
9. Inland Empire Utility Agency
10. City of Rialto
11. Metropolitan Water District of Southern California
12. Orange County Water District
13. Southern California Edison





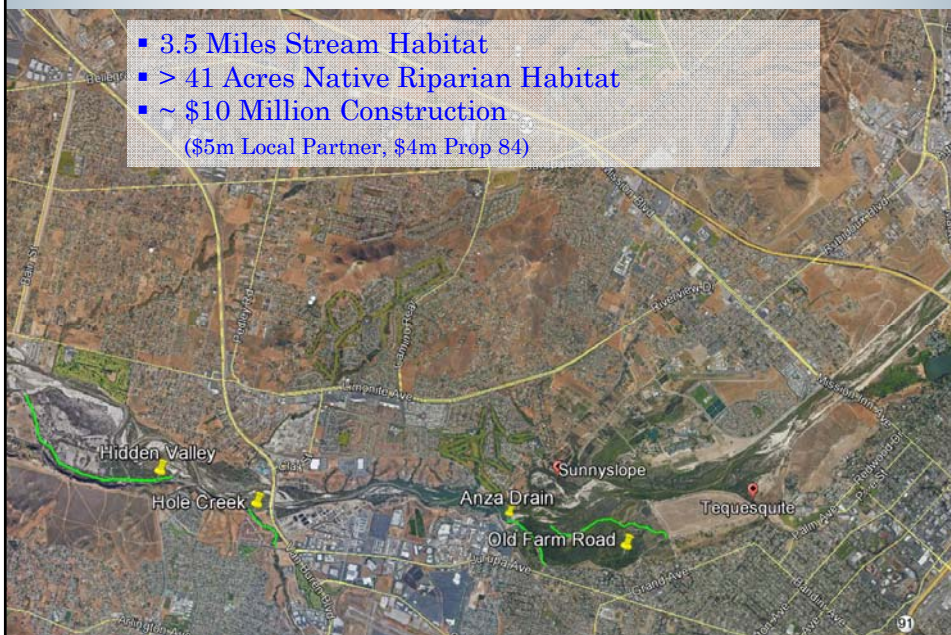
## SARCCUP ELEMENTS

- **Water Use Efficiency:** Conservation-Based Rates Support, Water-use Efficient Landscaping Design
- **Groundwater Banking:** “Put and Take” Conjunctive Use Facilities
- **Habitat Improvement:** Arundo Removal & Santa Ana Sucker fish habitat restoration



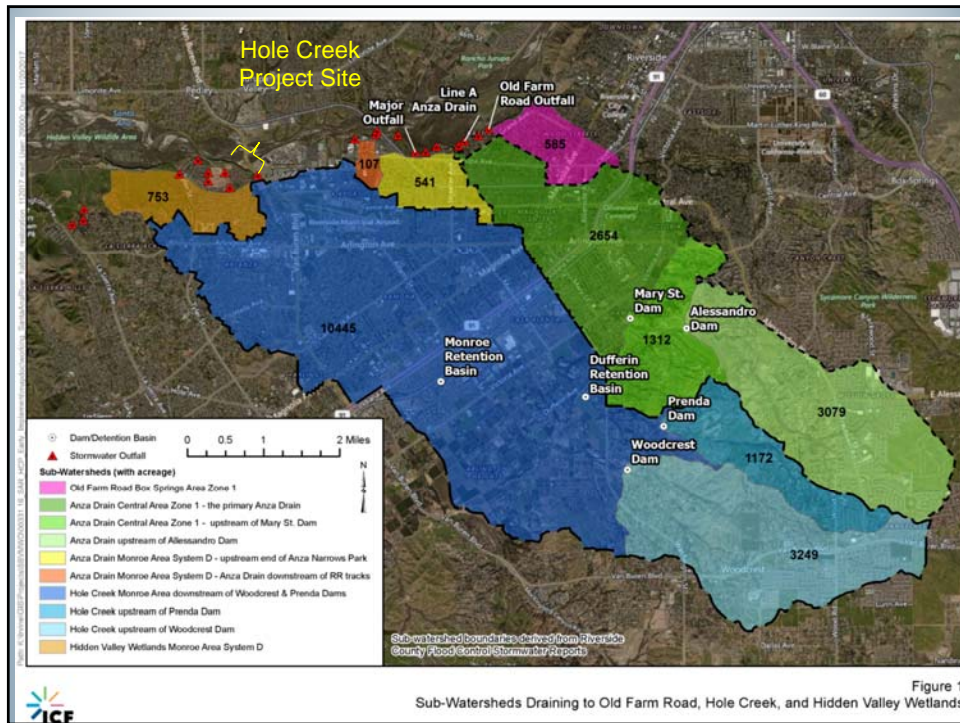
## SARCCUP TRIBUTARY PROJECTS

- 3.5 Miles Stream Habitat
- > 41 Acres Native Riparian Habitat
- ~ \$10 Million Construction  
(\$5m Local Partner, \$4m Prop 84)



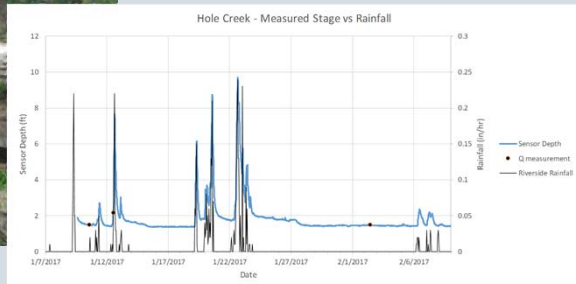
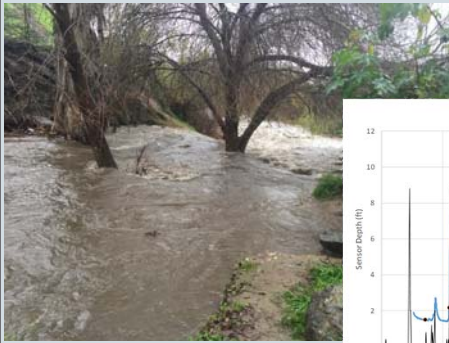
# LOWER HOLE CREEK

- Highly urbanized stream
- Connected to Santa Ana River below Van Buren Blvd.
- This area of river has new importance to sucker population



# Hole Creek Hydrology

- Baseflow ~1.5 cfs
- Flood flows can quickly exceed 3,000 cfs+

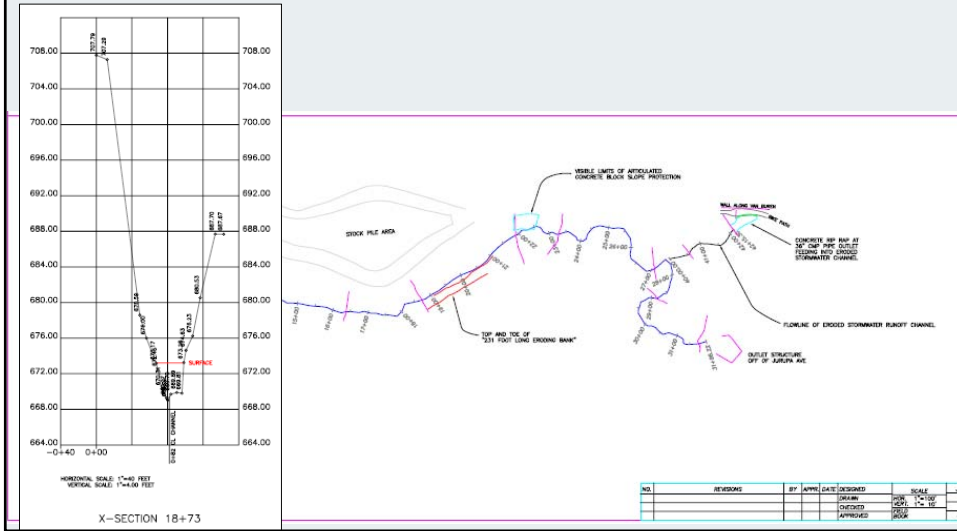


# Hole Creek Preliminary Design

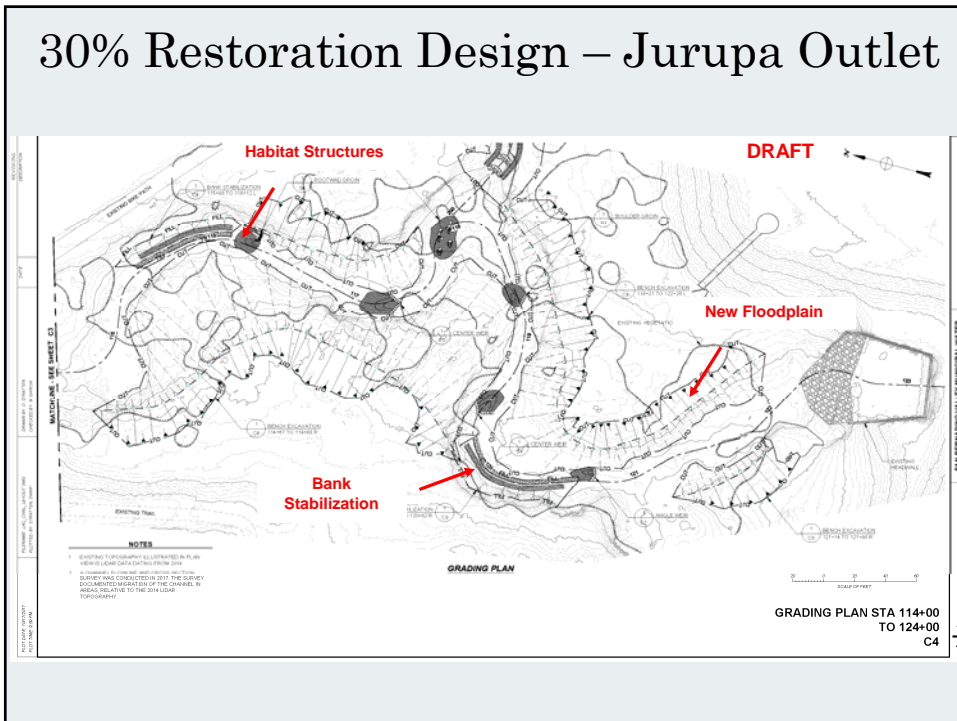


# Channel Profiles and Cross-Sections

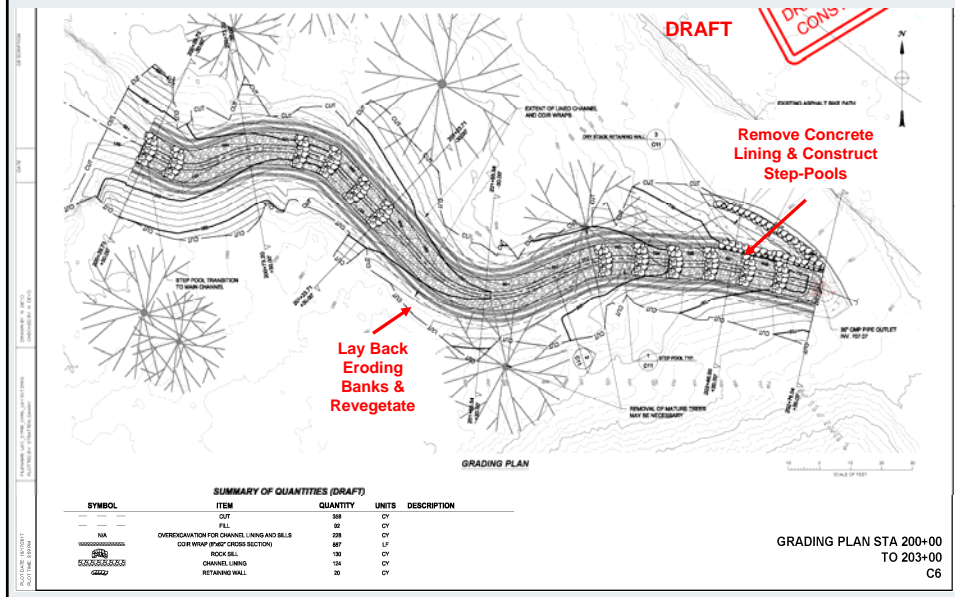
- Field topographic survey used to supplement LiDAR elevations used in design development



# 30% Restoration Design – Jurupa Outlet



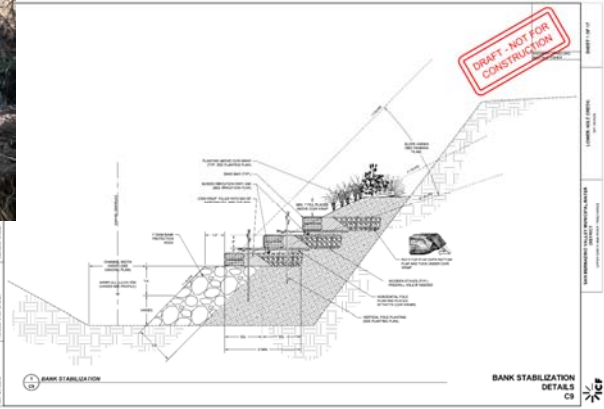
## 30% Restoration Design – Van Buren Outlet



## 30% Restoration Design – Bank Stabilization

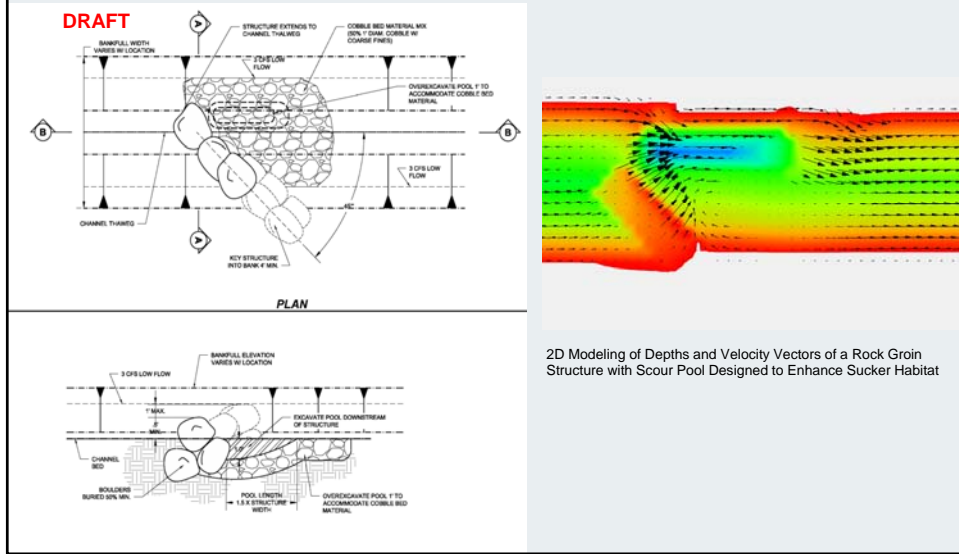


Eroding Bank Delivering Fine Sediment to Channel

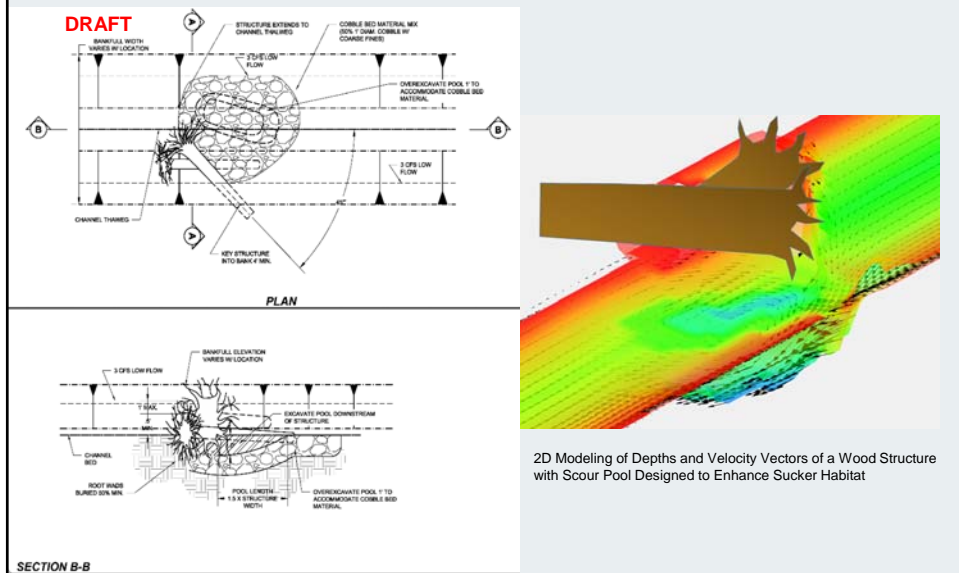


Bank Stabilization Detail

# 30% Restoration Design- Habitat Details and Performance Modeling



# 30% Restoration Design- Habitat Details and Performance Modeling



## GOAL: INCREASE SUITABLE SUCKER HABITAT



## SUMMARY

- ❖ Hole Creek Prop 84 Funding (Grant and Local Match)

- \$99k – Design
- \$996k – Construction

- ❖ Finishing the 30% Design Work and evaluating additional HCP opportunities at Lower Hole Creek.



- ❖ CEQA/Permitting for Tributaries - January 2018
- ❖ Construction 2019 (Likely Hole Creek and Anza first)

# QUESTIONS?



**Heather Dyer**  
**Water Resources Project Manager**  
[heatherd@sbvmwd.com](mailto:heatherd@sbvmwd.com)  
**909-387-9256**



# SARCCUP Schedule Roll-Up (By Agency)

