



**SAN BERNARDINO  
VALLEY** | A REGIONAL WATER  
AGENCY SINCE 1954

---

**BOARD OF DIRECTORS WORKSHOP - RESOURCES/ENGINEERING  
2:00 pm Tuesday, May 14, 2024**

**In Person:**

380 East Vanderbilt Way  
San Bernardino, CA 92408

**Online via Zoom:**

<https://sbvmwd.zoom.us/j/82492309440>

Meeting ID: 824 9230 9440

**PASSCODE: 3802020**

**By Telephone:**

Dial-in Info: (877) 853 5247 US Toll-free

Meeting ID: 824 9230 9440

**PASSCODE: 3802020**

If you are unable to participate online or by telephone, you may also submit your comments and questions in writing for the District's consideration by sending them to [comments@sbvmwd.com](mailto:comments@sbvmwd.com) with the subject line "Public Comment Item #" (insert the agenda item number relevant to your comment) or "Public Comment Non-Agenda Item". Submit your written comments by **6:00 p.m. on Monday, May 13, 2024**. All public comments will be provided to the Board President and may be read into the record or compiled as part of the record.

**IMPORTANT PRIVACY NOTE:** Online participants **MUST** log in with a Zoom account. The Zoom app is a free download. Please keep in mind: (1) This is a public meeting; as such, the virtual meeting information is published on the World Wide Web and available to everyone. (2) Should you participate remotely via telephone, your telephone number will be your "identifier" during the meeting and available to all meeting participants; there is no way to protect your privacy if you elect to call in to the meeting.



**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**  
380 E. Vanderbilt Way, San Bernardino, CA 92408

**BOARD OF DIRECTORS' WORKSHOP - RESOURCES/ENGINEERING**  
**2:00 PM Tuesday, May 14, 2024**

**CALL TO ORDER**

**1) INTRODUCTIONS**

**2) PUBLIC COMMENT**

Members of the public may address the Board regarding any item within the subject matter jurisdiction of the Board; however, no action may be taken on off-agenda items except as authorized by law. Each speaker is limited to a maximum of three (3) minutes.

**3) DISCUSSION AND POSSIBLE ACTION ITEMS**

3.1 Status Update and Consider Additional Expenditures on the Inland Empire Brine Line - Agua Mansa Lateral Project (20 min) - Pg. 3

[Staff Memo - Status Update and Consider Additional Expenditures on the Inland Empire Brine Line - Agua Mansa Lateral Project](#)

[Vicinity Map - Inland Empire Brine Line - Agua Mansa Lateral Project](#)

3.2 Consider 2024 - 2025 Support Services for the Yucaipa Sustainable Groundwater Management Agency with Dudek in the amount of \$35,360 (20 min) - Pg. 6

[Staff Memo - Consider 2024-2025 Support Services for the Yucaipa Sustainable Groundwater Management Agency with Dudek in the amount of \\$35,360 Consulting Services Agreement with Dudek](#)

3.3 Draft Climate Adaptation and Resilience Plan (CARP) (30 min) - Pg. 28

[Staff Memo - Draft Climate Adaptation and Resilience Plan \(CARP\)](#)  
[Draft Climate Adaptation and Resilience Plan](#)

3.4 Consider Ratification of Advance Expenditures and Approval of Lands Restoration and Maintenance Consulting Services Agreement (20 min) - Pg. 131

[Staff Memo - Consider Ratification of Advance Expenditures and Approval of Lands Restoration and Maintenance Consulting Services Agreement](#)  
[Consulting Services Agreement](#)

**4) FUTURE BUSINESS**

**5) CLOSED SESSION**

5.1 CONFERENCE WITH LEGAL COUNSEL- EXISTING LITIGATION (Paragraph (1) of subdivision (d) of Section 54956.9) Name of case: BlueTriton Brands, Inc. v. California State Water Resources Control Bd., et al., Fresno Super. Ct., Case No. 23CECG04202

6) **ADJOURNMENT**

**DATE:** May 14, 2024

**TO:** Board of Directors - Workshop - Resources/Engineering

**FROM:** Leo Ferrando, Assistant Chief Engineer

**SUBJECT:** Status Update and Consider Additional Expenditures on the Inland Empire Brine Line - Agua Mansa Lateral Project

---

### **Staff Recommendation**

Staff will provide a status update on the construction of the Inland Empire Brine Line (IEBL) - Agua Mansa Lateral Project (Project) during the workshop and staff is requesting ratification of additional expenditures in the amount of \$47,300 for work completed.

### **Summary**

On October 17, 2023, the BOD approved the construction expenditures on IEBL - Agua Mansa Lateral Project for \$740,000, which was comprised of an estimated cost of \$672,860 and a 10% contingency. The construction of the Project was recently completed at the end of April 2024 and incurred additional expenses beyond the contingency available due to unexpected delays. The final expenditure for San Bernardino Valley's (Valley) portion of the share is \$787,300. During this meeting, Staff will provide a detailed presentation on the status of the Project with a request for ratification of the additional expenditures.

### **Background**

On June 7, 2022, the BOD approved a Cost-share Agreement with Santa Ana Watershed Authority (SAWPA), and Rialto Bioenergy Facility Inc. (RBF) for the construction of a new lateral for the IEBL on Agua Mansa Road. Under the terms of the agreement, SAWPA will own and operate the lateral, and SAWPA, Valley, and RBF share the costs of design and construction. The lateral is about 4,550 linear feet long, and 12 inches in diameter. It connects RBF's existing lateral near the Rialto Channel to the existing 36-inch IEBL on Agua Mansa Road near Riverside Drive. The Agua Mansa Lateral will allow RBF to connect to the IEBL downstream of a long siphon and provide opportunities for future discharges to connect to the IEBL, and other benefits to the operation and maintenance of the IEBL, such as operational flexibility, avoided maintenance costs and increased reliability by minimizing disruptions to upstream dischargers during maintenance or emergency events.

In August 2023, the SAWPA Project Agreement 24 (PA 24) Committee awarded a construction contract to Genesis Construction, the lowest responsive and responsible bidder, for a total amount of \$2,207,290. The original completion date for the construction was set for March 15, 2024. However, due to several unforeseen factors, including utility conflicts, permitting issues with the City of Colton, and rain delays during underground excavation, the project encountered change orders that fell within the contingency authorization. These conflicts caused delays, extending the construction schedule into mid-April, which coincides with bird nesting and breeding season resulting in impacts for work in the area adjacent to the Rialto Channel. To comply with environmental regulations, additional expenses were incurred for biological monitoring during April for the federally and state protected bird, the Least Bell's vireo. Our share of the additional cost is \$47,300. The total cost shares for the Project were updated and are shown below in Table 1. More details will be provided at the Workshop.

**Table 1: Final Cost Share Summary**

	SAWPA	Valley	RBF	Total
Actual Expenditures	\$262,433	<b>\$787,300</b>	\$1,649,647	\$2,699,381
Original Estimate	\$224,287	<b>\$672,860</b>	\$1,605,703	\$2,503,000

**District Strategic Plan Application**

Participation in a public-private partnership with SAWPA and RBF to cooperatively construct a new facility that adds value to our regional brine line and water-management system demonstrates our values of collaboration, innovation, and trustworthiness. This proposed project also supports our priorities of being cost-effective and integrated by working through creative, holistic solutions for a complex problem.

**Fiscal Impact**

The fiscal impact of this project is based on the cost-share agreement approved by the Board in June 2022 with an authorization of \$740,000, including the 10% contingency. Funds for this project and the additional expenditure of \$ 47,300 will be expended from Account 6280 Field Improvements. San Bernardino Valley's total share of the Project is \$787,300.

**Attachment**

Vicinity Map - Inland Empire Bine Line - Agua Mansa Lateral Project.



**DATE:** May 14, 2024

**TO:** Board of Directors' Workshop - Resources/Engineering

**FROM:** Adekunle Ojo, Manager of Water Resources  
Michael Plinski, Chief of Water Resources

**SUBJECT:** Consider 2024-2025 Support Services for the Yucaipa Sustainable Groundwater Management Agency with Dudek in the amount of \$35,360

---

### **Staff Recommendation**

Authorize the CEO/General Manager to execute a Consulting Services Agreement with Dudek in the amount of \$35,360 on behalf of the Yucaipa Sustainable Groundwater Management Agency (Yucaipa SGMA) for the period May 1, 2024 to April 30, 2025; the net fiscal impact on San Bernardino Valley is \$2,210.

### **Summary**

On April 24, 2024, the Yucaipa SGMA Board of Directors approved the proposal by Dudek to provide support services covering the period from May 1, 2024 to April 30, 2025. The services to be provided by Dudek includes the preparation for and facilitation of quarterly Board meetings, updating and maintaining the data management system that supports the Groundwater Sustainability Plan (GSP), continuing the private well users outreach, developing a plan for addressing gaps identified in the GSP, and monitoring and evaluating compliance with protocols established in the GSP. The total cost of the proposed agreement with Dudek is \$35,360, an increase of \$1,870 (5.6%) from the last agreement. San Bernardino Valley's share of this contract is 6% or \$2,210; the remaining \$33,150 is shared by the other Yucaipa SGMA members.

### **Background**

California's Sustainable Groundwater Management Act (SGMA) resulted in the formation of hundreds of groundwater sustainability agencies (GSA's) throughout the state tasked with time-critical sustainability plan development. To accomplish these objectives, many new GSA's hired consultants to help develop and manage the required GSPs. As such, Dudek was selected through a competitive process in 2018 and contracted by Yucaipa SGMA through San Bernardino Valley to prepare the GSP for the Yucaipa Basin. Following the adoption of the Yucaipa GSP in January 2022, the Yucaipa SGMA Board approved the first annual support services agreement with Dudek

in May 2022 and requested that San Bernardino Valley administer the contract on its behalf. Below is the history of the annual support services agreement between San Bernardino Valley and Dudek:

- May 2022 in the amount of \$24,950 for the period May 2022 to April 2023
- May 2023 in the amount of \$33,490 for the period May 2023 to April 2024

The proposed agreement is the third and is for May 2024 through April 2025 in the amount of \$35,360. The annual support services agreement with Dudek covers the full range of administrative, technical, and consulting services for the effective administration of Yucaipa SGMA as a groundwater sustainability agency; however, the annual contract excludes the preparation of the annual report due to the State by April 1<sup>st</sup> each year. If Dudek is selected to prepare the next annual report, the annual support services agreement will be amended to include the new scope and fees.

### **District Strategic Plan Application**

This item is consistent with San Bernardino Valley's desire to work collaboratively to provide a reliable, resilient, and sustainable water supply that contributes to a healthy watershed for future generations.

### **Fiscal Impact**

As the contracting agency for Yucaipa SGMA, San Bernardino Valley needs to enter into agreement with Dudek for the entire \$35,360. This item was included in the approved FY 2023-24 General Fund Budget under Line Item 6360 Consultants and will also be included in the next year's General Fund budget for consideration. After billing the other seven (7) Yucaipa SGMA members, the net fiscal impact to San Bernardino Valley is \$2,210 or approximately 6% of the total.

### **Attachment**

Consulting Services Agreement with Dudek



## CONSULTING SERVICES AGREEMENT

**THIS CONSULTING SERVICES AGREEMENT (“*Agreement*”)** is entered into as of May 1, 2024 (“*Effective Date*”), by and between San Bernardino Valley Municipal Water District, a municipal water district organized and operating under the Municipal Water District Law of 1911 (“*District*”), and Dudek (“*Consultant*”). District and Consultant are sometimes referred to herein collectively as “*Parties*” and individually as “*Party*.”

### RECITALS

A. District is a public agency of the State of California and is in need of a qualified consultant to provide professional services for the following project:

**JOB NAME:** Support Services to the Yucaipa Sustainable Groundwater Management Agency

**JOB NUMBER:** 1776

B. Consultant is duly licensed in the State of California and has the necessary qualifications to provide such professional services.

C. The Parties desire to enter into this Agreement for the purpose of setting forth the terms and conditions upon which Consultant will render such professional services to District.

**NOW, THEREFORE,** the Parties agree as follows:

### ARTICLE I SCOPE OF SERVICES TO BE PERFORMED, TIME OF PERFORMANCE AND TERM

1.1 Term. The term (“*Term*”) of this Agreement shall commence on the Effective Date and shall automatically terminate upon earlier of: (a) April 30, 2025; or (b) the successful completion of Services (as defined below), unless earlier terminated.

1.2 Scope of Services and Time of Performance. During the Term of this Agreement, Consultant shall perform all services, and provide all materials, equipment, tools, labor, and expertise, necessary to furnish the professional services set forth in Consultant’s proposal in response to the RFP (“*Proposal*”), a true and correct copy of which is attached as *Exhibit “A”* hereto and incorporated herein by reference (collectively, “*Services*”). All Services shall be performed in accordance with the timeframes set forth in the Proposal.

1.3 Task Orders. From time to time, the Parties may make changes to or authorize certain work set forth in the scope of Services, including without limitation issuing additional instructions, requiring additional work, or deleting work previously ordered, by executing one or more task orders (each a “*Task Order*”). The provisions of this Agreement shall apply to all such Task Orders. The costs of each Task Order, or any modification of time for completion that might be required thereby, shall be mutually agreed upon in writing by District and Consultant before

commencement of the work called for by such Task Order. A Task Order is a request for additional Services and/or changes to Services, and shall not be effective unless and until accepted in writing by both Parties. Consultant shall be solely responsible for all costs and expenses associated with any additional Services, including additional Services already performed, that have not been specifically agreed upon in writing by Consultant and District. As used in this Agreement, the term “*Services*” shall include Services added, deleted, or modified by any Task Order.

1.4 Qualifications. Consultant represents and warrants to District that it has the qualifications, experience, licenses, and facilities necessary to properly perform the Services in a timely, competent, and professional manner.

1.5 Licenses. Consultant shall, in accordance with applicable laws and ordinances, obtain and maintain at its expense all permits and licenses necessary to accomplish the Services. Failure to maintain a required permit or license may result in immediate termination of this Agreement.

1.6 Standard of Care. Consultant shall perform all Services in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and competence ordinarily exercised by members of the profession currently practicing under similar conditions and in compliance with all federal, state, and local laws, rules, regulations, or ordinances applicable to the Services.

1.7 Relations with Construction Contractor. Consultant shall not directly or indirectly communicate with or consult with any construction or other District contractor utilized in the project, except in the presence of or with the specific written consent of the District.

1.8 Non-Exclusivity. District agrees that Consultant may perform services in matters that are not substantially related to the Services for people or entities that are or might be adverse to District. Subject to the restrictions of this Section 1.8 and Sections 3.2 and 3.3, Consultant will have no obligation to limit or restrict the assignment of its consultants, employees, and principals to other projects as a result of their performance of the Services.

## ARTICLE II COMPENSATION AND EXPENSES

2.1 Compensation. As full and complete compensation for the Services to be rendered by Consultant, District shall pay Consultant for all Services performed pursuant to this Agreement, inclusive of subconsultants and miscellaneous expenses, in the amount and on the schedule set forth in the Proposal (“*Compensation*”), which amount shall not exceed thirty-five thousand, three hundred and sixty dollars (\$35,360) (“*Maximum Fee*”). To the extent different payment terms are set forth in a Task Order that conflict with the general payment terms set forth in the Proposal, the terms in the Task Order shall control. Consultant acknowledges and agrees that in no event shall Consultant receive or have a claim of any kind for any payment in excess of the Maximum Fee for any work, including additional Services under any Task Order, performed under this Agreement, unless such amount exceeding the Maximum Fee is specifically approved in writing by District.

2.2 Billing Procedure. On or before the tenth (10th) day of each month, Consultant will submit to District an accurate and complete statement (“**Invoice**”) for Services actually performed during the previous month and other amounts due under this Agreement. Each Invoice shall include, at a minimum: (a) District’s job name; (b) District’s job number; (c) Consultant’s point of contact for billing questions; (d) basis of billing; (e) total contract value; (f) total billing to date; (g) amount remaining in contract; (h) estimated percentage of completion at time of billing; and (i) a summary of Services actually performed during the billing period. Each Invoice shall be supported by such data substantiating Consultant’s right to payment as District may reasonably require.

2.3 Payment. District shall pay to Consultant within thirty (30) calendar days after receipt of an Invoice, or the resolution of any billing dispute, all undisputed amounts. District may withhold a portion of an Invoice because of defective Services not remedied or unsatisfactory prosecution of the Services by Consultant. District will release any withheld funds upon Consultant satisfactorily remedying the issue that resulted in the withholding. District will not pay late fees to Consultant on the compensation due Consultant under the terms of this Agreement. Payment of any Invoice shall not constitute acceptance of any Services completed by Consultant, and the making of final payment shall not constitute a waiver of any claims by District for any reason whatsoever.

2.4 Disputed Invoices. In the event District disputes an Invoice, District shall provide a written explanation of the dispute to Consultant within thirty (30) days after receiving the Invoice. District and Consultant shall cooperate to resolve any disputed amount. District shall not be penalized for any reasonable dispute and shall not be obligated to pay any amount in dispute until the dispute has been resolved.

2.5 Expenses. District must pre-approve in writing each reasonable and necessary expense for which Consultant intends to seek reimbursement, which expenses are directly related to the performance of the Services. If pre-approved, such expenses for reasonable and necessary travel, lodging, or miscellaneous expenses incurred in the performance of this Agreement will be reimbursed to Consultant in accordance with District’s general reimbursement policy. Consultant shall submit an Invoice of all incurred expenses accompanied by reasonable supporting documentation or transaction receipts. Invoices that fail to include reasonable supporting documentation or receipts will not be honored and District will have no obligation of any kind to reimburse Consultant for unsupported expenses listed on such Invoices.

2.6 Taxes. Any Taxes imposed by governing taxing authorities with respect to the Services will be the responsibility of Consultant. “**Taxes**” shall mean all taxes imposed with respect to the provision of the Services and associated amounts payable with respect to the Services, whether denominated as sales taxes, gross receipts taxes, transaction privilege taxes, use taxes, excise taxes, or otherwise.

**ARTICLE III**  
**WORK PRODUCT; CONFIDENTIAL INFORMATION**

3.1 Project Data. Consultant shall be exclusively responsible for obtaining from the appropriate sources, persons or third parties, all data and information necessary for the proper, timely and complete performance and satisfaction of the Services.

3.2 Work Product. Upon completion or other termination of this Agreement, Consultant shall provide to District, and such other consultants approved by District, all papers, maps, models, designs, calculations, surveys, reports, data, notes, computer files, documents, drawings and other work product (collectively "**Work Product**") developed from or associated with the Services. Upon completion of the Services, Consultant shall provide one reproducible physical copy and one electronic copy of all final Work Product described in the Proposal, in forms acceptable to District. Consultant acknowledges that all Services performed or Work Product prepared for District by Consultant hereunder, including without limitation all data, calculations, reports, models, working notes, drawings, designs, improvements, trademarks, patents, copyrights (whether or not registered or patentable), and specifications developed or prepared by Consultant in connection with or related to such Services or Work Product shall become the sole and exclusive property of District, unless specifically otherwise agreed upon in writing by District and Consultant. Consultant hereby unconditionally assigns, transfers and conveys to District all rights, interests and claims of any kind related thereto, including copyright. Consultant shall promptly disclose such Work Product to District and, at the District's expense, perform all actions reasonably requested by District (whether during or after the Term) to establish and confirm such ownership (including, without limitation, executing any necessary assignments, consents, powers of attorney, and other instruments). Notwithstanding the preceding, all pre-existing intellectual property owned by Consultant which is incorporated in or utilized to develop the Services performed or Work Product prepared for District hereunder shall remain the sole and exclusive property of Consultant; provided, however, that Consultant grants to District a non-exclusive, perpetual, fully transferable, worldwide, royalty-free, limited license to use such pre-existing intellectual property in connection with such Services or Work Product. Consultant shall not be held liable for reuse of Work Product or modifications thereof by District or its representatives for any purpose other than the original intent of this Agreement, without written authorization of Consultant.

3.3 Confidential Information. Consultant acknowledges that during the Term it may receive or have access to certain information, observations, and data (including without limitation trade secrets, designs, ideas, products, research, software, financial data, and personal information) concerning the business or affairs of District which is designated as confidential or proprietary or should reasonably be understood to be confidential given the nature of the information and the circumstances surrounding its disclosure ("**Confidential Information**"). All Confidential Information is, and shall remain, the property of District. Consultant shall: (a) use all Confidential Information solely for the purpose of providing the Services described in this Agreement; (b) hold all Confidential Information in strict confidence; (c) protect all Confidential Information from dissemination to, and unauthorized access or use by, any third party, using the same level of care and discretion that it uses with its own similar information, which in no case will be less than commercially reasonable care; (d) restrict access to all Confidential Information to such of its personnel, agents, and/or subconsultants, if any, who have a need to have access in order to provide

the Services and who are under obligations of confidentiality substantially similar to those in this Agreement; and (e) return or destroy all Confidential Information of the other Party in its possession upon termination or expiration of this Agreement and promptly confirm such return or destruction. Consultant shall not sell or make any unauthorized use of any Confidential Information.

#### **ARTICLE IV BOOKS AND RECORDS**

4.1 Books and Records. Consultant shall keep and preserve for no less than four (4) years after the date of final billing or termination of this Agreement, whichever shall first occur, accurate and detailed records of all ledgers, books of account, invoices, vouchers, cancelled checks, and other documents or records evidencing or relating to the Services and disbursements charged to District under this Agreement (collectively, “*Books and Records*”). All Books and Records shall be maintained in accordance with generally accepted accounting principles and must be sufficiently complete and detailed so as to permit an accurate evaluation of the Services provided by Consultant under this Agreement. District and its agents shall be given full access to such Books and Records during normal business hours. District and its agents shall have the right to make copies of any of the said Books and Records.

4.2 Work Product Documentation. Consultant further agrees to maintain all design calculations and final Work Product on file in legible and readily accessible form. In addition to the requirements of Section 3.2, Consultant shall make copies of such material available to District, at District’s sole cost and expense, and Consultant shall not destroy the originals of such materials and items, including any additions, amendments or modification thereto, unless District fails to object to such destruction upon Consultant providing District with sixty (60) days advance written notice, indicating that such material is scheduled to be destroyed.

#### **ARTICLE V INDEPENDENT CONTRACTOR**

5.1 Status. The Parties hereby acknowledge that in rendering the Services provided hereunder, Consultant shall be deemed to be an independent contractor and shall not be deemed in any way an agent, partner, or joint venturer of District. Consultant acknowledges and agrees that, as an independent contractor, it is solely responsible for the payment of any and all taxes and/or assessments imposed on account of payment to Consultant or the performance of Services by Consultant pursuant to this Agreement.

5.2 Agency Restrictions. Consultant understands and agrees that Consultant shall not represent itself to third parties to be the agent, employee, partner, or joint venturer of District. Furthermore, Consultant shall not make any statements on behalf of or otherwise purporting to bind the District in any contract or otherwise related agreement. Consultant further agrees and acknowledges that Consultant does not have the authority to and shall not sign any contract on behalf of District. Consultant shall not obligate District to do any other act that would bind District in any manner.

5.3 Further Assurances. Consultant shall furnish District with any documents or records that District reasonably believes necessary to properly and timely carry out the Services. District shall first tender written notice to Consultant regarding any documents or records that it reasonably believes necessary to properly carry out the Services. Consultant shall then have ten (10) days from the receipt of such notice to provide District with the requested documents or records.

## **ARTICLE VI TERMINATION**

6.1 Termination. At any time during the Term of this Agreement, District may terminate this Agreement, in whole or in part, with or without cause, upon ten (10) working days' written notice to Consultant. Upon receipt of the termination notice, Consultant shall promptly discontinue Services except to the extent the notice otherwise directs. In the event District renders such written termination notice to Consultant, Consultant shall be entitled to compensation for all Services properly rendered prior to the effective date of the notice and all further Services set forth in the notice. District shall be entitled to reimbursement for any compensation paid in excess of Services properly rendered and shall be entitled to withhold compensation for defective Services or other damages caused by Consultant's work. Consultant acknowledges District's right to terminate this Agreement as provided in this Article VI, and hereby waives any and all claims for damages that might arise from District's termination of this Agreement. Consultant shall deliver to District and transfer title (if necessary) to all completed Work Product. District shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed Services, and shall not be entitled to damages or compensation for termination of Services.

## **ARTICLE VII CALIFORNIA LABOR CODE PROVISIONS FOR PUBLIC WORKS PROJECTS**

7.1 Prevailing Wage Rates. Consultant is aware of the requirements of California Labor Code sections 1720 *et seq.* and 1770 *et seq.* (collectively, "**Prevailing Wage Laws**"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws, if applicable. Consultant shall indemnify, defend, and hold harmless District and its directors, officers, employees, and agents from any claims, liabilities, costs, fines, penalties, or interest arising out of any failure or alleged failure of Consultant or its subconsultants to comply with the Prevailing Wage Laws. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, including without limitation prevailing wages, employment of apprentices, hours of labor, and debarment of contractors and subcontractors.

7.2 Registration. If the Services are being performed as part of an applicable “public works” or “maintenance” project, in addition to the foregoing, then pursuant to California Labor Code sections 1725.5 and 1771.1, Consultant and all subconsultants must be registered with the Department of Industrial Relations (“**DIR**”). Consultant shall maintain registration for the duration of this Agreement and require the same of any of its subconsultants. This Agreement may also be subject to compliance monitoring and enforcement by the DIR. Consultant shall have sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll records directly to the DIR.

7.3 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of California Labor Code section 3700, which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and Consultant agrees to comply with such provisions before commencing the performance of any Services.

## **ARTICLE VIII PROJECT MANAGEMENT**

8.1 Consultant’s Representative. Steven Stuart (“**Consultant’s Representative**”) is hereby designated as the principal and representative of Consultant authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection herewith. Consultant shall not substitute Consultant’s Representative without first notifying District in writing of Consultant’s intent. District shall have the right to review the qualifications of said substitute. If District determines said substitute Consultant’s Representative is unacceptable, Consultant shall submit alternate candidates until District determines the substitute Consultant Representative is acceptable.

8.2 District’s Representative. Michael Plinski (“**District’s Representative**”) is hereby designated to represent District and except as otherwise provided herein authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection therewith. District may substitute District’s Representative at any time upon written notice to Consultant.

## **ARTICLE IX INDEMNIFICATION; LIMITATION OF LIABILITY**

9.1 Indemnification. Consultant shall indemnify, defend, and hold harmless District and District’s directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns from and against any and all claims, demands, losses, costs, expenses, obligations, liabilities, damages, judgments, fines, penalties, and deficiencies, including attorneys’ fees (collectively, “**Claims**”), arising out of or related to any acts or omissions, or goods, products, or services made, furnished, or otherwise provided, or alleged to be made, furnished, or otherwise provided, by Consultant or Consultant’s employees, representatives, agents, subconsultants, contractors, subcontractors, suppliers, successors, permitted assigns, or anyone acting on behalf of Consultant in connection with the performance of the Services. Consultant’s indemnification responsibility with respect to the Services shall exist and continue regardless of

the extent to which District may have reviewed and approved the Services performed by Consultant, except that Consultant shall not be responsible for any Claim attributable to the Services to the extent such Claim is attributable to a decision made by District with respect to which Consultant and District have specifically agreed in writing that District shall be the responsible party. Consultant's indemnification obligations shall not be affected by any insurance provisions or limitations of liability contained in this Agreement. Consultant's indemnification obligations shall continue in full force and effect notwithstanding the completion, expiration, or other termination of this Agreement.

9.2 Limitation of Liability. DISTRICT'S CUMULATIVE AGGREGATE LIABILITY IN CONNECTION WITH THIS AGREEMENT, WHETHER ARISING UNDER CONTRACT OR BASED UPON A CLAIM OF STRICT LIABILITY, NEGLIGENCE, OR ANY OTHER TORT OR STATUTORY BASIS, SHALL BE LIMITED TO THE TOTAL PAYMENTS MADE BY DISTRICT TO CONSULTANT HEREUNDER DURING THE 12-MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT UPON WHICH LIABILITY IS PREDICATED. IN NO EVENT WILL DISTRICT OR ANY OF ITS DIRECTORS, OFFICERS, EMPLOYEES, REPRESENTATIVES, AGENTS, OR AFFILIATES BE LIABLE FOR LOST PROFITS, LOST BUSINESS OPPORTUNITIES, LOST REVENUES, OR FOR EXEMPLARY, PUNITIVE, SPECIAL, INCIDENTAL, DELAY, INDIRECT, OR CONSEQUENTIAL DAMAGES OR THE LIKE, EACH OF WHICH IS HEREBY EXCLUDED BY AGREEMENT OF THE PARTIES REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE OR WHETHER DISTRICT HAS BEEN ADVISED OF THE POSSIBILITY THEREOF. THE PARTIES EACH ACKNOWLEDGE THAT THE FORGOING LIMITATION OF LIABILITY IS A MATERIAL CONDITION OF DISTRICT'S WILLINGNESS TO ENTER INTO THIS AGREEMENT, AND THAT DISTRICT WOULD NOT ENTER INTO THIS AGREEMENT BUT FOR SUCH LIMITATION.

## **ARTICLE X INSURANCE**

10.1 Insurance. Consultant shall provide, pay for, and maintain in force at all times during the performance of the Services hereunder, the policies of insurance set forth below. Consultant shall provide original certificates of insurance and endorsements evidencing coverage on forms reasonably acceptable to District prior to commencing any Services under this Agreement and promptly upon request thereafter. The existence of the required insurance coverage under this Agreement shall not be deemed to satisfy, substitute for, or otherwise limit Consultant's indemnification obligations under this Agreement. Consultant acknowledges that the insurance coverage and the policy limits set forth in this Agreement constitute the minimum coverage and policy limits required.

(a) Commercial General Liability Insurance covering liabilities for death and personal injury, liabilities for loss of or damage to property, and contractual indemnity obligations with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 in the aggregate.



(b) Automobile Liability Insurance for bodily injury or death and property damage, including coverage for owned, non-owned, leased, and hired auto, with a minimum \$1,000,000 per person and \$2,000,000 per occurrence.

(c) Workers' Compensation Insurance as required by applicable law.

(d) Employers' Liability Insurance with limits of at least \$1,000,000 per occurrence.

(e) Professional Liability Insurance/Errors and Omissions Liability Insurance appropriate to Consultant's profession, with limits of liability of not less than \$2,000,000 each claim/annual aggregate.

10.2 Policy Requirements. All insurance policies required pursuant to this Agreement shall:

(a) For all liability policies, include an additional insured endorsement at least as broad as ISO CG 2010 07 04 and consistent therewith naming as additional insureds "San Bernardino Valley Municipal Water District and its directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns".

(b) Be on an "occurrence" basis, not a "claims-made" basis. The foregoing policies must contain an aggregate limit not less than the occurrence limit. The required limits may be satisfied by a combination of a primary policy and an excess or umbrella policy.

(c) Be primary and non-contributory with any insurance programs carried by or available to District.

(d) Waive all rights of subrogation and contribution against District and its insurers.

(e) Provide that coverage shall not be revised, cancelled or reduced until at least thirty (30) days' written notice of such revision, cancellation or reduction shall have been given to District. In the event any policies of insurance are revised, cancelled or reduced, Consultant shall prior to the revision, reduction or cancellation date, submit evidence of new insurance to District complying with this Agreement.

(f) Be issued by insurance companies which are qualified to do business in the State of California and which have a current rating of A-VIII or better in Best's Insurance Report.

10.3 Subconsultant Insurance. In the event Consultant subcontracts any portion of its performance, the agreement between Consultant and the subconsultant shall require the subconsultant to carry the same policies of insurance that Consultant is required to maintain pursuant to this Agreement.

**ARTICLE XI  
REPRESENTATIONS AND WARRANTIES**

11.1 Representations and Warranties. Each Party represents and warrants the following:

(a) Such Party is duly organized, validly existing, and in good standing under the laws of its state of formation or incorporation and has all requisite power and authority to conduct the business with which it conducts and proposes to conduct.

(b) All action on the part of such Party necessary for the authorization, execution, delivery, and performance of this Agreement, and the consummation of the transactions contemplated herein, has been properly taken and obtained in compliance with applicable law.

(c) Such Party has not entered into nor will either enter into any agreement (whether written or oral) in conflict with this Agreement or which would prevent such Party from performing its obligations under this Agreement.

(d) Such Party has the contacts and expertise, and will reasonably allocate its financial and time resources on a best efforts basis to enable it to perform its obligations hereunder.

**ARTICLE XII  
MISCELLANEOUS**

12.1 Entire Agreement. This Agreement contains the entire understanding between the Parties, and supersedes any prior understanding and/or written or oral agreements between them, respecting the subject matter of this Agreement. There are no representations, agreements, arrangements, or understandings, oral or written, by and between the Parties relating to the subject matter of this Agreement that are not fully expressed herein.

12.2 Assignment. Consultant may not assign its rights and obligations hereunder, in part or in whole, without the prior written consent of District, which consent may be granted or withheld in District's sole discretion.

12.3 Succession. This Agreement shall be binding upon and inure to the benefit of the Parties named herein and their respective successors and permitted assigns.

12.4 No Third-Party Beneficiaries. This Agreement shall not confer any rights or remedies upon any person or entity other than the Parties and their respective successors and permitted assigns.

12.5 Headings. The section headings contained in this Agreement are inserted for convenience only and shall not affect in any way the meaning or interpretation of this Agreement.

12.6 Notices. Any notice to be given or to be served upon either Party hereto in connection with this Agreement must be in writing and shall be deemed to have been given and received: (a) when personally delivered; (b) two (2) days after it is sent by Federal Express or similar overnight courier, postage prepaid and addressed to the Party for whom it is intended, at

that Party's address specified below; (c) three (3) days after it is sent by certified or registered United States mail, return receipt requested, postage prepaid and addressed to the Party for whom it is intended, at that Party's address specified below; or (d) as of the date of electronic mail transmission addressed to the Party for whom it is intended, at that Party's electronic mail address specified below, and provided that an original of such notice is also sent to the intended addressee by means described in clauses (a), (b), or (c) within two (2) business days after such transmission. Either Party may change the place for the giving of notice to it by thirty (30) days prior written notice to the other Party as provided herein.

If to District: San Bernardino Valley Municipal Water District  
Attn: Michael Plinski  
380 East Vanderbilt Way  
San Bernardino, CA 92408  
Telephone: (909) 387-9253  
E-Mail: michaelp@sbsvmwd.com

If to Consultant: Dudek  
Attn: Steven Stuart  
605 Third Street  
Encinitas, CA 92024  
Telephone: (760) 479-4128  
E-Mail: sstuart@dudek.com

12.7 Governing Law; Venue. This Agreement shall be governed by and interpreted in accordance with the laws of the State of California, excluding any choice of law provision that would apply the laws of any other jurisdiction. The Superior Court of the State of California in and for San Bernardino County shall have exclusive jurisdiction to adjudicate any dispute arising out of or relating to this Agreement. Each Party hereby consents to the jurisdiction of such court and waives any right it may otherwise have to challenge the appropriateness of such forum, whether on the basis of the doctrine of forum *non conveniens* or otherwise.

12.8 Waivers. No waiver by any Party of any default, misrepresentation, or breach of warranty or covenant hereunder, whether intentional or not, shall be deemed to extend to any prior or subsequent default, misrepresentation, or breach of warranty or covenant hereunder or affect in any way any rights arising by virtue of any prior or subsequent occurrence.

12.9 Amendment. Except as expressly provided otherwise herein, this Agreement may not be modified, altered, or changed in any manner whatsoever except by a written instrument duly executed by authorized representatives of both Parties.

12.10 Severability. If any provision of this Agreement shall be deemed or held to be invalid or unenforceable for any reason, such provision shall be adjusted, if possible, rather than voided, so as to achieve the intent of the Parties to the fullest extent possible. In any event, such provision shall be severable from, and shall not be construed to have any effect on, the remaining provisions of this Agreement, which shall continue in full force and effect.

12.11 Time of the Essence. Time is of the essence in the performance of each and every provision or obligation of this Agreement as to which time is an element.

12.12 Release of Information and Advertising. Consultant shall not, without the prior written consent of District, make any news release or other public disclosure regarding this Agreement.

12.13 Construction. The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Any reference to any federal, state, local, or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. The word “including” shall mean including without limitation.

12.14 Attorneys’ Fees. If any legal action is necessary to enforce or interpret the terms of this Agreement, the prevailing Party shall be entitled to reasonable attorneys’ fees, reasonable expert witness fees, costs, and necessary disbursements in addition to any other relief to which that Party may be entitled.

12.15 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Signatures may be delivered electronically or by facsimile and shall be binding upon the Parties as if they were originals.

***[Signature Page Follows]***

IN WITNESS WHEREOF, the Parties hereby execute this Agreement as of the Effective Date.

**DISTRICT:**

**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**

By: \_\_\_\_\_

Name: Heather P. Dyer

Its: CEO/General Manager

**CONSULTANT:**

**Dudek**

By: \_\_\_\_\_

Name: Joseph Monaco

Its: President

**EXHIBIT “A”**

*Proposal to Provide Support Services to the Yucaipa Groundwater Sustainability Agency*

April 9, 2024

Yucaipa Groundwater Sustainability Agency  
c/o San Bernardino Valley Municipal Water District  
380 East Vanderbilt Way  
San Bernardino, California 92408

Subject: Proposal to Provide Support Services to the Yucaipa Groundwater Sustainability Agency - May 2024 to April 2025

Dear Yucaipa GSA Member Agencies:

Dudek is pleased to present this scope of work and fee to the Yucaipa Groundwater Sustainability Agency (Yucaipa GSA) to provide services from May 1, 2024 to April 30, 2025 in support of the implementation of the Yucaipa Groundwater Sustainability Plan that was adopted by the Yucaipa GSA on January 26, 2022 and subsequently approved by the California Department of Water Resources (DWR) on January 18, 2024. In summary, Dudek’s services will include providing quality assurance of data collected in the field, updating and maintaining the Data Management System, preparing for and participating in GSA meetings, assisting the GSA in developing and conducting an outreach program to engage with private well users in the Plan Area, and develop a plan to address the nine (9) recommended corrective actions provided by DWR in their January 18, 2024 letter to the Yucaipa GSA approving the GSP.

The following scope of work and fee details the tasks Dudek will undertake to support the Yucaipa GSA in the implementation of the Yucaipa GSP.

## 1 Scope of Work

### Task 1 Quality Assurance of Data

Dudek will collect, compile and review for quality assurance all data collected by the GSA member agencies and participating stakeholders in the Plan Area. The data includes, but is not limited to, static groundwater elevation measurements, monthly pumping data from active wells, monthly accounting of State Water Project (SWP) water imported into the Plan Area, groundwater quality sampling and reporting, precipitation data obtained from climatic stations maintained by the San Bernardino County Flood Control District (SBCFCD) and National Oceanic and Atmospheric Agency, and stream flow data collected at SBCFCD stations. The data collected will be evaluated against the monitoring and reporting protocols included in the GSP. Data that meets these protocols will be uploaded to the DMS and made available for the GSA member agencies to view and access.

*Fee for Task 1.....* \$6,470

## Task 2 Update and Maintain Data Management System

Data approved under Task 1, Quality Assurance, will be uploaded to the DMS. The data will be formatted, compiled and organized per the current layout design in the GIS-based system. Dudek will also provide services in maintaining and managing the DMS and will provide support to the GSA member agencies in accessing the DMS and navigating through the database.

*Fee for Task 2..... \$4,890*

## Task 3 Participate in GSA Meetings

Dudek will prepare for and participate in quarterly GSA meetings scheduled for July and October 2024 and the quarterly meetings scheduled for January and April 2025. If Dudek’s participation in any additional meetings is requested by the Yucaipa GSA, then Dudek will submit a change order to the GSA that includes labor hours to prepare for and participate in the requested meeting(s).

*Fee for Task 3.....\$15,000*

## Task 4 Outreach to Private Well Users

Dudek will assist the GSA in developing an outreach program to engage with private well users in the Plan Area. Dudek anticipates completing a letter introducing the GSA and explaining the purpose for reaching out to the owner, a well owner’s questionnaire, and supporting documentation. Information of interest includes the use of an existing well for domestic and/or agricultural purposes, construction and operation details of the well, and if it is possible to measure a depth-to-water in the well. Each private well owner will be asked to become a participant in the implementation and monitoring program of the GSP.

*Fee for Task 4..... \$3,000*

## Task 5 Develop Plan to Address Recommended Corrective Actions to GSP

DWR acknowledged that implementation of the GSP will most likely achieve the sustainability goal for the Yucaipa Subbasin. DWR did identify additional recommended corrective actions to improve the GSP and noted that these should be considered by the GSA for the first periodic assessment of the GSP. The first periodic assessment is due to DWR by January 27, 2027. Dudek will develop a plan for addressing the nine (9) recommended corrective actions provided by DWR in their January 18, 2024 approval letter of the Yucaipa Subbasin GSP. The plan will identify each recommended corrective action and summarize the actions that the GSA may implement to address them.

*Fee for Task 1.5..... \$6,000*

### Deliverables

- Plan to address the nine recommended corrective actions for the GSP by DWR



## Schedule

The following schedule outlines the anticipated meetings and deliverables:

- **June 28, 2024** – Plan to Address DWR’s Recommended Corrective Actions for the GSP
- **July 24, 2024** – GSA Board Meeting
- **October 23, 2024** – GSA Board Meeting
- **January 22, 2025** – GSA Board Meeting
- **April 23, 2025** – GSA Board Meeting

## Fee Summary

The fee presented in this proposal will be charged on a time and materials basis in accordance with Dudek’s 2024 Standard Schedule of Charges. The time and materials fee provided in this proposal represents an estimate of the anticipated level of effort required to complete the tasks described in the proposal. Should the actual effort required to complete the tasks be less than anticipated, the amount billed will be less than the total fee. Conversely, should the actual effort to complete the proposed tasks be greater than anticipated, additional fee authorizations will be requested. No work in excess of the proposed fee or outside of the proposed scope of work will be performed without written authorization from the Yucaipa GSA.

**TOTAL FEE.....\$35,360**

Dudek appreciates the opportunity to present this proposal to provide support services following the implementation of the GSP. We look forward to continuing our working relationship with the Yucaipa GSA.

If you have any questions regarding this proposal, please call me at 760-415-9079 or email me at [sstuart@dudek.com](mailto:sstuart@dudek.com).

Sincerely,



---

Steven Stuart, PE C79764  
Principal Hydrogeologist, Project Manager

Att.: *Table 1. Fee for Dudek Support Services*  
*Dudek 2024 Standard Schedule of Charges*  
cc: *Adekunle Ojo, San Bernardino Valley Municipal Water District*

---

# Attachment A

Table 1. Fee for the 2024-2025 Support Services for the  
Yucaipa GSA  
Dudek 2024 Standard Schedule of Charges

TABLE I. FEE FOR SUPPORT SERVICES FOR YUCAIPA GSA  
MAY 2024 - APRIL 2025

		<i>Team Member:</i>	Steven Stuart, PE	Matt Palavido	Sharllyn Pimentel	TOTAL HOURS	LABOR COST	TOTAL
		<i>Project Team Role:</i>	Project Manager	DMS Manager	Hydrogeologist			
		<i>Labor Class:</i>	Principal Hydrogeologist II	Sr. Specialist I	Hydrogeologist II			
		<i>Billable Rate :</i>	\$300	\$195	\$185			
<b>Task 1 - Quality Assurance</b>								
1-1	Quality Assurance of Data	8		22	30	\$ 6,470	\$ 6,470	
	<b>Subtotal Task 1</b>	<b>8</b>		<b>22</b>	<b>30</b>	<b>\$ 6,470</b>	<b>\$ 6,470</b>	
<b>Task 2 - Maintain Data Management System</b>								
2-1	Update and Maintain DMS	2	22		24	\$ 4,890	\$ 4,890	
	<b>Subtotal Task 2</b>	<b>2</b>	<b>22</b>		<b>24</b>	<b>\$ 4,890</b>	<b>\$ 4,890</b>	
<b>Task 3 - Participate in GSA Meetings</b>								
3-1	Prepare for and Participate in Quarterly Meetings	50			50	\$ 15,000	\$ 15,000	
	<b>Subtotal Task 3</b>	<b>50</b>			<b>50</b>	<b>\$ 15,000</b>	<b>\$ 15,000</b>	
<b>Task 4 - Outreach to Private Well Users</b>								
4-1	Assist with Outreach to Private Well Users	10			10	\$ 3,000	\$ 3,000	
	<b>Subtotal Task 4</b>	<b>10</b>			<b>10</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	
<b>Task 5 - Develop Plan for Addressing Recommended Corrective Actions</b>								
5-1	Develop Plan for Addressing Recommended Corrective Actions	20			20	\$ 6,000	\$ 6,000	
	<b>Subtotal Task 5</b>	<b>20</b>			<b>20</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>	
<b>Total Hours and Fee</b>		<b>90</b>	<b>22</b>	<b>22</b>	<b>134</b>	<b>\$35,360.00</b>	<b>\$35,360.00</b>	

## DUDEK 2024 Standard Schedule of Charges

### Engineering Services

Project Director.....	\$335.00/hr
Principal Engineer III.....	\$310.00/hr
Principal Engineer II.....	\$290.00/hr
Principal Engineer I.....	\$280.00/hr
Program Manager.....	\$265.00/hr
Senior Project Manager.....	\$265.00/hr
Project Manager.....	\$255.00/hr
Senior Engineer III.....	\$250.00/hr
Senior Engineer II.....	\$240.00/hr
Senior Engineer I.....	\$230.00/hr
Project Engineer IV/Technician IV.....	\$220.00/hr
Project Engineer III/Technician III.....	\$210.00/hr
Project Engineer II/Technician II.....	\$200.00/hr
Project Engineer I/Technician I.....	\$180.00/hr
3D Production Manager.....	\$210.00/hr
Senior Designer II.....	\$200.00/hr
Senior Designer I.....	\$195.00/hr
Designer.....	\$185.00/hr
Assistant Designer.....	\$180.00/hr
CADD Operator III.....	\$175.00/hr
CADD Operator II.....	\$165.00/hr
CADD Operator I.....	\$145.00/hr
CADD Drafter.....	\$135.00/hr
CADD Technician.....	\$120.00/hr
Project Coordinator.....	\$155.00/hr
Engineering Assistant.....	\$125.00/hr

### Environmental Services

Senior Project Director.....	\$330.00/hr
Project Director.....	\$285.00/hr
Senior Specialist V.....	\$260.00/hr
Senior Specialist IV.....	\$245.00/hr
Senior Specialist III.....	\$235.00/hr
Senior Specialist II.....	\$225.00/hr
Senior Specialist I.....	\$210.00/hr
Specialist V.....	\$195.00/hr
Specialist IV.....	\$185.00/hr
Specialist III.....	\$175.00/hr
Specialist II.....	\$165.00/hr
Specialist I.....	\$155.00/hr
Analyst V.....	\$145.00/hr
Analyst IV.....	\$135.00/hr
Analyst III.....	\$125.00/hr
Analyst II.....	\$115.00/hr
Analyst I.....	\$105.00/hr
Technician III.....	\$90.00/hr
Technician II.....	\$80.00/hr
Technician I.....	\$70.00/hr

### Mapping and Surveying Services

Application Developer II.....	\$220.00/hr
Application Developer I.....	\$155.00/hr
GIS Analyst V.....	\$205.00/hr
GIS Analyst IV.....	\$170.00/hr
GIS Analyst III.....	\$150.00/hr
GIS Analyst II.....	\$135.00/hr
GIS Analyst I.....	\$125.00/hr
UAS Pilot.....	\$145.00/hr
Survey Lead.....	\$235.00/hr
Survey Manager.....	\$210.00/hr
Survey Crew Chief.....	\$165.00/hr
Survey Rod Person.....	\$120.00/hr
Survey Mapping Technician.....	\$95.00/hr

### Construction Management Services

Principal/Manager.....	\$195.00/hr
Senior Construction Manager.....	\$185.00/hr
Senior Project Manager.....	\$180.00/hr
Construction Manager.....	\$175.00/hr
Project Manager.....	\$170.00/hr
Resident Engineer.....	\$175.00/hr
Construction Engineer.....	\$170.00/hr
On-site Owner's Representative.....	\$160.00/hr
Prevailing Wage Inspector.....	\$155.00/hr
Construction Inspector.....	\$145.00/hr
Administrator/Labor Compliance.....	\$120.00/hr

### Hydrogeology/HazWaste Services

Project Director.....	\$335.00/hr
Principal Hydrogeologist/Engineer III.....	\$310.00/hr
Principal Hydrogeologist/Engineer II.....	\$300.00/hr
Principal Hydrogeologist/Engineer I.....	\$290.00/hr
Senior Hydrogeologist V/Engineer V.....	\$265.00/hr
Senior Hydrogeologist IV/Engineer IV.....	\$255.00/hr
Senior Hydrogeologist III/Engineer III.....	\$245.00/hr
Senior Hydrogeologist II/Engineer II.....	\$235.00/hr
Senior Hydrogeologist I/Engineer I.....	\$225.00/hr
Project Hydrogeologist V/Engineer V.....	\$215.00/hr
Project Hydrogeologist IV/Engineer IV.....	\$205.00/hr
Project Hydrogeologist III/Engineer III.....	\$195.00/hr
Project Hydrogeologist II/Engineer II.....	\$185.00/hr
Project Hydrogeologist I/Engineer I.....	\$175.00/hr
Hydrogeologist/Engineering Assistant.....	\$140.00/hr
HazMat Field Technician.....	\$125.00/hr

### District Management & Operations

District General Manager.....	\$230.00/hr
District Engineer.....	\$215.00/hr
Operations Manager.....	\$165.00/hr
District Secretary/Accountant.....	\$145.00/hr
Collections System Manager.....	\$145.00/hr
Grade V Operator.....	\$135.00/hr
Grade IV Operator.....	\$115.00/hr
Grade III Operator.....	\$110.00/hr
Grade II Operator.....	\$90.00/hr
Grade I Operator.....	\$80.00/hr
Operator in Training.....	\$75.00/hr
Collection Maintenance Worker.....	\$80.00/hr

### Creative Services

Creative Services IV.....	\$175.00/hr
Creative Services III.....	\$150.00/hr
Creative Services II.....	\$140.00/hr
Creative Services I.....	\$125.00/hr

### Publications Services

Technical Editor IV.....	\$175.00/hr
Technical Editor III.....	\$150.00/hr
Technical Editor II.....	\$140.00/hr
Technical Editor I.....	\$125.00/hr
Publications Specialist IV.....	\$130.00/hr
Publications Specialist III.....	\$115.00/hr
Publications Specialist II.....	\$110.00/hr
Publications Specialist I.....	\$100.00/hr
Clerical Administration.....	\$90.00/hr

**Expert Witness** – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.

**Emergency and Holidays** – Minimum charge of two hours will be billed at 1.75 times the normal rate.

**Material and Outside Services** – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.

**Travel Expenses** – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost.

**Invoices, Late Charges** – All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within 30 days from the date of the invoice. Client agrees to pay interest at a 10% annual rate for amounts unpaid greater than 30 days after the date of the invoice.

**Annual Increases** – Unless identified otherwise, these standard rates will increase in line with the CPI-U for the nearest urban area per the Department of Labor Statistics to where the work is being completed) or by 3% annually, whichever is higher.

**Prevailing Wage** – The rates listed above assume prevailing wage rates do not apply. If this assumption is incorrect Dudek reserves the right to adjust its rates accordingly.

**DATE:** May 14, 2024

**TO:** Board of Directors' Workshop – Resources/Engineering

**FROM:** Wen Huang, Assistant General Manager/Chief Operating Officer  
Greg Woodside, Chief of Planning and Watershed Resilience  
Adekunle Ojo, Manager of Water Resources

**SUBJECT:** Draft Climate Adaptation and Resilience Plan (CARP)

---

**Staff Recommendation**

Receive Draft Climate Adaptation and Resilience Plan (CARP) document and staff overview presentation. Staff requests the Board provide feedback and/or comments on the contents of this draft by May 21, 2024, for discussion and consideration by the Board at the June 6<sup>th</sup> meeting.

**Summary**

One of the strategies within the San Bernardino Valley Strategic Plan is to achieve climate resilience through prioritized adaptation and mitigation. The development of the Climate Adaptation and Resilience Plan started in late 2021, providing a comprehensive planning framework for the District to identify and prioritize adaptation and mitigation measures that would protect our water resources, assets, investments, and provide overall resistance and resilience to conditions influenced by climate change such as extreme heat, cold, hydrologic cycles, wildlife and more. The Board of Directors established the Climate Resilience Committee (CRC) comprised of Director Hayes and Director Longville to engage with staff and the District's consultant Rincon; the Committee has since met nine (9) times to guide the CARP development process on behalf of the full Board.

At the March 7, 2024, Board of Directors' Workshop – Policy/Administration, staff provided a CARP development update; one of the highlights was that the draft would be reviewed by the Climate Resilience Committee in April prior to its Board review in May. The review by the Committee was completed and subsequently on May 6, 2024, the Draft CARP was posted on the District's [website](#) and sent electronically to stakeholders who participated in the CARP development to provide a longer review and comment window than is typical for agenda items for meetings of the Board of Directors. After the comment period closes on May 21, the project team will review the feedback and work with Rincon to prepare a revised and formatted draft in a graphic software that will be

used for the final document. This revised draft will be available for discussion at the June 6<sup>th</sup> Policy/Administration workshop and a final plan is anticipated to be ready for Board consideration for adoption at the regular Board meeting on June 18<sup>th</sup>.

The adoption of the CARP will provide the Board and the District with a collection of tools and options intended to guide current and future decisions, investments, and improvements in all aspects of our work in order to deliver our mission in a changed climate.

### **Background**

On September 21, 2021, the San Bernardino Valley Board of Directors approved a professional services agreement with Rincon Consultants, Inc. for the development of a CARP; in addition to Rincon, the consulting team included BluePoint Planning for stakeholder engagement and RAND for climate modeling. The first stage of the project included preparing a Communications Plan, conducting stakeholder interviews, and listening sessions, and preparing a Vulnerability Assessment and a Greenhouse Gas Inventory & Forecast; this stage was largely completed by the summer of 2022. The next stage of developing climate adaptation and resilience strategies started in the fall of 2022 and the process has included several small group discussions with stakeholders, and two (2) virtual community workshops in addition to several department/staff sessions and meetings of the Climate Resilience Committee. The project is in the final stages of review by the public and Board prior to adoption by the Board, which is tentatively scheduled for June 2024.

Below is the timeline of meetings culminating in the adoption:

- **April 8, 2024:** The Draft CARP was reviewed by the Climate Resilience Committee.
- **May 6, 2024:** Revised Draft CARP including the Climate Resilience Committee's feedback is released for public review; comments due by May 21.
- **May 14, 2024:** Revised Draft CARP formally presented to the full Board in a workshop; public and Board comments will be compiled before the June 6<sup>th</sup> Policy/Administration Board Workshop for discussion.
- **June 6, 2024:** Formatted/graphic version of the Draft CARP, including public and Board feedback received, will be presented for consideration. Potential changes to the draft based on feedback received by May 21<sup>st</sup> will be highlighted for discussion, as desired by the Board.
- **June 18, 2024:** Final version CARP incorporating decisions made during June 6<sup>th</sup> workshop will be presented at the June 18<sup>th</sup> regular Board meeting for consideration and potential adoption.

**District Strategic Plan Application**

This item is consistent with being a trusted partner and working collaboratively to provide a reliable, resilient, and sustainable water supply to the region's people and environment. This item implements the strategy identified in the Strategic Plan to 'Achieve climate resilience through prioritized adaptation and mitigation.'

**Fiscal Impact**

None

**Attachment**

Draft Climate Adaptation and Resilience Plan

# Draft Climate Adaptation and Resilience Plan

May 2024



## Prepared by:

San Bernardino Valley Municipal Water District  
380 East Vanderbilt Way  
San Bernardino, California 92408

## Prepared in Collaboration with:



**RINCON CONSULTANTS, INC.**  
Environmental Scientists | Planners | Engineers





# **Note from the Board of Directors**

[Draft Statement Pending Board's Review]

# Forward from the CEO/General Manager

Since 1954, San Bernardino Valley has been working towards a resilient water supply and has evolved into a holistic watershed agency working collaboratively with a multitude of partners on water and ecosystem solutions for the region's people and environment. Much like the natural systems of our service area, the agencies and the people within our watershed are integrally connected and we all contribute to solutions that will support a sustainable future for our people and our shared environment.

Climate change is altering climatic patterns in our service area and California. Changes in temperature, precipitation, and other climatic changes challenge San Bernardino Valley operations in numerous ways. Water supply reliability will be impacted by changes to local and imported water supplies. Extreme heat and precipitation events are likely to increase in frequency. Our service area may also experience more frequent and severe droughts, increased risk of catastrophic wildfire in our headwaters, and increased threats to water quality. California's snowpack, a source of our imported water supply, is expected to decline or swing dramatically as a result of climate change. Increasing storm intensity will complicate flood protection and stormwater capture efforts. Local ecosystems and habitat investments may degrade in response to more intense droughts, drier and compacted soils, warmer water, and other possible climate change impacts. This may threaten the success of our water resilience, watershed stewardship, and habitat conservation efforts.

This Climate Adaptation and Resilience Plan (Plan) is our adaptive guide to delivering our mission in a changing climate. The Plan provides goals and strategies for San Bernardino Valley to be resilient to climate change impacts, reduce greenhouse gas emissions, and adapt operations to climate change. The Plan also proposes an ongoing, adaptive implementation to mainstream climate change actions in all San Bernardino Valley's functions and operations. Specific actions identified in the Plan will be reviewed and approved by the San Bernardino Valley Board of Directors as part of the District's annual budget and future approval of District projects and programs.

## OUR *MISSION* IS TO...

Work **collaboratively** to provide a **reliable** and **sustainable** water supply to support the changing needs of our region's **people** and **environment**.

**San Bernardino Valley Municipal Water District** was formed in 1954 as a regional agency to sustain long-range water supply for the San Bernardino Valley's people and environment. SBVMWD's service area covers about 353 square miles in southwestern San Bernardino County with a population of about 710,000 (2020 Census). Its service area spans the eastern two-thirds of the San Bernardino Valley, the Crafton Hills, and a portion of the Yucaipa Valley and includes the cities and communities of San Bernardino, Colton, Loma Linda, Redlands, Rialto, Bloomington, Highland, Mentone, Grand Terrace, and Yucaipa. SBVMWD is a wholesale water supplier, delivering water directly or indirectly to 15 retail water agencies that provide water to end users and works collaboratively with neighboring wholesale suppliers on shared supplies, conveyance, and other regional solutions. Like many other water agencies in Southern California, SBVMWD's service area relies on imported water from the State Water Project (SWP) to supplement its local water supply, which is primarily groundwater. *In all, more than 1 million residents of the Greater Riverside-San Bernardino area depend on the water resources within the San Bernardino Valley for their water.*

# Table of Contents

## Executive Summary

- a. Rationale
- b. Key Climate Risks
- c. GHG Emissions Footprint
- d. Resilience Strategy
- e. Implementation
- f. CARP Structure

## Glossary of Terms

### 1. Introduction

- a. Rationale
- b. Purpose
- c. Methodology

### 2. Responsibilities

### 3. Climate Risks and Vulnerabilities

### 4. GHG Emissions Footprint

### 5. Goals, Measures, and Actions

### 6. Phasing and Implementation

## Figures

[TBD]

## Tables

[TBD]

## Appendices

A. Literature Review

B. Climate Vulnerability Assessment

C. GHG Emissions Technical Memorandum

# Executive Summary

## Rationale

Climate change is a global issue caused by the cumulative warming effects of greenhouse gas (GHG) emissions. Global temperatures have unequivocally risen in response to the increased levels of carbon dioxide and other GHGs in the atmosphere. Observations and research indicate that climate change has already made extreme events, including heat waves, drought, atmospheric river events, and wildfires, more likely, more intense, longer lasting, or larger in scale. Persistent drought conditions across the Western United States since 2000, coinciding with record warmth, have led to record low snowpack in the Sierras, causing severe water supply limitations statewide. In 2023, record to near-record precipitation occurred in many parts of California, highlighting the variability in weather patterns. Precipitation patterns are shifting as well, with more precipitation falling during severe events with longer dry spells between them. These shifts in climate and weather extremes can impact the natural resources, infrastructure, and operations of water providers throughout the state including San Bernardino Valler Water District (SBVMWD)

Recent local experiences with persistent drought conditions, extreme weather events, and weather whiplash have prompted SBVMWD to incorporate climate change considerations into plans and programs. Shifts in climate and weather extremes are leading the District to consider changes in the way water resources, operations, and water conservation activities are managed. SBVMWD has witnessed and responded to impactful climate extremes in recent years, including precipitation extremes, wildfire events and extreme heat. These events have underscored the need to develop a long-term water supply strategy to protect the water supply from a climate-changed future. In recognition of this global reality, SBVMWD is working to strengthen water reliability and proactively address existing and future climate change impacts by developing this Climate Adaptation and Resilience Plan (CARP) consistent with the Priorities laid out in its Strategic Plan. The overarching goal of the CARP is to better equip SBVMWD with the strategies it needs to proactively manage the effects of climate change. The CARP serves as a programmatic policy and strategy document for addressing the undesirable impacts of climate change on the District and will identify targeted policies, programs, and projects that will both mitigate the District's contribution to GHGs and increase the District's adaptive capacity. By defining specific climate goals, measures, and actions, SBVMWD will track progress towards increased resilience, measure the success of its strategies, and adjust these approaches as new information becomes available.

By evaluating the associated risks and impacts, SBVMWD, affiliated water agencies and partners can proactively prepare, maintain, and invest in a manner that prevents greater costs stemming from unforeseen climate-related impacts. Despite the potentially high initial investment costs, the economic benefits of the CARP to water users and the local economy are intended to outweigh the associated expenditures. In the absence of action, SBVMWD and affiliated agencies are likely to be pushed to consistently repair impacted infrastructure, risking potential service interruptions or resorting to purchasing water from more costly alternative sources. With proactive planning in place, SBVMWD can focus on maximizing local water resources, thereby increasing the region's flexibility to leverage available imported water supply for reliability and other investment opportunities such as conjunctive use and sale of surplus water. This approach reduces vulnerability to drought and regulatory restrictions that curtail water deliveries from the SWP, while concurrently investing infrastructural dollars within the local/regional economy. This strategy effectively prepares for, protects the integrity of, and maintains SBVMWD's mission of working collaboratively to provide a reliable and sustainable water supply to support the changing needs of the region's people and environment.

To support this rationale within the Board’s Investment Policy, the District’s Investment Advisor will apply the Socially Responsible Investment (“SRI”) Parameters excluding Fossil Fuel Industry/Subindustry Exclusions (1) Energy Services (2) Oil and Gas Producers (3) Refiners & Pipelines in future investments. If a previously purchased investment no longer satisfies the SRI Parameters set forth herein, the District may continue to hold that investment unless the District directs its Investment Advisor to sell that investment.

## Key Climate Risks

The SBVMWD service area and its imported water supplies are expected to experience a wide variety of climate change impacts by the end of the century.



Drought duration and intensity is expected to increase in the future, limiting supply, increasing water demand and straining local groundwater resources and ecosystems.



Extreme heat events are projected to become more prevalent, which will lead to more frequent regional power disruptions, increased wildfire risk, increased evapotranspiration and higher water demand, and degraded ecosystems.



Wildfire events are expected to become more likely in the coming decades, which will increase the risk of damaged infrastructure, operational disruptions, power outages, and damaged ecosystems, particularly in the upper Santa Ana River Watershed.



Extreme precipitation and flood events are projected to become more likely, which will increase landslide, soil erosion and mudflow, and liquefaction risk in certain locations.



Climate impacts to the SWP, including wildfire, reduced snowpack, sea-level rise, and increased temperatures, may disrupt SWP operations and infrastructure and will increase the variability and risk of imported water deliveries.



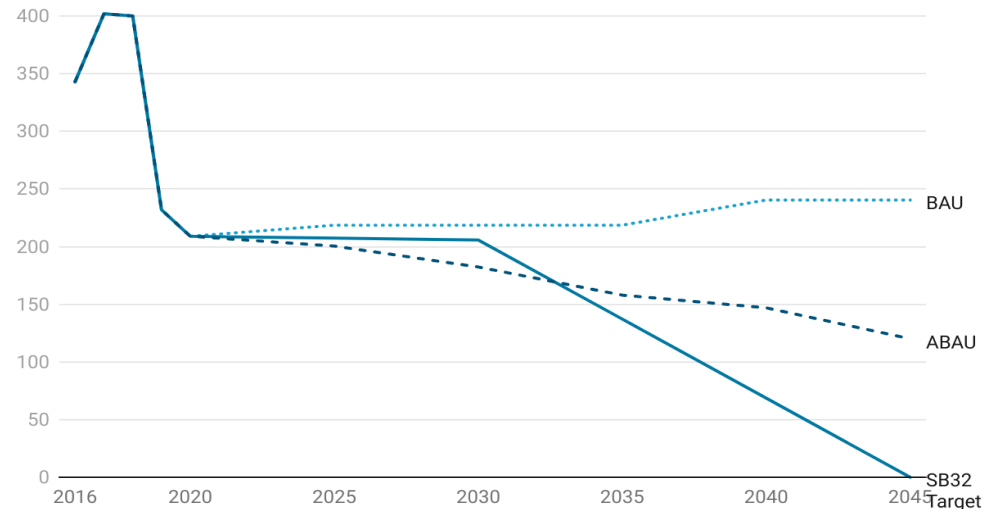
Landslides can be triggered by an increase in the number and severity of wildfire and heavy precipitation events that threatens assets and infrastructure situated on or near slopes, particularly at the hills and valley interface.

## GHG Emissions Footprint

California has legislation committing the state on a path to carbon neutrality by 2045. The 2006 California Global Warming Solutions Act (Assembly Bill 32) established a near-term target to return GHG emissions to 1990 levels by 2020. California surpassed this target 4 years early in 2016. California's next climate target is set to reduce emissions by 40 percent below 1990 levels by 2030. Water districts like SBVMWD play a fundamental role supporting state climate change resilience and mitigation goals, particularly by contributing to reducing local GHG emissions. California's water sector accounts for 10 percent of the state's GHG emissions, which is largely related to the energy required to move water across the state.<sup>1</sup> Water agencies account for approximately 5 percent of California's electricity consumption.<sup>2</sup> However, water utilities are positioned to reduce their emissions dramatically, through the identification of energy efficiency opportunities and conversion to carbon free energy sources.

SBVMWD's GHG emissions fluctuate year to year depending on the source of water and the extent of water demand and services provided. SBVMWD's emissions are primarily driven by electricity consumption at offices and pump stations. Other major sources of emissions include employee commute and the vehicle fleet. SBVMWD exercises direct control over its GHG emissions-generating activities. For example, SBVMWDM can exceed the state GHG reduction targets and make a major move towards neutrality simply by using 100% renewable power.

**Figure 1 SBVMWD GHG Emissions Forecast and Targets**



1 Hanak et al. 2018. California's Water: Energy and Water. <https://www.ppic.org/wp-content/uploads/californias-water-energy-and-water-november-2018.pdf>

2 Martinez-Morales et al., 2020. Water Sector Energy Efficiency Through an Integrated Energy Management System. California Energy Commission. <https://www.energy.ca.gov/sites/default/files/2021-05/CEC-500-2020-003.pdf>

## Resilience Strategy

SBVMWD's Strategic Plan recognizes that the long-term viability of the region's water supply must include the reduction of GHG emissions and adaptation to the impacts of climate change among other priorities. The CARPs strategy framework includes measures and actions that primarily support SBVMWD's adaptation and resilience strategic priorities, while also supporting other aspects of its strategic plan, including its core values. The CARP Framework is organized into four Guiding Principles (shown below) that support Strategy 1 (Achieve climate resilience through prioritized adaptation and mitigation) in the SBVMWD Strategic Plan. The CARP includes 37 measures, which it intends to implement in phases through 139 actions. Implementation of the CARP will be monitored and evaluated using Adaptive Capacity metrics which track the implementation of measures and actions, Performance metrics, which track the functional changes elicited by measures and actions, and Signpost metrics, which track the factors that influence future planning decisions that include setting performance targets. Together, the four Guiding Principles represent a holistic approach to increasing the District's resilience across its water sources, the ecosystems that its water resources rely on, its infrastructure and operations, and water use in the communities it serves.



**Maintain a Diverse Water Portfolio:** Diversity in the supply mix increases reliability and sustainability by minimizing overreliance on any one water source, and helping cope with increasing climatic extremes at the local or state scale. Measures supporting this guiding principle will result in increased recycled water production, stormwater capture, aquifer recharge and support hardening imported water infrastructure, piloting precipitation enhancement, and implementing adaptive planning and management.



**Protect the Water Portfolio:** Protecting the portfolio with sustainable management of existing supplies and natural resources will help maintain the District's investments and the benefits provided by our infrastructure and the natural environment thereby allowing SBVMWD to meet the needs of a changing and dynamic population of customers and the environment. Measures supporting this guiding principle will protect the water portfolio through conjunctive use planning, watershed conservation and restoration initiatives, sediment and water quality management, and strategic aquifer recharge.



**Improve Operational and Infrastructure Resilience:** Strategic investments in crucial operations and infrastructure create reliability and continuity of service in an uncertain climate future prone to disruptions and assist in long-term regulatory compliance. Measures that support this guiding principle will improve operational and infrastructure resilience by creating redundant systems where necessary, increasing onsite renewable and backup power, developing operational contingencies for weather extremes, exploring water transfer options, reducing GHG emissions, and incorporating resilient design criteria in capital improvement projects.



**Connect People to Water and Climate:** Community members and groups that understand and engage with the complex water system and changing climate make essential allies in sustainable water management and regional climate resilience. Measures that support this guiding principle seek to engage and further connect communities to the water and climate system by leading conservation campaigns and awareness programs, planning for equitable and sustainable growth, and supporting educational use of applicable District's facilities and resources.



## Implementation

To facilitate the effective implementation, SBVMD will implement CARP actions in four phases recognizing that flexibility is needed as conditions change and more information is collected about climate change and the efficacy of implemented actions:

**Phase 1** represents measures and activities that are complete, ongoing, or already approved.

**Phase 2** represents measures and activities that are planned to begin in FY24-25 through FY29-30.

**Phase 3** represents measures and activities that will take place between FY 30-31 and FY34-35.

**Phase 4** represents measures and activities that will take place between FY35 and FY45 to help SBVMWD achieve 2045 goals.

Phase 1 activities are generally those related to SBVMWD's water supply portfolio, as well as operational and infrastructure resilience. Phase 2 expands the focus on climate adaptation and mitigation to include efforts related to resilient design, reservoir operations and multi-benefit projects, and a greater expansion of measures that mitigate GHG emissions. Importantly, both watershed protection and community engagement measures span across both phases, with a nearer-term focus on wildfire abatement and management, water quality management, water demand management and community education around climate risk. Phase 3 actions are those that are intended to build on Phase 1 and 2 investments. Phase 4 actions are those that are intended to enable SBVMWD to complete its 2045 goals.

Each measure will be implemented as a set of actions that contribute to the goals set forth by a given measure. Each of the 37 measures has actions that are intended to be implemented in Phase 1 and 2. This means that while a measure may begin in Phase 1, the implementation of actions within it may extend out further out into the future, including Phases 3 and 4. Activities that need to be funded will be reviewed with the SBVMWD Board of Directors through the annual budget approval process or through separate items reviewed with the Board of Directors.

## CARP Structure

The CARP is organized into six sections:

**Section 1: Introduction** – Discusses the policy and planning context to the CARP development and identifies SBVMWD’s interests in prioritizing climate resilience.

**Section 2: Roles and responsibilities** – Details SBVMWD’s role in the Santa Ana River Watershed and its core functions.

**Section 3: Climate Risks** – Identifies climate hazards and risks predicted by existing models and future scenarios, including extreme heat, fire, drought, and atmospheric river events.

**Section 4: GHG Emissions Footprint** – Assesses the districts operational GHG emissions in 2016, 2017, 2018, 2019, and 2020 and business as usual and adjusted forecast of GHG emissions for SBVMWD’s operations, based on projected growth trends in water deliveries, operational changes, and known project activity over time.

**Section 5: Resilience Strategies** – Defines a range of solutions that will reduce vulnerabilities and mitigate GHG emissions that align with SBVMWD’s principles of maintaining a diverse water portfolio, protecting existing supplies, improving flexibility, and connecting the SBVMWD community to its watershed.

**Section 6: Implementation and Phasing** – Establishes implementation phases and identifies key performance indicators for mitigation and adaptation solutions.

# Glossary of Terms

A list of acronyms, abbreviations, and glossary terms used in the CARP.

## A

AB – Assembly Bill

Actions – The discrete, measurable projects, programs, procedures, or partnership formations that carry out the implementation of a measure.

Adaptation – The process of adjustment to actual or expected climate and its effects, either to minimize harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate.

Anthropogenic – Made by people or resulting from human activities.

Atmosphere – The envelope of gases surrounding the earth. These gases include nitrogen (78.1 percent), oxygen (20.9 percent), and argon, helium, GHGs, ozone, and water vapor in trace amounts.

Atmospheric River – A are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. While atmospheric rivers can vary greatly in size and strength, the average atmospheric river carries an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. Exceptionally strong atmospheric rivers can transport up to 15 times that amount. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.

## B

BAU – Business-as-Usual Forecast. This forecast estimates emissions into the future if no additional actions are taken.

Biofuels – A renewable fuel source derived from biomass such as algae or animal waste.

BTAC – Basin Technical Advisory Committee

## C

CARP – Climate Adaptation and Resilience Plan

CARB – California Air Resources Board

Carbon dioxide (CO<sub>2</sub>) – A gas produced by burning organic compounds containing carbon and by respiration.

Carbon dioxide equivalent (CO<sub>2</sub>e) – A metric measure used to directly compare emissions from various GHGs based on their global warming potential conversion factor.

Carbon footprint – The total emissions caused in a year by an individual, event, organization, or product, expressed in carbon dioxide equivalent.

Carbon Neutrality – Achieving a balance between emitting carbon and atmospheric carbon removal.

Cascading Impact – Climate hazard-caused impacts that compromise infrastructure or disrupt critical services (i.e., power supply or water conveyance) broadening the scope of impact past a singular subject to reliant subsystems and populations.

CEQA – California Environmental Quality Act

Climate – The usual condition of temperature, humidity, atmospheric pressure, wind, rainfall, and other meteorological elements in an area of the earth's surface over a long period of time (typically 30 years or more).

Climate Change – A change in the average conditions – such as temperature and rainfall – in a region over a long period of time.

Climate Driver – An increase in the proportion of GHGs in the atmosphere is the primary human-caused driver source of change to the earth's climate.

Climate Hazard – A dangerous or potentially dangerous condition created by the effects of the local climate.

Co-benefit – The secondary benefits that occur due to implementation of a program, measure or policy.

Conjunctive Use – Coordinated use of surface water and groundwater to maximize sufficient yield.

CWS – California Water Strategy

## D

Decarbonization – The reduction or removal of carbon dioxide.

DCP – Delta Conveyance Project

DWR – California Department of Water Resources

## E

EF – Emissions Factor

EO – Executive Order

Electrification – The process of generating power from electricity, and in many contexts, the transition to such power from an earlier power source.

Emissions – The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.

Emissions Scope – Scopes differentiate between GHG emissions from different sources that fall under varying levels of control of the emitting entity. Scope 1 emissions are direct GHG emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that indirectly impact its value chain.

EV(s) – Electric Vehicle(s)

EVWD – Eastern Valley Water District

Extreme Heat – periods that are much hotter than usual for the time and place where they happen. For California climate data this translates to temperatures above the 98<sup>th</sup> percentile of a baseline historical average.

## F

FIRO – Forecast-informed reservoir operations

FEMA – Federal Emergency Management Agency

Fossil fuel – A general term for fuel formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust.

## G

GCM – Global circulation models, representing physical processes in the atmosphere, ocean, cryosphere, and land surface, are the most advanced tools currently available for simulating the response of the global climate system to increasing greenhouse gas concentrations.

GHG – A gas that absorbs infrared radiation, traps heat in the atmosphere, and contributes to the greenhouse effect.

Global Warming – the phenomenon of increasing average air temperatures near the surface of Earth over the past one to two centuries.

Greenhouse Effect – A process that occurs when gases in Earth's atmosphere traps the Sun's heat.

GWP – Global Warming Potential – total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.

## H

HCP – Habitat conservation plan

HVAC – Heating, ventilation, and air conditioning

## I

Impact – Effects on natural and human systems including effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services, and infrastructure due to the interaction of climate hazards and the vulnerabilities of the system or asset effected.

IPCC – United Nations Intergovernmental Panel on Climate Change – prepares comprehensive Assessment Reports about the stat of scientific, technical and socio-eco nomic knowledge on climate change, its impact and future risks, and options for reducing the rate at which climate change is taking place.

IRUWMP – Integrated regional urban water management plan

## J

## K

## L

LED – Light-emitting diode

## M

Measures – A specific statement that guides decision-making. It indicates the commitment of the organization to a particular course of action. A measure is based on and helps implement a plan’s vision and principles and is carried out by implementation actions.

Methane (CH<sub>4</sub>) – A hydrocarbon that is a GHG that is produced through anaerobic (without oxygen) decomposition of waste in landfills, wastewater treatment plants, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

MT – Metric Ton, a common international measurement for the quantity of GHG emissions – 1 metric ton is equal to 2,204.6 pounds or 1.1 short tons.

MT CO<sub>2</sub>e – Metric tons of carbon dioxide equivalent is the standard units to measure GHG emissions.

MWD – The Metropolitan Water District of Southern California

## N

Nitrous oxide (N<sub>2</sub>O) – A powerful GHG with a high global warming potential; major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning.

## O

Offroad Equipment – Any non-stationary device powered by an internal combustion engine or electric motor used primarily off roadways such as agricultural, landscaping or construction equipment.

OPR – California Governor’s Office of Planning and Research

One Water – is the emphasis that all water has value, encouraging those in the water industry to work together to solve water challenges, whether these challenges encompass storm water, residential water, commercial water, industrial water, municipal water, wastewater, drinking water, etc. The One Water Movement takes a planning and implementation approach to managing finite water resources for long-term resilience and reliability in order to meet both community and ecosystem needs. The definition of One Water itself varies somewhat depending on the needs of the community in question.

## P

PERC – Program for Enhanced Recharge Capability

PFAS – Per- and polyfluoroalkyl substances, a class of widely used, long lasting chemicals, components of which break down very slowly over time. PFAS are found in water, air, fish, and soil at locations across the nation and the globe. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.

PSPS – Power Safety Power Shutoffs

Pumpers – Individual well operators

PV – Photovoltaic (solar energy)

## Q

## R

Renewable Diesel – Direct substitute for diesel fuel refined from lower carbon and renewable source material.

RCP – Representative Concentration Pathway

Resilience – The capacity of an entity (an individual a community, an organization, or a natural system) to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience.

## S

Santa Ana RWQCB – Santa Ana Regional Water Quality Control Board

SARCCUP – Santa Ana River Conservation and Conjunctive Use Program

SAWPA – Santa Ana Watershed Project Authority

SB – Senate Bill

SBVMWD – San Bernardino Valley Municipal Water District

SCAQMD – South Coast Air Quality Management District

SCE – Southern California Edison

SCG – The Southern California Gas Company

Scope – Categorization of GHG-generating activities based on the level of the entity’s operational control of the source.

Service population – Residents receiving services.

SGPWA – San Georgino Pass Water Agency

SWC – State Water Contractors

SWP – State Water Project

## T

## U

USACE – U.S. Army Corps of Engineers

USEPA – United States Environmental Protection Agency

USGS – United States Geological Survey

UWMP – Urban Water Management Plan



## V

VMT – Vehicle Miles Traveled

Vulnerability – The propensity or predisposition to be adversely affected.

## W

WBCSD – World Business Council for Sustainable Development

WIFIA – Water Infrastructure Finance and Innovation Act

WMWD – Western Municipal Water District

## Y

YVWD – Yucaipa Valley Water District

## Z

ZEV – Zero-emission vehicle

# 1. Introduction

Southern California faces significant challenges in maintaining a reliable water supply due to its arid climate and rapidly growing population. The region relies on a complex network of water resources and infrastructure to meet its needs. SBVMWD was formed in 1954 as a regional agency to sustain long-range water supply for the San Bernardino Valley’s people and environment. SBVMWD’s service area covers about 353 square miles in southwestern San Bernardino County with a population of about 710,000 per the 2020 Census. Its service area spans the eastern two-thirds of the San Bernardino Valley, the Crafton Hills, and a portion of the Yucaipa Valley and includes the cities and communities of San Bernardino, Colton, Loma Linda, Redlands, Rialto, Bloomington, Highland, East Highland, Mentone, Grand Terrace, and Yucaipa. See Figure 2 for the location of the SBVMWD service area in California. Water resources from the San Bernardino Valley are also vital to the people and environment downstream of the service area, especially for communities such as the City of Riverside.

Regional collaboration is critically important in the Santa Ana River Watershed because of its surface and groundwater resources, and the role of imported water. SBVMWD leads and participates in several regional partnerships that protect and enhance local ecosystems and develop infrastructure that supports the region’s water needs. SBVMWD is one of five (5) members of the Santa Ana Watershed Project Authority (SAWPA), which serves as a platform for promoting inter-agency understanding, addressing regional water issues, and supporting the development of long-term integrated water resource planning through multi-agency agreements and partnerships within the Watershed.

**Figure 2** SBVMWD Service Area in California



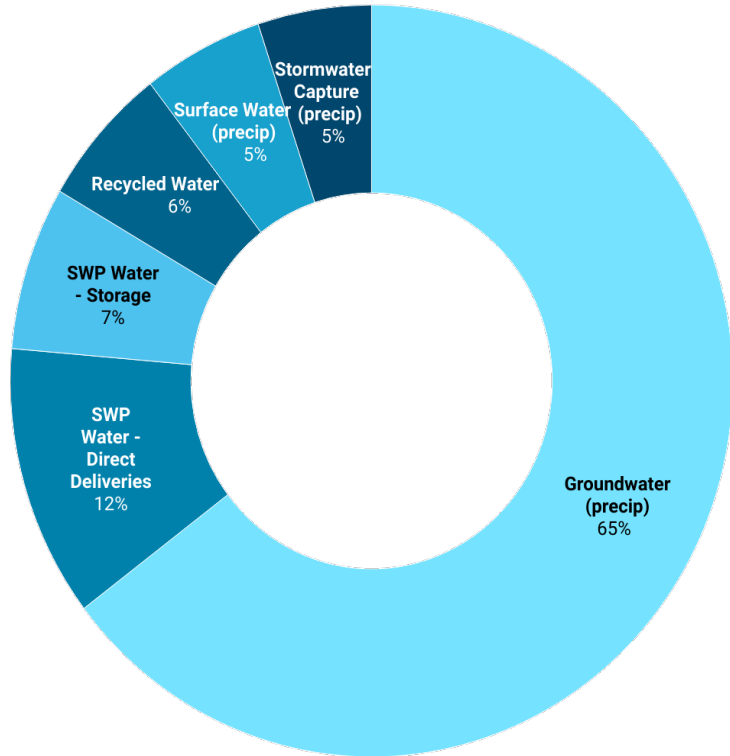
SBVMWD is responsible for ensuring the sustainable use and recharge of the local groundwater basins in its service area. Sustainable management of groundwater resources is crucial to meeting the region’s water demands while addressing long-term water security and resilience challenges (See Figure 3). In addition to the 710,000 people within the SBVMWD service area, over 300,000 people in Riverside County located outside of the SBVMWD service boundary rely on groundwater pumped from the San Bernardino Valley. Accounting for water users outside of the SBVMWD service boundary, an estimated one million people rely on SBVMWD’s services and stewardship of the region’s water resources. SBVMWD also provides leadership in supporting the improved health and function

of the region’s forest headwaters and endangered species habitats, which are critical to its water supply. SBVMWD also supports a wide range of water conservation measures and programs to maximize regional water use efficiency.

Groundwater storage has declined in recent decades due to recurring instances of below average precipitation. Like many other water agencies in Southern California, SBVMWD is contracted to deliver imported water from the State Water Project (SWP) to supplement the region’s local water supplies and maintain groundwater levels. The SWP delivers water from Northern California to water agencies across Southern California through a system of aqueducts and reservoirs. SBVMWD imports water into its service area primarily for recharging groundwater but also for direct use at water treatment or filtration plants operated by retail agencies.

SBVMWD obtains water from the SWP through the East Branch of the State Aqueduct via Lake Silverwood. While SBVMWD’s State Contract Entitlement is 102,600 acre-feet of water from the SWP per year, the amount of water actually available (allocated) each year varies as a result of climatic conditions throughout the state. While the SWP is the SBVMWD’s primary source of supplemental water, SBVMWD also works to secure additional sources of water. For example, it secured two water rights permits along with Western Municipal Water District from the State Water Resources Control Board (SWRCB) in 2009 to divert water from the Santa Ana River. In recent years, SBVMWD has also invested in a regional recycled water pipeline, recharge basins to percolate recycled water (a drought proof supply) and provided financial incentives to make recycled water investments cost-effective within the region.

**Figure 3 Regional Water Supply**

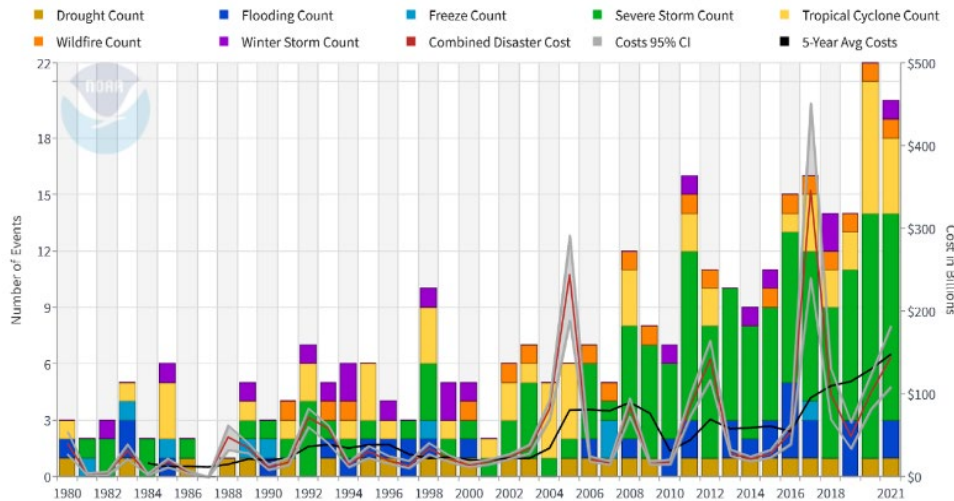


# Rationale

Climate change is a global issue caused by the cumulative warming effects of GHG emissions. Global temperatures have unequivocally risen in response to the increased levels of carbon dioxide (CO<sub>2</sub>) and other GHGs.<sup>3</sup> Observations and research indicate that climate change has already made extreme events, including heat waves, drought, atmospheric river events, and wildfires, more likely, more intense, longer-lasting, or larger in scale.<sup>4</sup> Climate change is a key contributing factor to the increase in the number of billion-dollar climate events across the United States (see Figure 4), particularly severe storm events and extended drought. Climate models indicate that extreme climate events, and the risks that climate change poses to SBVMWD water supply, infrastructure, and supported water uses will continue to intensify in the coming decades.

Governments, agencies, and private businesses across the globe are acting to mitigate GHG emissions and adapt to climate change to reduce and avoid the most catastrophic effects of climate change. Recent local experiences with persistent drought conditions, extreme weather events, and weather whiplash have

**Figure 4 U.S. Billion-Dollar Disaster Events 1980-2021**



<https://www.climate.gov/news-features/blogs/beyond-data/2021-us-billion-dollar-weather-and-climate-disasters-historical>

prompted SBVMWD to incorporate climate change considerations into plans and programs. Persistent drought conditions across the Western U.S. since 2000, coinciding with record warmth, have led to record low snowpack in the Sierras, causing severe water supply limitations statewide. Precipitation patterns are shifting as well. More precipitation is expected from more severe events with longer dry spells between them. For example, California received historic rainfall in 2023 despite experiencing severe to exceptional drought conditions in 15 of the past 22 years.

Shifts in weather extremes can lead to the increased importance of imported water from other parts of the state or more expensive sources such as water recycling and ineffective water efficiency measures, potentially impacting the area’s resilience to drought ensuing largely from state legislative and regulatory interventions. The availability of imported water is also influenced by increased variability and (wet and dry) weather extremes. The variability of SWP deliveries has increased while average annual deliveries have decreased in recent decades. In the last ten years annual deliveries have ranged between 5% and 100% of the District’s Annual Table A allocation (see Figure 5).<sup>5</sup>

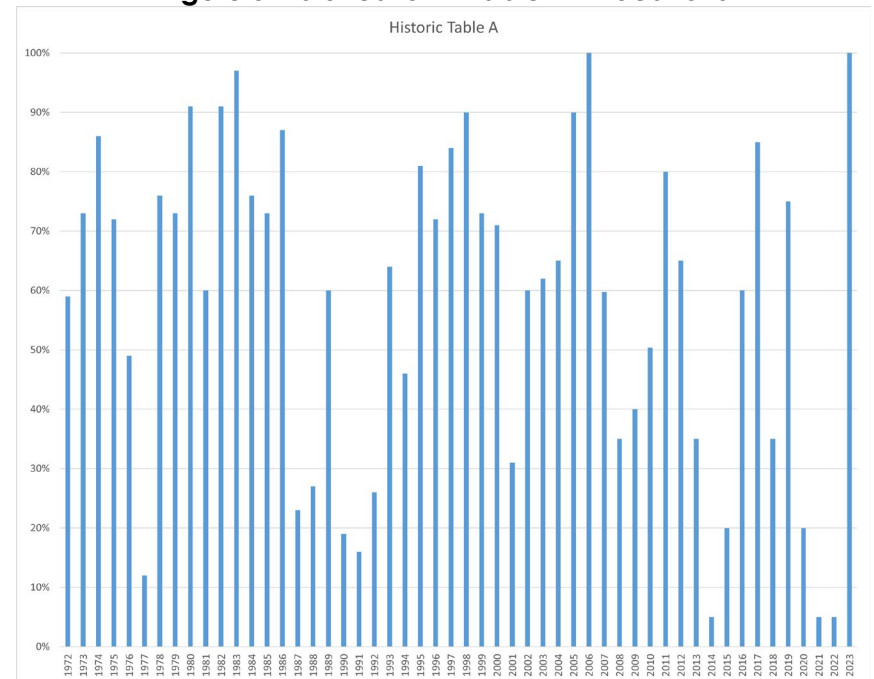
<sup>3</sup> United States Global Change Research Program. 2023: *Fifth National Climate Assessment*. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. <https://doi.org/10.7930/NCA5.2023>

<sup>4</sup> National Oceanic and Atmospheric Administration. 2020. What is an extreme event? Is there evidence that global warming has caused or contributed to any extreme event? Climate.gov. Retrieved Month Day, Year, from <https://www.climate.gov/news-features/climate-qa/what-extreme-event-there-evidence-global-warming-has-caused-or-contributed>

<sup>5</sup> California Department of Water Resources. 2022. The State Water Project Final Delivery Capability Report 2021. [https://www.yourscvwater.com/sites/default/files/SCVWA/your-water/watershed-planning/water-supply-assessments/State-Water-Project\\_2021-Final-Delivery-Capability-Report\\_Sept2022.pdf](https://www.yourscvwater.com/sites/default/files/SCVWA/your-water/watershed-planning/water-supply-assessments/State-Water-Project_2021-Final-Delivery-Capability-Report_Sept2022.pdf)

Adaptive management can enhance regional response to water-related climate extremes in various ways.<sup>6</sup> By consolidating timely and accurate information on climate patterns, proactive measures can be taken to ensure that gaps undesirable impacts are prevented. Through continuous assessment and adjustment of strategies based on changing climate conditions, resources are more efficiently allocated, communities are better prepared for extremes, and resilience principles can more effectively be incorporated throughout the District’s operations, assets, and practices. SBVMWD has witnessed and responded to impactful climate extremes in recent years, including precipitation extremes, wildfire events, and extreme heat. These events underscore the need for SBVMWD to build long-term water supply plans for a climate-changed future. In recognition of this global reality, SBVMWD has embarked on a journey toward sustainability, preparedness, and innovation through the formulation of a comprehensive CARP consistent with its Strategic Plan.

**Figure 5 Historical SWP Table A Allocations**



SWP Historical Table A Allocations, <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/Historical-SWP-allocations-1996-2024-022124.pdf>

6 Climate-Safe Infrastructure Working Group to the California State Legislature and the Strategic Growth Council. 2018. Paying it Forward: The Path Toward Climate-Safe Infrastructure in California. [https://resources.ca.gov/CNRALegacyFiles/docs/climate/ab2800/AB2800\\_Climate-SafeInfrastructure\\_FinalWithAppendices.pdf](https://resources.ca.gov/CNRALegacyFiles/docs/climate/ab2800/AB2800_Climate-SafeInfrastructure_FinalWithAppendices.pdf)

SBVMWD takes an integrated and cost-effective (One Water) approach to water resources management, which incorporates multiple types of water resources (e.g. surface water, groundwater, imported surface water, new stormwater capture for recharge and potentially direct delivery, and recycled water), stewardship (e.g. habitat conservation, improved water quality, and enhanced ecosystem health), and demand management (see Figure 6).

By building off existing efforts, the CARP lays the groundwork for long-term coordinated partnerships, consistency, and continuity in planning efforts, aligned policy incentives and data continuity across public, private and nonprofit sectors in the SBVMWD region (Appendix A). Key SBVMWD studies and plans integrated into this CARP include the 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan (2020 IRUWMP), and Water Demand and Supply Studies conducted by RAND, and the Santa Ana Watershed Project Authority's One Water One Watershed Plan. The 2020 IRUWMP serves as a roadmap for regional water resource planning and incorporates climate change into the water demand projections. The SAWPA's One Water One Watershed Plan outlines several objectives related to management of the Santa Ana River watershed such as achieving resilient water resources through innovation and optimization.<sup>7</sup>

**Figure 6 One Water Concept**



*Kennedy Jenks,  
<https://www.kennedyjenks.com/2019/06/05/integrated-one-water-management/>*

---

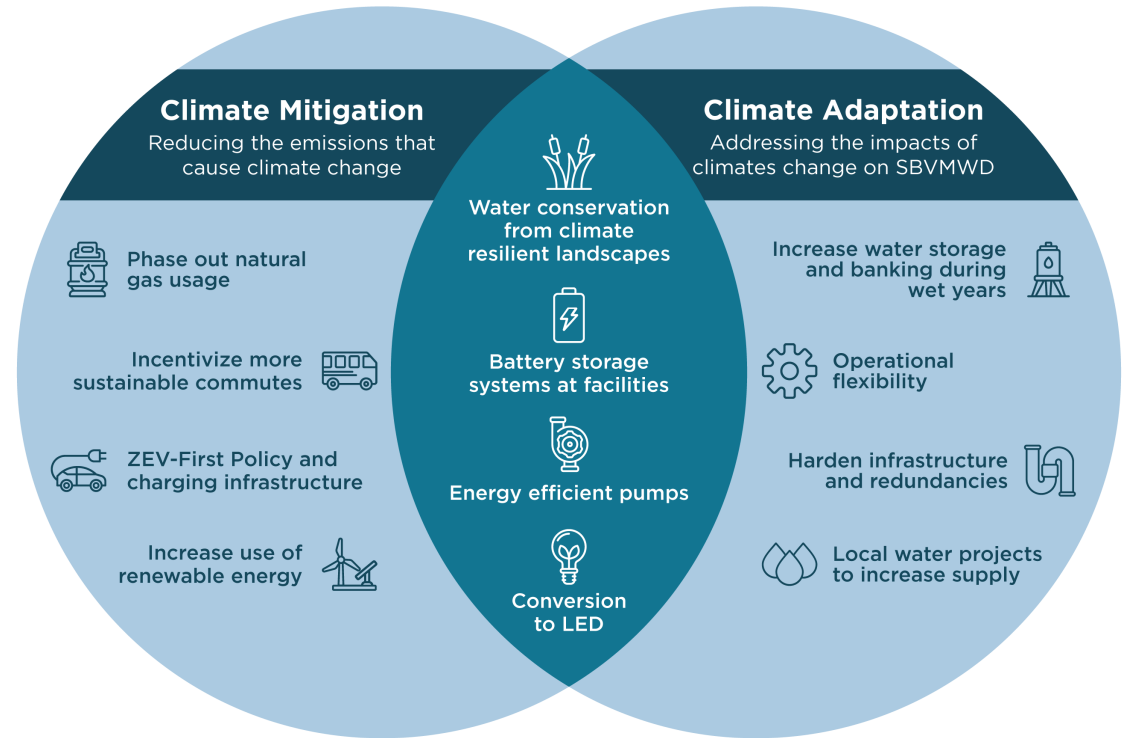
<sup>7</sup> <https://www.sawpa.org/wp-content/uploads/2019/02/OWOW-Plan-Update-2018-1.pdf>

SBVMWD also provides regional leadership in supporting the resilience of local water supplies. The Upper Santa Ana River Watershed forest and riverine ecosystems play an essential role in supplying, cleansing, and protecting local water resources. SBVMWD is one of 12 partners on the Upper Santa Ana River Habitat Conservation Plan (HCP). The HCP will specify how species and their habitats will be protected and managed in the future and will streamline the permitting required by the water resource agencies under the federal and State-endangered species acts to maintain, operate, and improve regional water resources infrastructure. SBVMWD is also leading the Headwaters Resiliency Partnership, which will identify innovative ways to fund proactive investments in the long-term health of the San Bernardino National Forest which supports local water resources within the Upper Santa Ana River Watershed.

Responding to climate change requires a two-pronged approach: 1) reducing or “mitigating” the levels of GHG emissions released into the atmosphere to reduce the effects of climate change and 2) adjusting or “adapting” to the changes that have already taken or will continue to take place. In an ideal scenario, strategies are developed that do both, which is the most efficient way to proceed, as shown in Figure 7.

The CARP supports State adaptation goals associated with the California Water Strategy (CWS), the California Water Resilience Portfolio, and the California Climate Adaptation Strategy.<sup>8,9</sup> The CARP also advances State GHG mitigation goals as defined in California’s 2022 Scoping Plan for Achieving Carbon Neutrality, Assembly Bill (AB) 32, and Senate Bill (SB) 1279.<sup>10</sup>

**Figure 7 Climate Mitigation versus Adaptation**



8 California Natural Resources Agency. 2022. *California Water Supply Strategy*. <https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf>

9 California Department of Water Resources. California Water Resilience Portfolio. 2020. [https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/Final\\_California-Water-Resilience-Portfolio-2020\\_ADA3\\_v2\\_ay11-opt.pdf](https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/Final_California-Water-Resilience-Portfolio-2020_ADA3_v2_ay11-opt.pdf)

10 California Air Resources Board. 2022. 2022 Scoping Plan, Local Measures. <https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf>

## Purpose

SBVMWD is working to strengthen water reliability and proactively address existing and future climate change impacts by developing a CARP. The overarching goal of the CARP is to prepare SBVMWD's water management, including operations, natural resources, infrastructure and community, for the effects of climate change.

The CARP serves as a programmatic roadmap to increase resilience and reduce contributions to climate change. By defining specific climate goals, measures, and actions, SBVMWD will track progress towards increased resilience, measure the success of its strategies, and adjust these approaches as new information becomes available. The measures and actions will be implemented using a phased approach.

SBVMWD is committed to developing new data-driven measures and strategies, leveraging emerging technologies and products, and updating its CARP on an ongoing basis to meaningfully adapt to emerging climate threats and maintain progress. For additional detail on the phased approach to the measures and actions, as well as the development of new strategies and measures in the future, please refer to the Phasing and Implementation chapter.

## OUR *priorities* ARE TO DELIVER SOLUTIONS THAT ARE...



### **RESILIENT.**

Resilient to seismic conditions, drought, population growth and climate change.



### **RESTORATIVE.**

Reduce carbon footprint and recover environmental health.



### **SCIENCE BASED.**

Built from reliable regional data shared among all partners.



### **COST-EFFECTIVE.**

Optimize operational efficiency and maximize benefits from ratepayer investments.



### **INTEGRATED.**

Holistically optimize value to the region.



The CARP supports SBVMWD's Strategic Plan and aligns with the State Water Resilience Portfolio through the CARP's four Guiding Principles:



1. **Maintain a Diverse Water Portfolio** through recycled water production, stormwater capture, aquifer recharge and strategic water imports to provide multiple-benefit resilience outcomes for the regional water supply. By relying on a diversified mix of imported and local water sources, SBVMWD can help the region better cope with future climate extremes as they occur on a local and statewide scale. Diversification additionally provides a more reliable and sustainable water supply, particularly in the Southern California region that is prone to water supply volatility and relies on imported water.



2. **Protect the Water Portfolio** through conjunctive use planning, watershed restoration initiatives and strategic aquifer recharge. Sustainable management of existing supplies and natural resources will help maintain SBVMWD's investments and the benefits provided by our infrastructure and the natural environment, allowing SBVMWD to meet the needs of a changing and dynamic population of customers and the environment.



3. **Improve Operational and Infrastructure Resilience** by making strategic investments in crucial operations and infrastructure to create reliability and continuity of service and assist in long-term regulatory compliance. By creating redundant systems where necessary, exploring water transfer options and incorporating resilient design criteria in capital improvement projects, SBVMWD is setting itself up for providing reliable service in an uncertain climate future prone to disruptions. Prioritizing resilience in operations and infrastructure, while requiring initial investments up front, will prevent more extensive and expensive damages that might occur in vulnerable or outdated systems.



4. **Connect People and Water to Climate** so that the community SBVMWD serves understands and engages meaningfully with the complex water systems that sustains it and the changing climate that affects water resources and the environment. By leading conservation campaigns and awareness programs and supporting healthy use of SBVMWD's water bodies for recreation, SBVMWD will embrace community members and groups as allies in sustainable water management and regional climate resilience.

## Methodology

The CARP was developed with cross-departmental and partner agency input and with support from the SBVMWD Board. Of Directors. The process was consistent with State plans and guidance, including the Office of Planning and Research, Intergovernmental Panel on Climate Change Assessment Report 5 (IPCC AR5) California Adaptation Planning Guide, California Water Resilience Portfolio, California Water Plan, and California's Fourth Climate Assessment. The engagement process, guided by an engagement plan and communications strategy, included online workshops for interested parties and several workshops for SBVMWD's Climate Resilience Committee and the Board of Directors. The goal of this process was to collaboratively form an actionable CARP that best fits the needs of the service area. Through a collaborative approach, SBVMWD staff and community members were meaningfully engaged and provided tangible feedback and support for regional climate action and resilience planning. This approach leveraged existing relationships and outreach networks at SBVMWD, to develop and implement a plan that is innovative, insightful, equitable and authentic. The development of the CARP included the following steps.

**Step 1:** A comprehensive literature review, which catalogued existing local planning efforts, initiatives and gaps related to climate change planning and implementation (Appendix A).

**Step 2:** A climate vulnerability assessment that identified climate vulnerabilities to SBVMWD infrastructure and operations under four future climate change scenarios (Appendix B).

**Step 3:** A GHG inventory and GHG forecast for SBVMWD's various assets and operations. The GHG inventory was in accordance with established GHG accounting protocols and state and includes Scope 1, 2, and 3 emission sources (Appendix C).

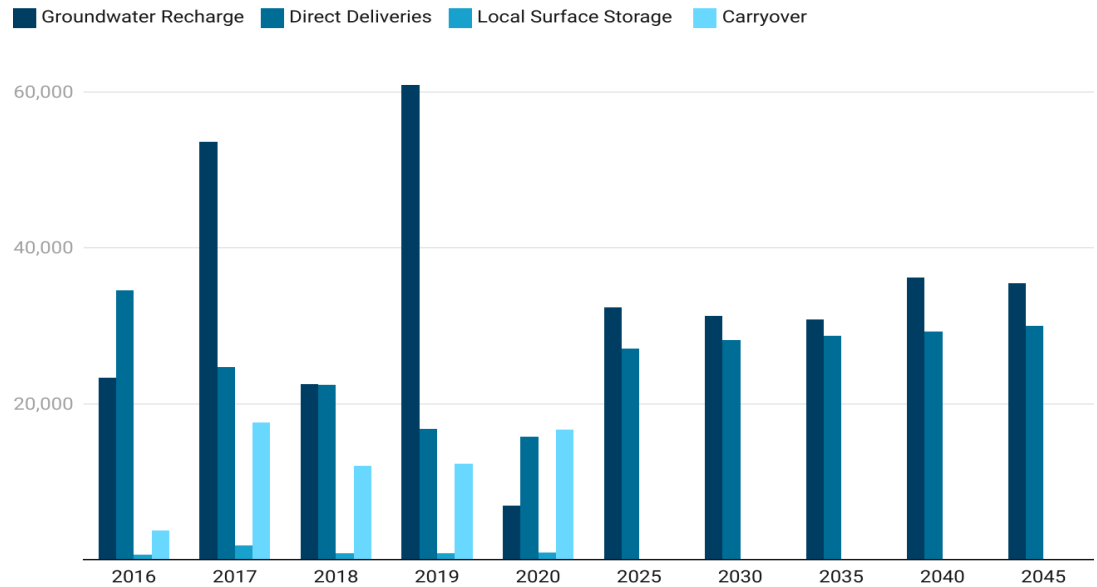
**Step 4:** A resilience strategy development process that articulates guiding principles, tangible measures, and actions for increasing resilience.

**Step 5:** A phased implementation strategy designed to articulate the priorities, specific opportunities, and various considerations associated with CARP measures and strategies, in addition to a timeframe for implementation.

## 2. Responsibilities

SBVMWD supports long-range water supply management for the San Bernardino Valley and Upper Santa Ana River Watershed alongside dozens of water districts, mutual water companies, flood control districts, and other local water management agencies (see Figure 8). SBVMWD is responsible for groundwater management within their jurisdictional boundaries on behalf of the groundwater producers, in collaboration with WMWD. Under the 1969 legal settlement (which resolved the disputes on the sharing of the water resources), SBVMWD supports the administration of specific regional groundwater management objectives resulting from the Orange County Judgment (Santa Ana River flow obligations) and the Western-San Bernardino Judgment (physical solution to meet surface and groundwater requirements). The Orange County Judgment requires a specific amount of baseflow in the Santa Ana River to Orange County while the Western Judgment provides a tracking and sustainability framework for surface water and groundwater in the San Bernardino Basin Area. If the court-specified conditions are not met by the natural water supply, then supplemental water can be used to offset the deficiency.

**Figure 8 Water Use Trends (2016-2019) and Projections (2025-2045)**



Data source: 2020 IRWMP - Table 5-4 Regional Water Budget Summary for a Normal Year (AFY)

As a court-appointed Watermaster, SBVMWD has responsibilities that include tracking and reporting annually on water supplies in the San Bernardino Basin Area, Colton Basin Area, and Riverside Basin Area within San Bernardino County and maintaining the base flow requirements at the Riverside Narrows on the Santa Ana River on behalf of the San Bernardino Entities. These responsibilities are filled in a variety of ways, including through data collection and analysis and providing the means for supplemental water to be delivered for direct use or for groundwater recharge. SBVMWD has rights to water imported water through the State Water Project and stormwater capture through projects such as the Enhanced Recharge Basins below Seven Oaks Dam. SBVMWD has also invested in projects to support increased utilization of recycled water within the District. Supplemental water, largely imported raw water, is delivered to retail agencies and regional groundwater recharge basins via 42 miles of 12-inch to 78-inch diameter pipelines; a recycled water pipeline was completed in 2023. SBVMWD has a history of working with partners to avoid building duplicative facilities including but not limited to pipelines, pump stations, and groundwater recharge basins; such partners have included The Metropolitan Water District of Southern California, San Geronimo Pass Water Agency, San Gabriel Valley Municipal Water District, the San Bernardino Valley Water Conservation District, and the San Bernardino County Flood Control District just to name a few. SBVMWD also supports a variety of activities that promote both the reliability of local water resources and efficient water use through conservation activities. The Upper Santa Ana River Wash HCP (Wash Plan HCP) and the Upper Santa Ana River HCP (River HCP) are distinct yet coordinated regional conservation and compliance initiatives that aim to strike a balance between safeguarding local natural resources and effectively managing critical water supply activities. Both plans outline specific measures for protecting, enhancing, restoring, and managing species and their habitats in the future. Through their efforts tied to the Santa Ana River HCP, the region is projected to develop over 4 million acre-feet of water for local use, or approximately 87,000 acre-feet per year over the lifetime of the HCP Permits.<sup>11</sup> The water management sectors in SBVMWD’s jurisdiction explored in the CARP include Operations, Natural Resources, Infrastructure and Community, and are explored in detail below.

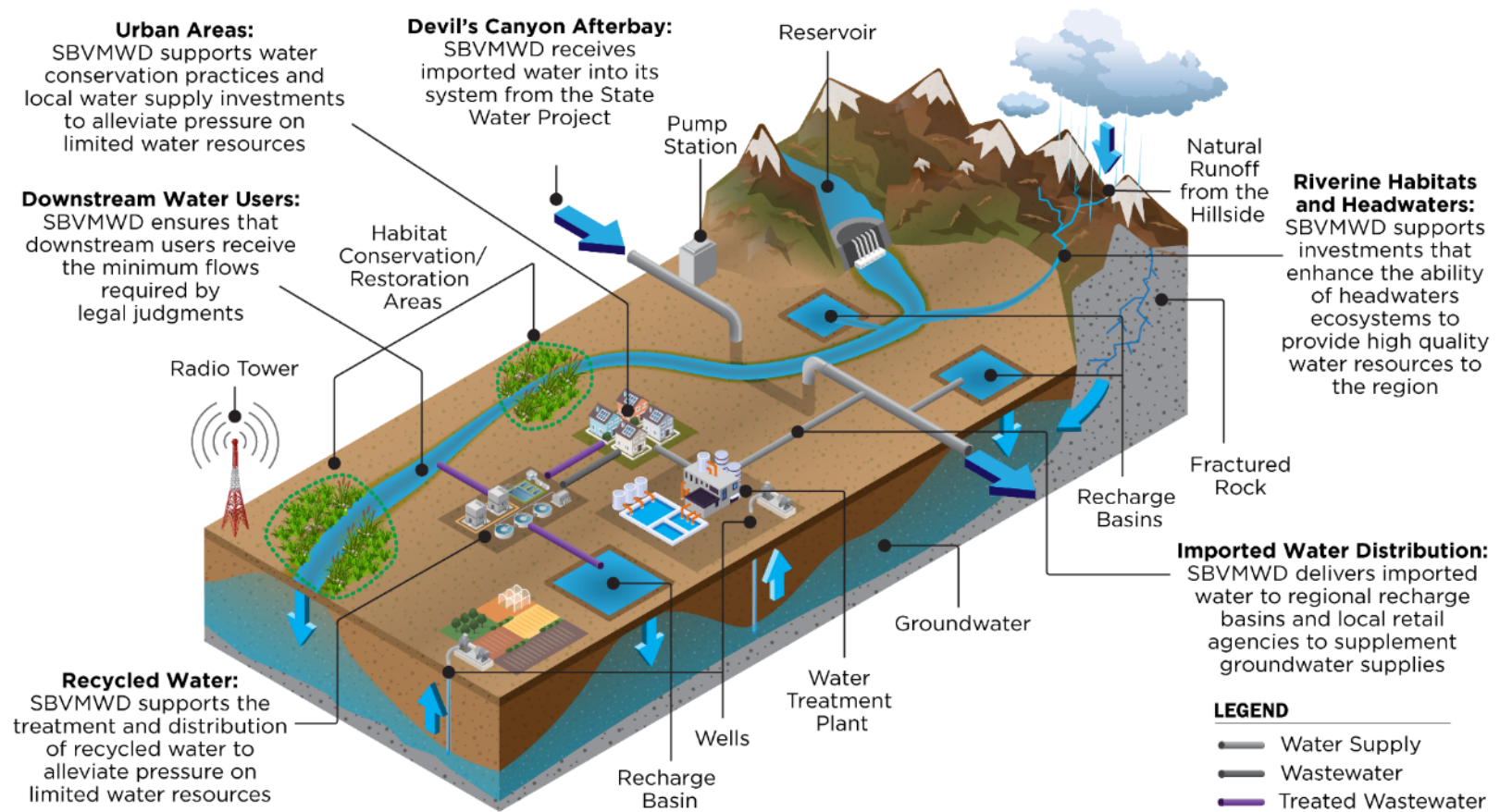
---

11 SBVMWD. 2020. Upper Santa Ana River Habitat Conservation Plan, Page ES-1

# Operations

SBVMWD takes a holistic approach to its role in long-range water supply management across the region’s environmental, built, and social context. The District engages in wide variety of operational activities such as maintaining and building regional water conveyance and recharge facilities to maintain a reliable water supply for residential, industrial, agricultural, and environmental use. Additionally, SBVMWD supports and facilitates regional water conservation efforts, regional water infrastructure investments and addressing water quality issues that may impact regional water reliability. As shown in Figure 9, this integrated approach allows for delivery on SBVMWD’s Strategic Priorities of being resilient, restorative, science-based, and providing cost-effective climate change mitigation and adaptation solutions. Working across this holistic context enables SBVMWD to identify and prioritize the most efficient and effective water supply management options.

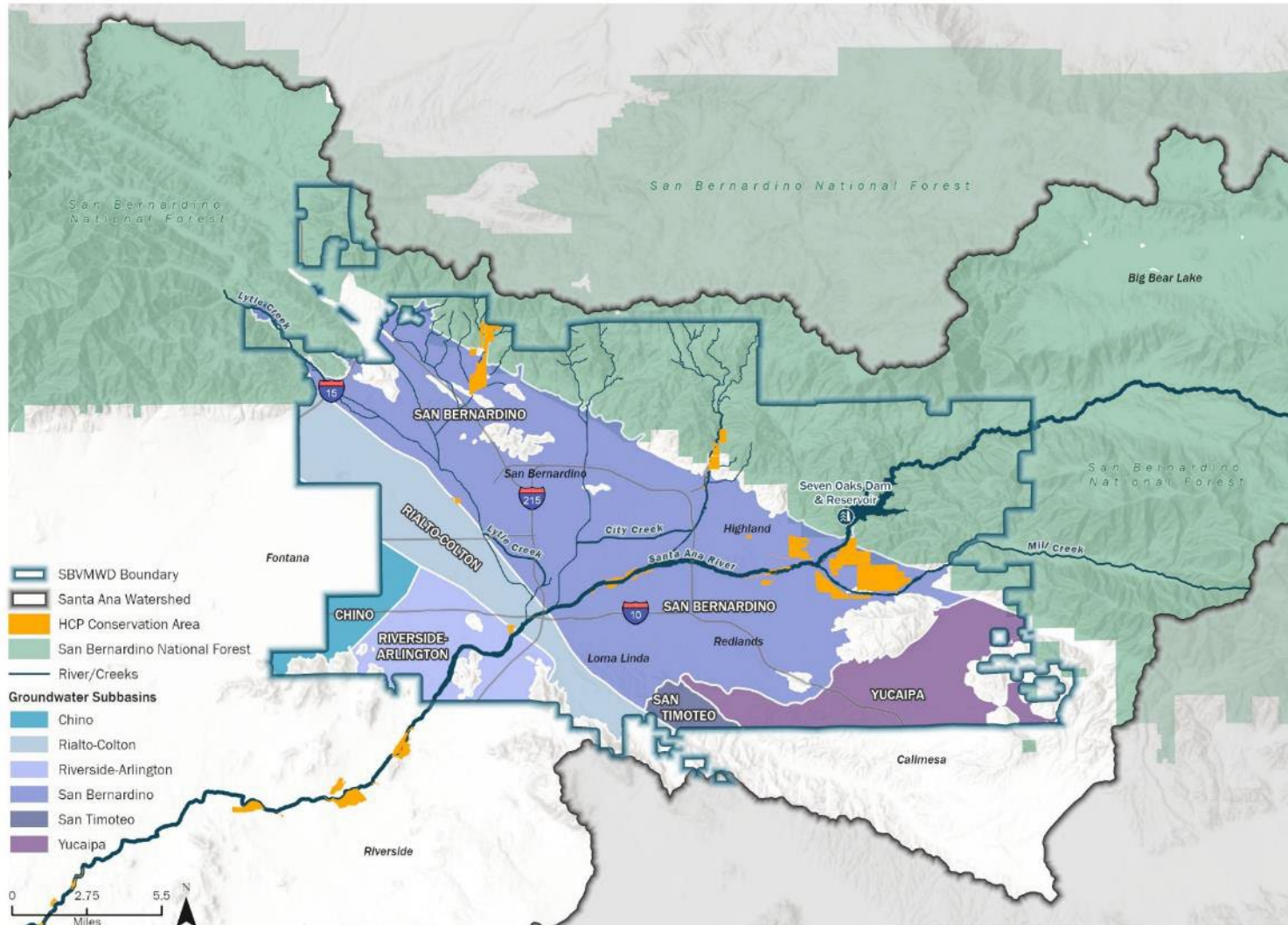
**Figure 9 Overview of SBVMWD Water System and Operations**



# Natural Resources

In addition to maintaining sustainable groundwater resources, SBVMWD supports investments in the natural resources that are essential to the region's water supply. Forest and riverine ecosystems in the Upper Santa Ana River Watershed play an essential role in the supplying, purifying, and protecting local water resources. When these ecosystems and water resources (shown in Figure 10) function better, there is more and higher quality water available for all uses, and more water can recharge local groundwater aquifers that are the region's primary water resource.

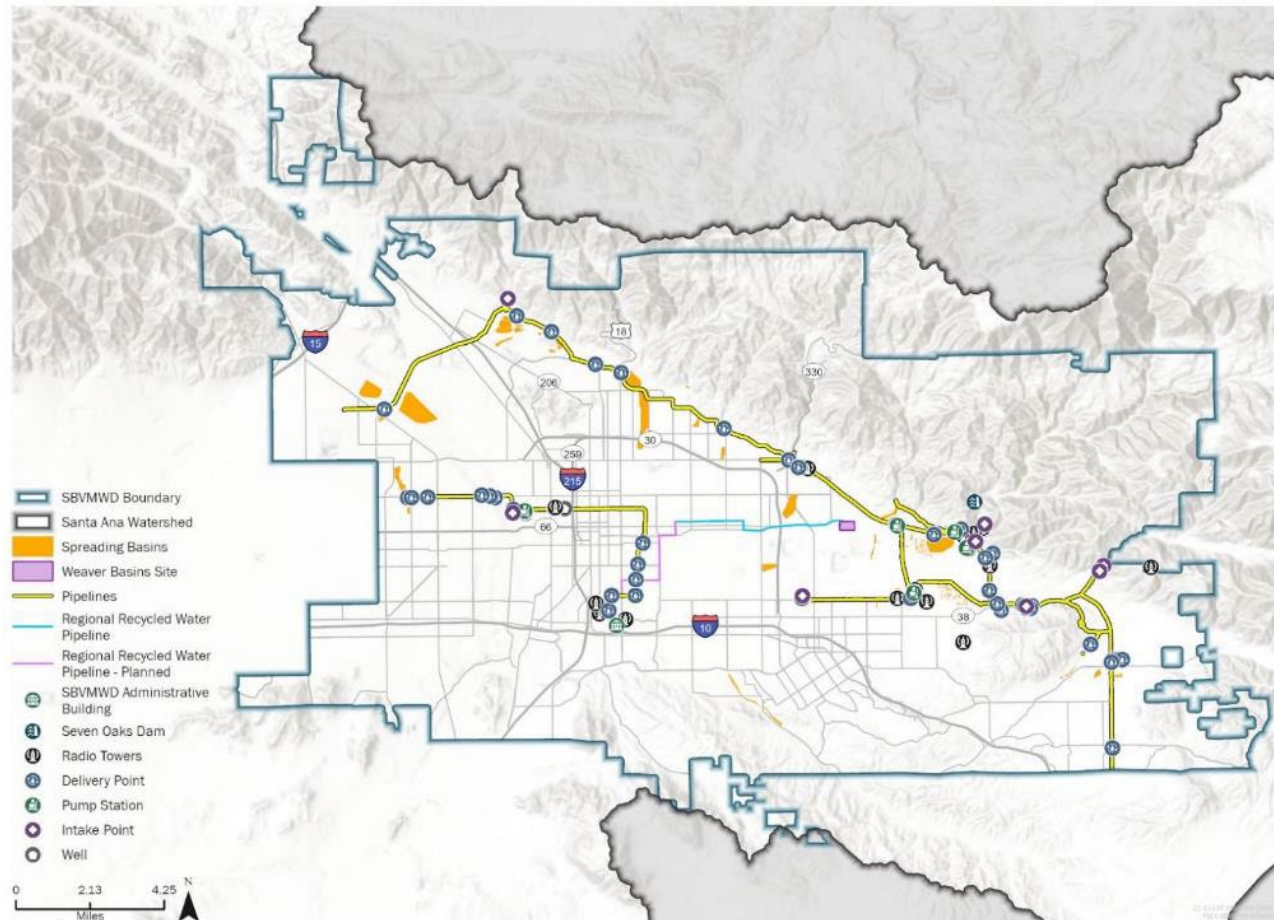
**Figure 10 Map of Natural Resources Related to SBVMWD Operations**



## Infrastructure

SBVMWD plays a key role in supporting the regional water infrastructure (e.g., treatment, storage, flood protection, and conveyance) that enables different types of water supply (e.g., imported, local surface water, groundwater, recycled water) to be efficiently distributed. As shown in Figure 12, SBVMWD manages the distribution of imported and local water to multiple retail agencies and for recharging groundwater through regional spreading basins.

**Figure 11 Map of SBVMWD's Infrastructure**

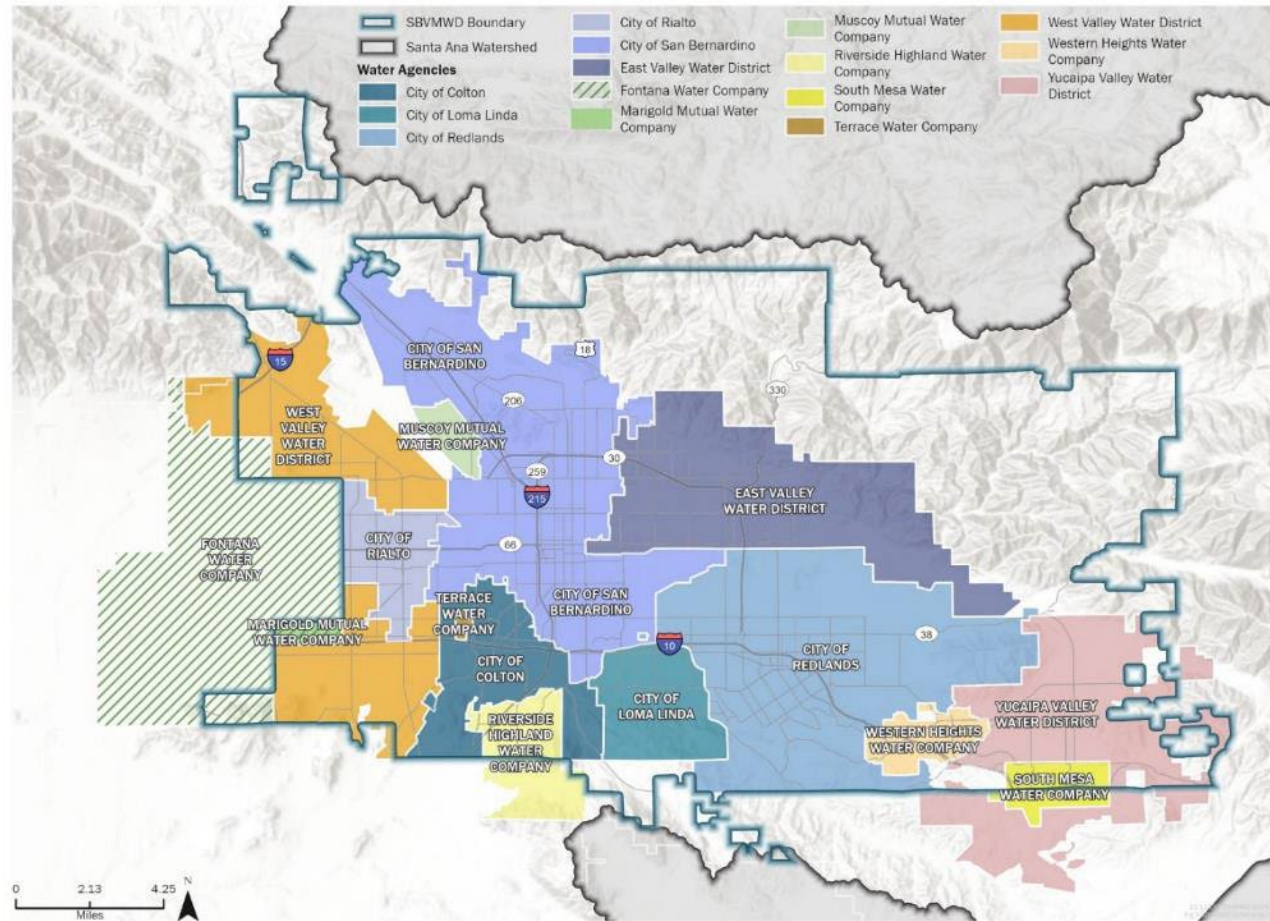


12 Not all infrastructure shown in Figure 10 is owned by SBVMWD. Some infrastructure and facilities are owned by San Bernardino County or other agencies and is used by or managed by SBVMWD.

## Community

As shown in Figure 12, SBVMWD supports the distribution of water for household, commercial, industrial, and agricultural predominantly for fifteen retail water agencies within its service area. There are also individual well owners (pumpers) who rely on local groundwater. Some users directly rely on imported SWP deliveries and surface water, but the majority depend primarily on groundwater. SBVMWD also works with regional retail agencies to manage demand through the implementation of water conservation strategies and developing additional local sources of supply.

**Figure 12 Map of Water Agencies Served by SBVMWD**





### 3. Climate Risks and Vulnerabilities

Mainstream scientific research has shown that the excess presence of GHGs in the atmosphere trap heat near the earth’s surface and raises global average temperatures (See Figure 13). This is referred to as the greenhouse effect.<sup>13</sup> The levels of GHGs in the atmosphere far surpass anything observed in the historical record (See Figure 14). The increase in average air and sea temperatures across the globe has wide-ranging effects on sea level, the severity of wildfires, the prevalence of extreme weather patterns, and changes in water supply conditions.<sup>14</sup> Governments, agencies, and businesses are taking action to mitigate GHG emissions to reduce or avoid the effects of climate change.

**Figure 13 Greenhouse Gas Effect Overview**

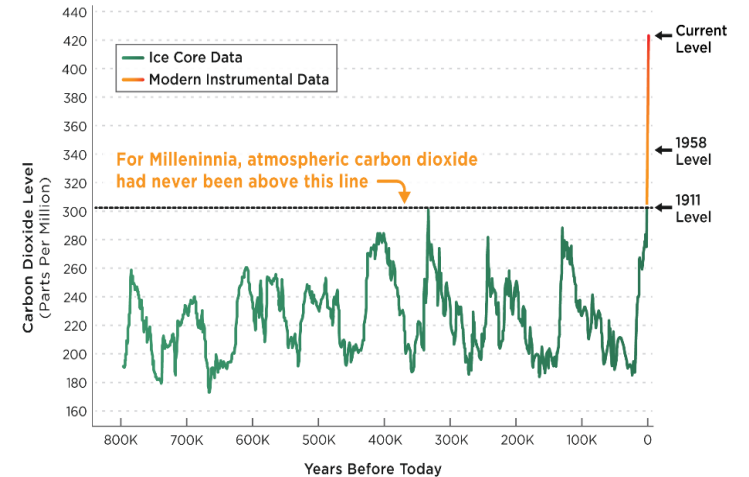


Data from California’s Fourth Climate Assessment was used to identify and assess SBVMWD’s climate change vulnerabilities. Daily temperature and precipitation projections from global climate models (GCM) was employed after the data was scaled to the regional level. The dataset includes a historical period of 1950-2005 and then two future projections spanning 2006- 2100 based on two GHG emissions level scenarios – Representative Concentration Pathways (RCP) 4.5 and 8.5. RCP4.5 represents a mitigation scenario where global CO<sub>2</sub>e emissions peak by 2040, while RCP8.5 represents a business-as-usual (BAU) scenario where CO<sub>2</sub>e emissions continue to consistently rise throughout the twenty-first century.<sup>15</sup>

These data predict that the SBVMWD service area and state water supplies are expected to experience a wide variety of climate change impacts by the end

of the century (See Figure 15). Other reports, including the California Department of Water Resources’ (DWR) Climate Change Vulnerability Assessment, provide information regarding climate change projections and impacts to the SWP and supporting watersheds. Projections throughout this section are consistent with the OPR’s use of RCP 8.5 as a conservative approach to assessing and adapting to climate change. Additionally, projections are forecasted to mid-century (2035-2064) and end-of-century (2070-2099) as 30-year averages and are compared to a modeled historical baseline (1961-1990).

**Figure 14 Global Change in Atmospheric CO<sub>2</sub>**

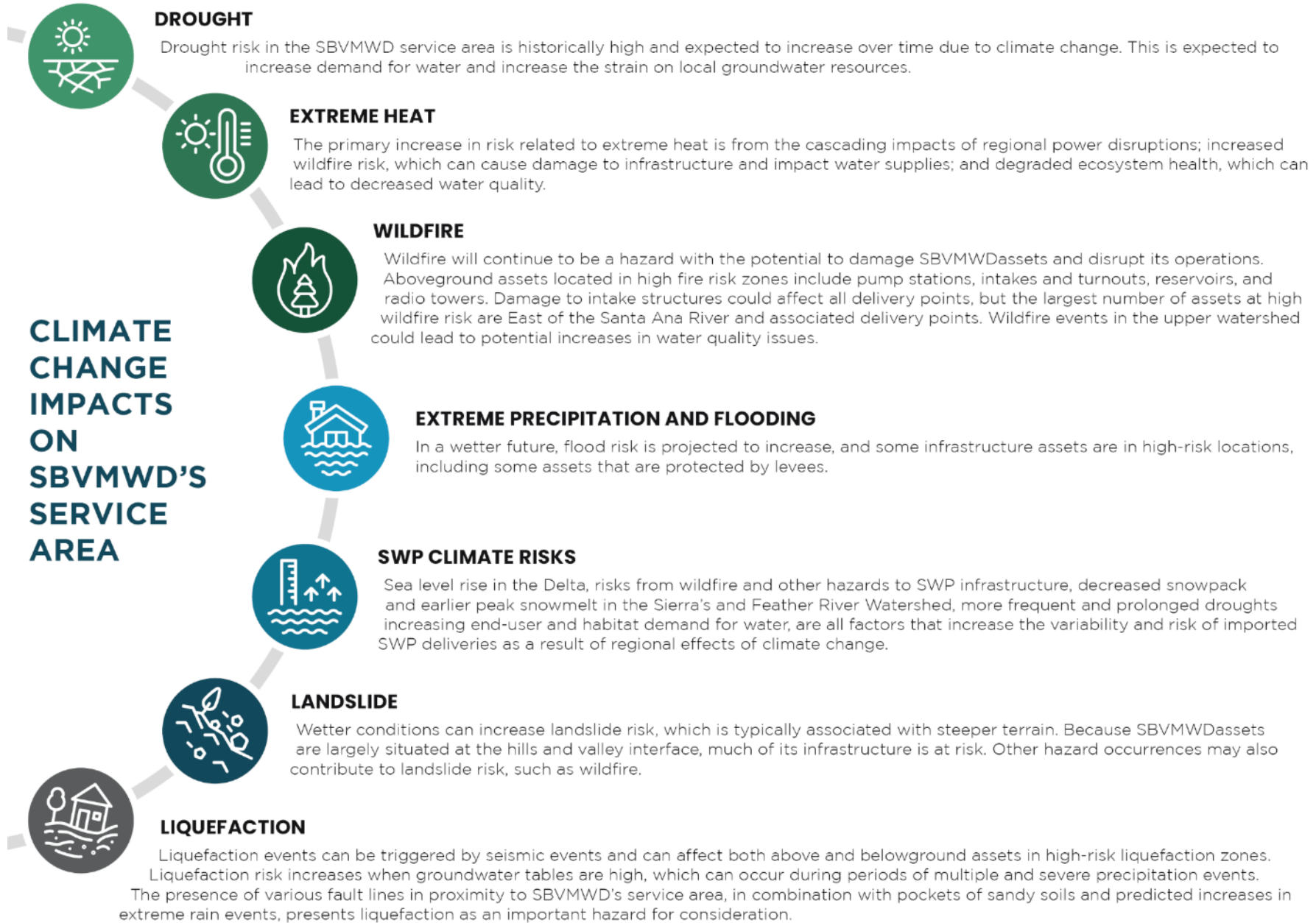


13 Intergovernmental Panel on Climate Change. 2021. The Physical Science Basis. <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>

14 Intergovernmental Panel on Climate Change. 2022. Sixth Assessment Report, <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>

15 Van Vuuren et. al. 2011. The Representative Concentration Pathways: An Overview. <https://link.springer.com/article/10.1007/s10584-011-0148-z>

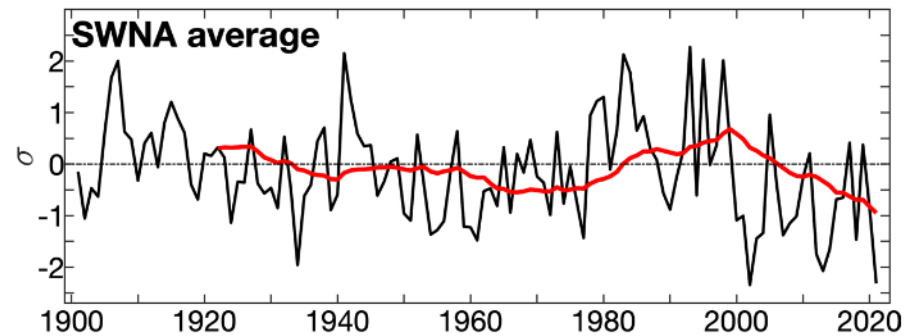
Figure 15 SBVMWD Climate Vulnerabilities



# Drought

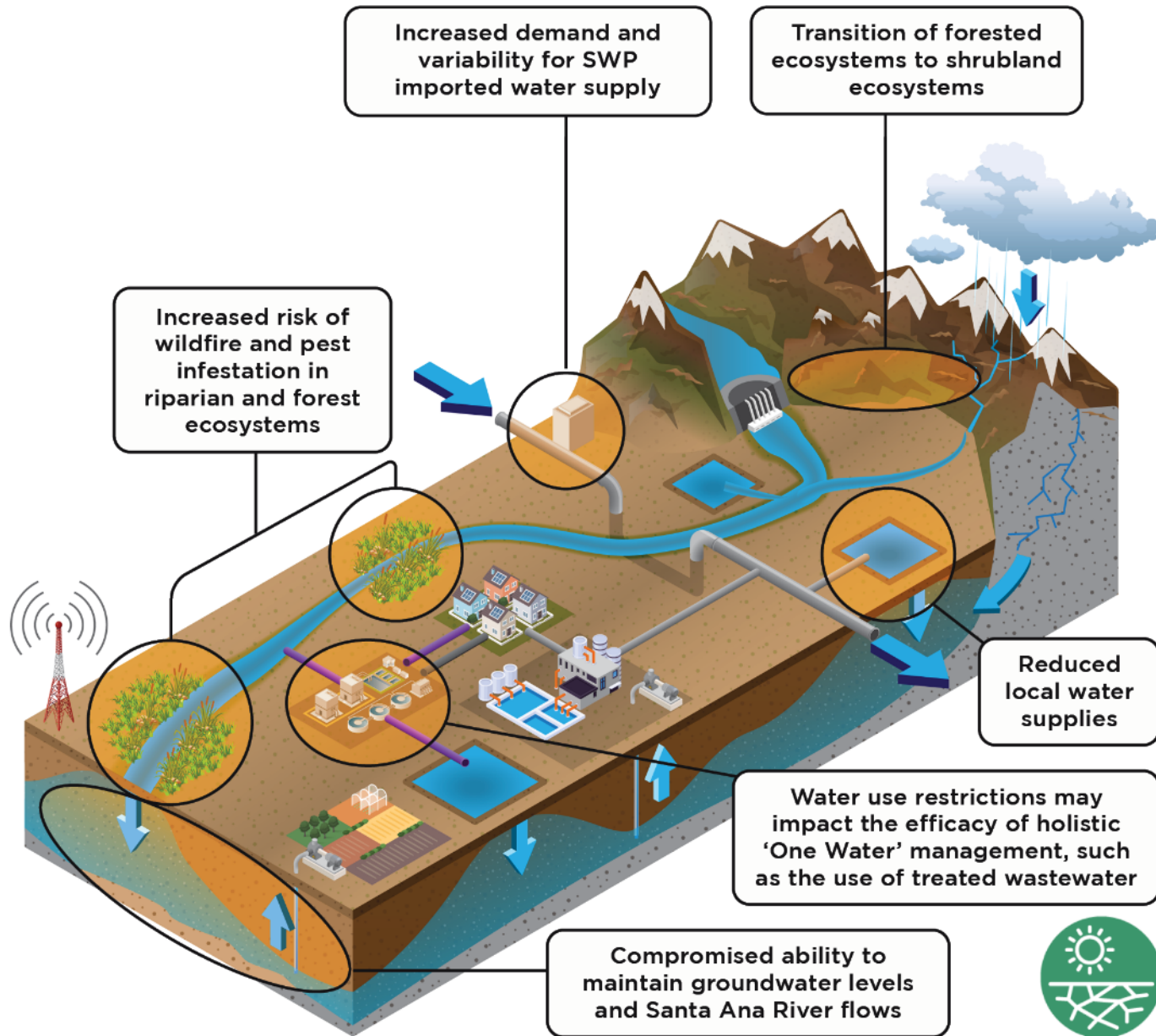
A drought is an extended period of abnormally low rainfall that can lead to water supply shortages, reduced soil moisture, and negative impacts on biodiversity, agricultural production and human communities. Intensified by climate change, the western U.S. is currently experiencing its driest stretch since A.D. 800, and drought conditions intensified rapidly in 2020-2021 (See Figure 16). Climate models project increasing temperatures and variability in annual precipitation will lead to an increase in the frequency and severity of multi-year drought events. SBVMWD relies on a mix of imported and local water supplies, both of which are vulnerable to local and statewide drought conditions. As localized droughts become more common and local supplies become more limited, reliance on imported SWP water from Northern California will increase. As statewide droughts become more common, and snowpack in the Sierra mountains become less reliable, deliveries of SWP water will become less reliable and potentially increase groundwater use. Potential impacts to SBVMWD related to drought are listed below in Figure 17.

**Figure 16** Southwestern North American Soil Moisture Deficit



*Williams, A., Cook, B., & Smerdon, J. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. Nature Climate Change, 12(3), 232-234. <http://dx.doi.org/10.1038/s41558-022-01290-z> Retrieved from <https://escholars>*

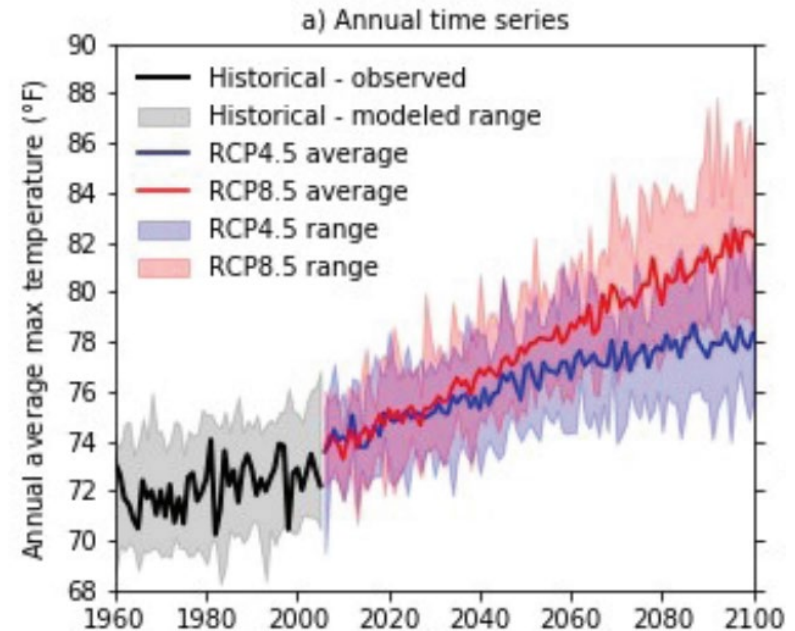
Figure 17 Potential Drought Impacts



## Extreme Heat

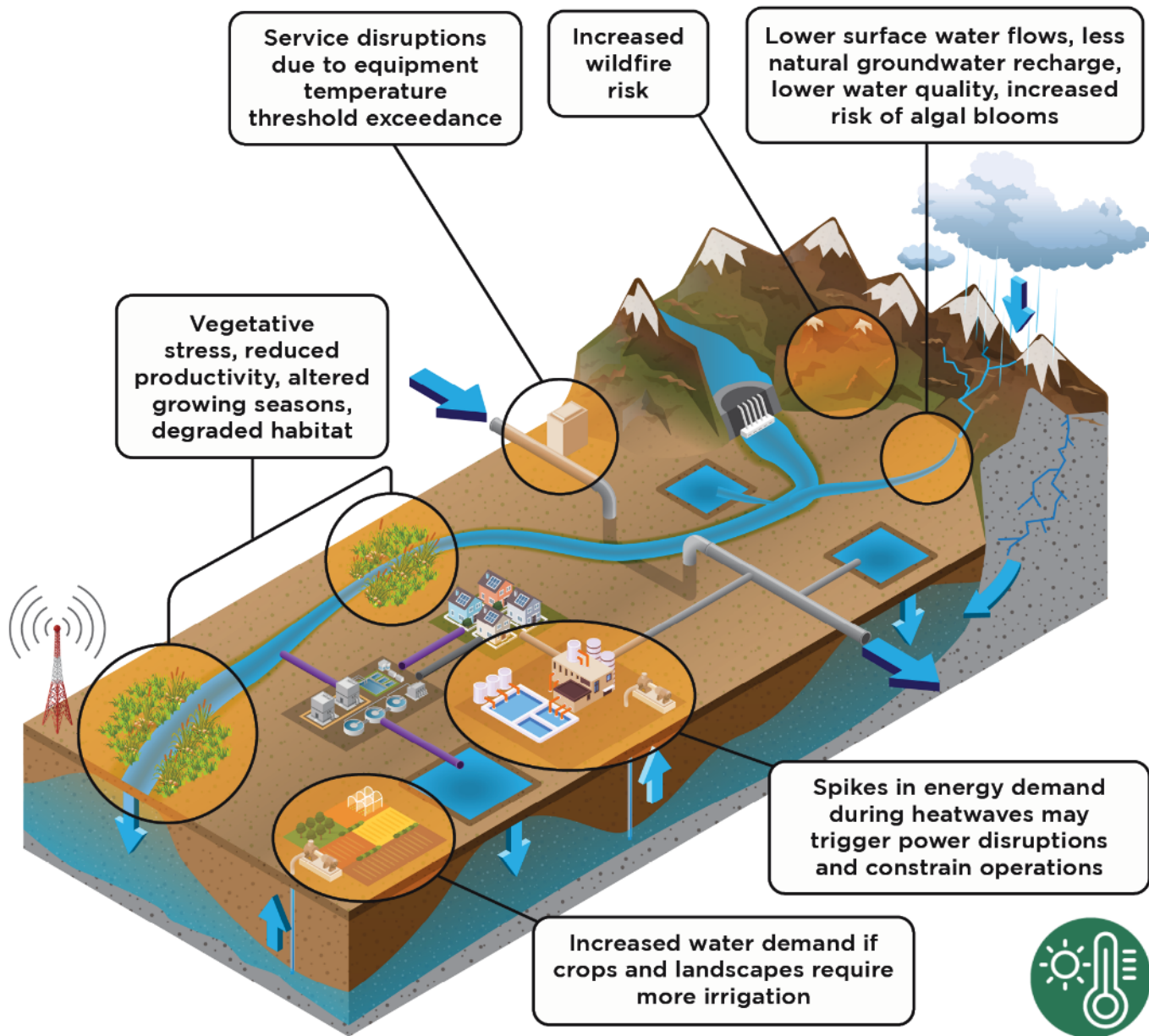
Extreme heat events are defined in the SBVMWD service area as days of the year when daily maximum temperatures exceed 100 degrees Fahrenheit. Observations over the past century indicate that temperature has increased across Southern California. This warming trend is projected to increase across the region in the coming decades with a high degree of certainty (See Figure 18).<sup>16</sup> Inland regions, like the SBVMWD service area, are expected to experience the highest amounts of warming. The intensity and frequency of extreme heat events are also projected to increase over the region and the largest changes in extremes are found in inland regions such as the Inland Empire, Central Valley, and the Coachella Valley. The number of extreme heat days in the SBVMWD service area is projected to increase by 24 to 51 days per year by mid-century (the historical average was 5-6 days per year). Potential impacts to SBVMWD related to extreme heat are listed below in Figure 19.

**Figure 18 Annual Average Maximum Temperature Projections**



<sup>16</sup> Hall, Alex, Neil Berg, Katharine Reich. (University of California, Los Angeles). 2018. Los Angeles Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCA4-2018-007.

Figure 19 Potential Extreme Heat Impacts



# Wildfire

Wildfire events are characterized by uncontrolled and rapidly spreading fires that spread mainly in vegetated wildland or wildland-urban interface areas. The historical record of wildfire events in Southern California, including the Sterling Fire of 2018, Hillside Fire of 2019, El Dorado Fire of 2020, Apple Fire of 2020, Easton Fire of 2020, Mount R Fire of 2020, Nob Fire of 2023, and in nearby Los Angeles County the Woolsey Fire of 2018, and the Bobcat Fire of 2020, confirm that wildfires happen frequently in the SBVMWD region. Future projections indicate that the SBVMWD sphere of influence will be affected by a larger number of wildfires and burned area by the mid-twenty-first century, driven by climate-related factors such as low precipitation, hot temperatures, strong winds, and availability of dry vegetation<sup>17</sup> (See Figure 20). The probability of a wildfire occurring in the SBVMWD service area over a ten-year period is projected to increase by up to 20 percent by mid-century. Potential impacts to SBVMWD related to wildfire are shown in Figure 21.

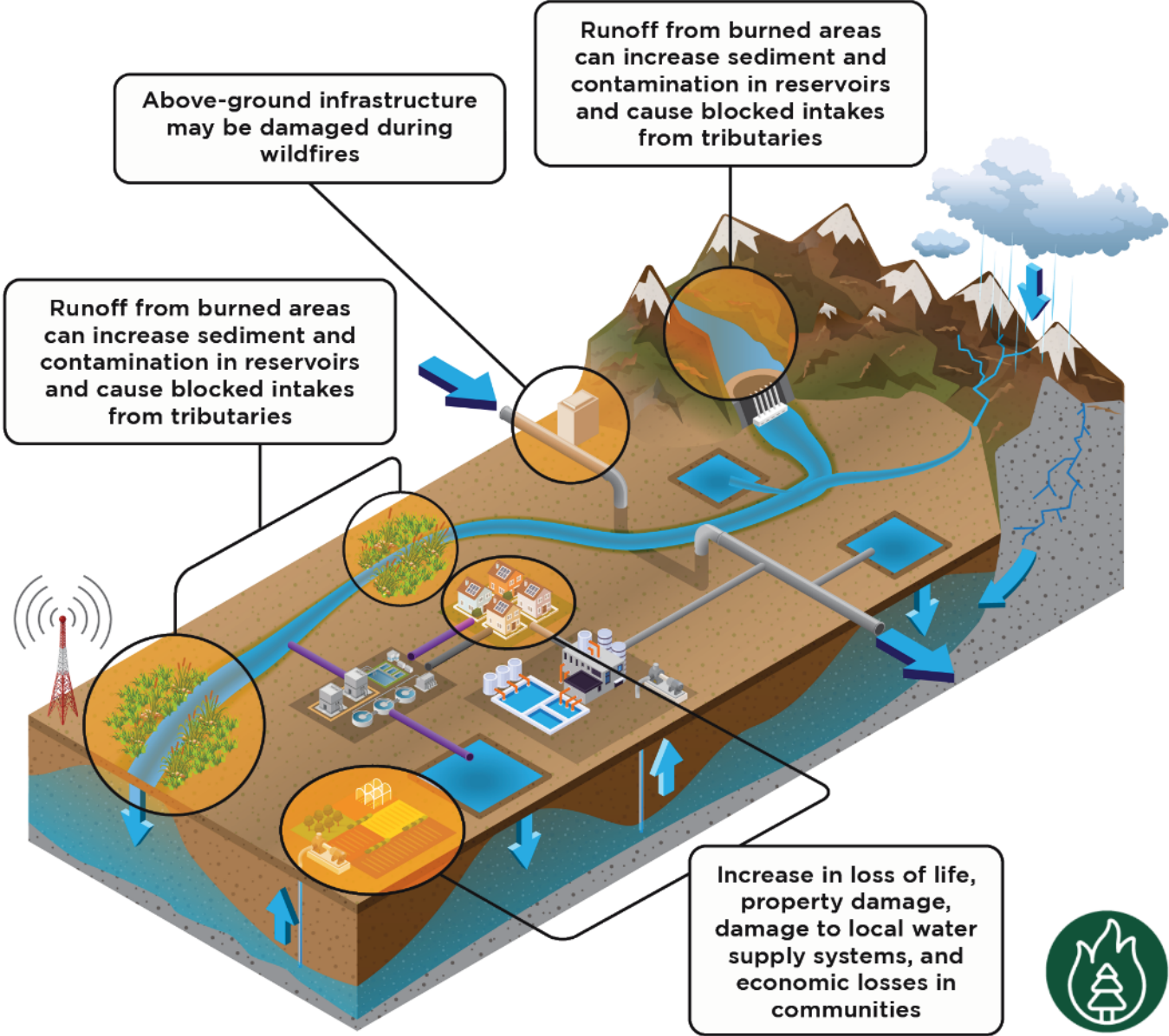
Figure 20 How Climate Change Fuels Wildfires



<https://www.ucsusa.org/sites/default/files/2020-09/wildfires-global-warming-united-states-infographic.pdf>

17 Hall, Alex, Neil Berg, Katharine Reich. (University of California, Los Angeles). 2018. Los Angeles Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-007.

Figure 21 Potential Wildfire Impacts

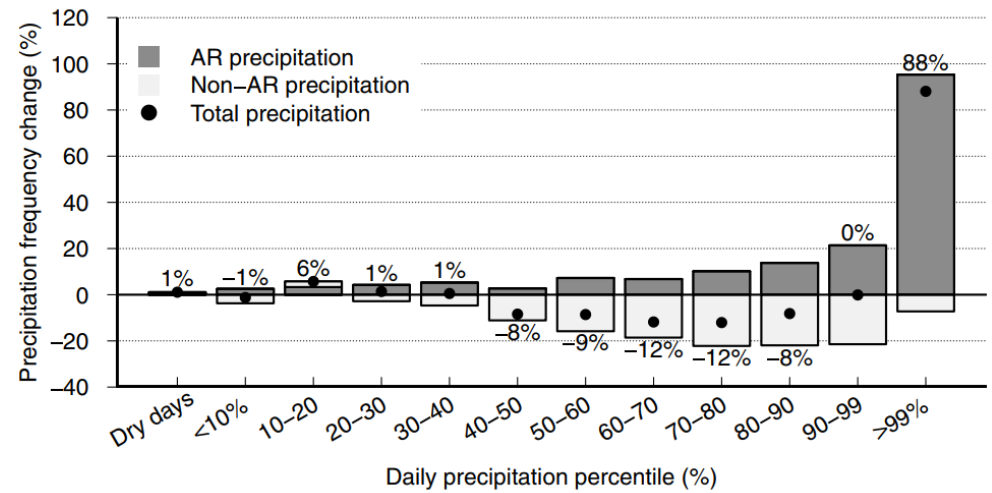




## Extreme Precipitation Events and Flooding

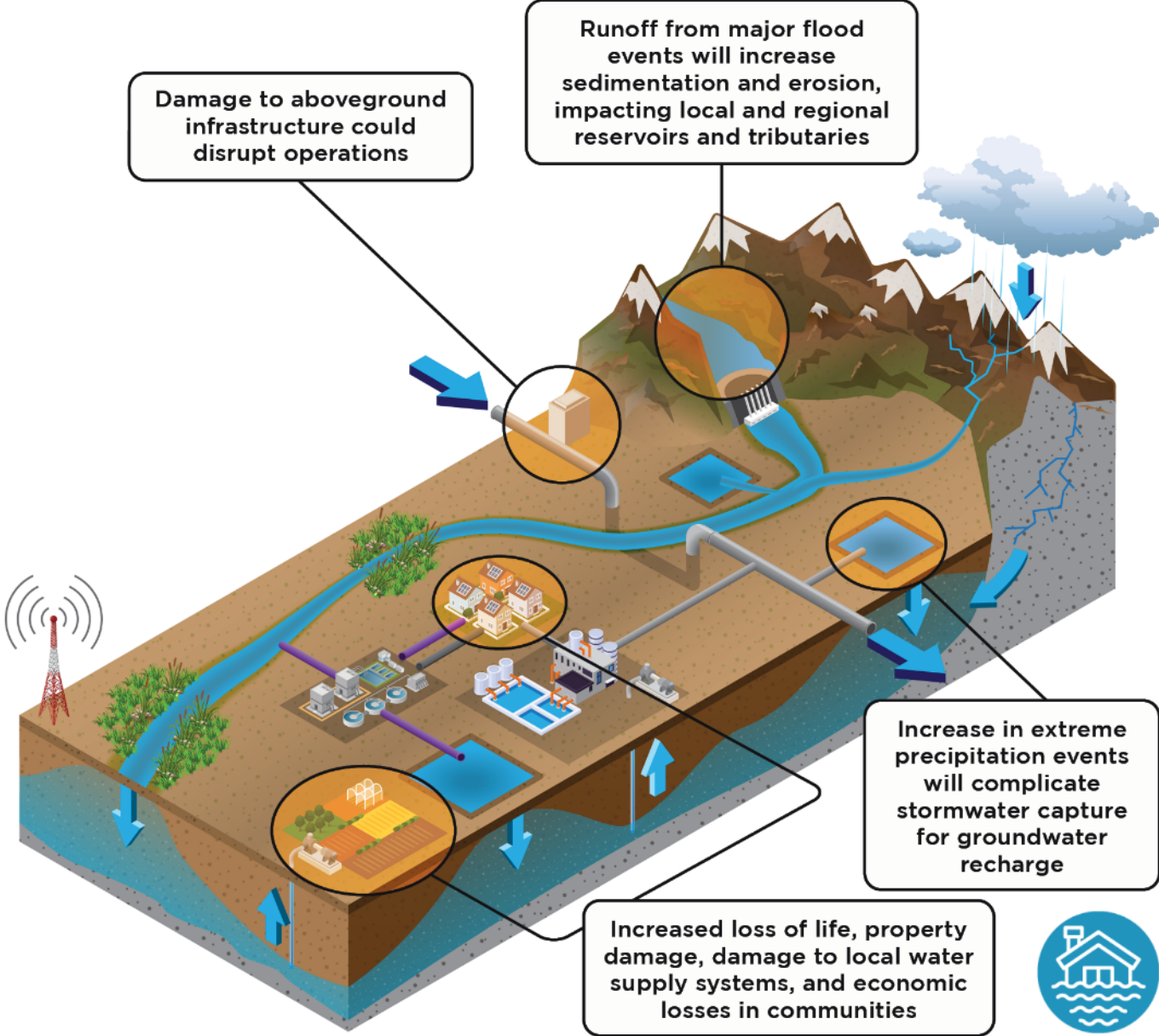
Flooding occurs when rivers and streams overflow due to heavy rainfall, or speedy snowmelt, and the capacity of stormwater infrastructure to move and discharge water cannot keep up with the rate of water inflow. Precipitation occurring during extreme events, known as atmospheric rivers (AR), is projected to increase in the future (See Figure 22). In a wetter future, flood risk is projected to increase in the SBVMWD region, and a significant number of critical infrastructures, like the Foothill Pipeline Crossing at City Creek, are exposed to increased flood and scour risk, per FEMA. The projected decrease in the frequency of precipitation from moderate size events and increase in precipitation frequency of extreme events will affect the region’s ability to capture stormwater for groundwater recharge. Additionally, some of SBVMWD’s assets and investments are located behind levees that could make them vulnerable to flooding and/or extreme weather events. Potential impacts to SBVMWD related to extreme precipitation and flooding are listed below in Figure 23.

**Figure 22** Precipitation Regime Change in the SAR Basin



Gershunov, A., Shulgina, T., Clemesha, R.E.S. et al. *Precipitation regime change in Western North America: The role of Atmospheric Rivers. Sci Rep* 9, 9944 (2019). <https://doi.org/10.1038/s41598-019-46169-w>

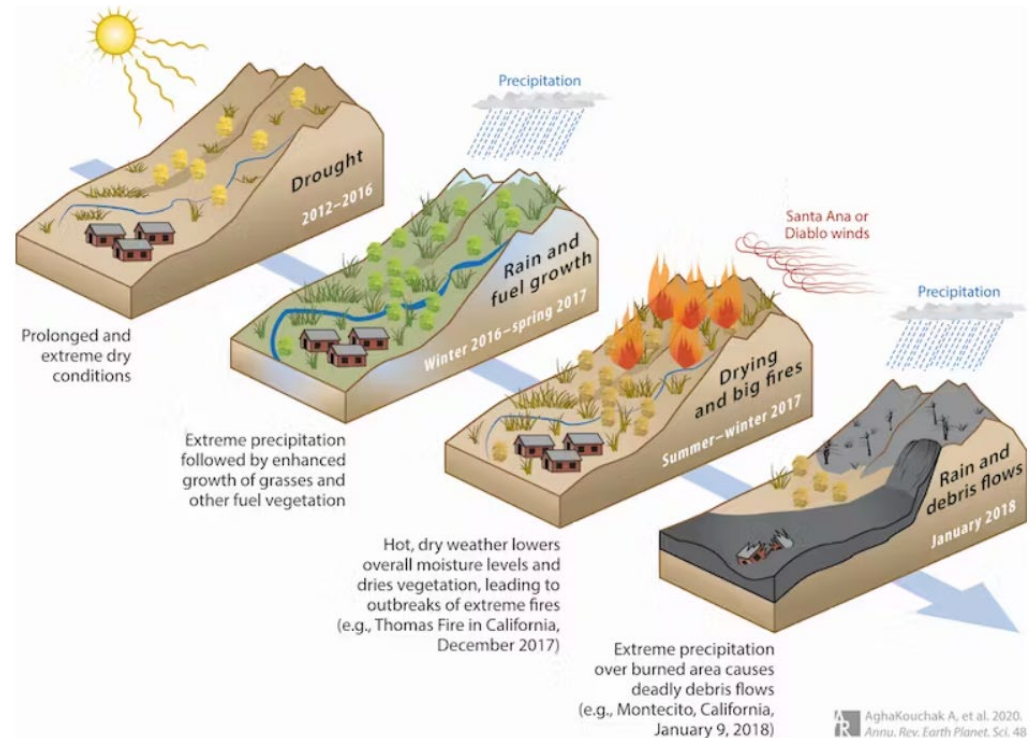
Figure 23 Potential Extreme Precipitation and Flooding Impacts



# Landslide

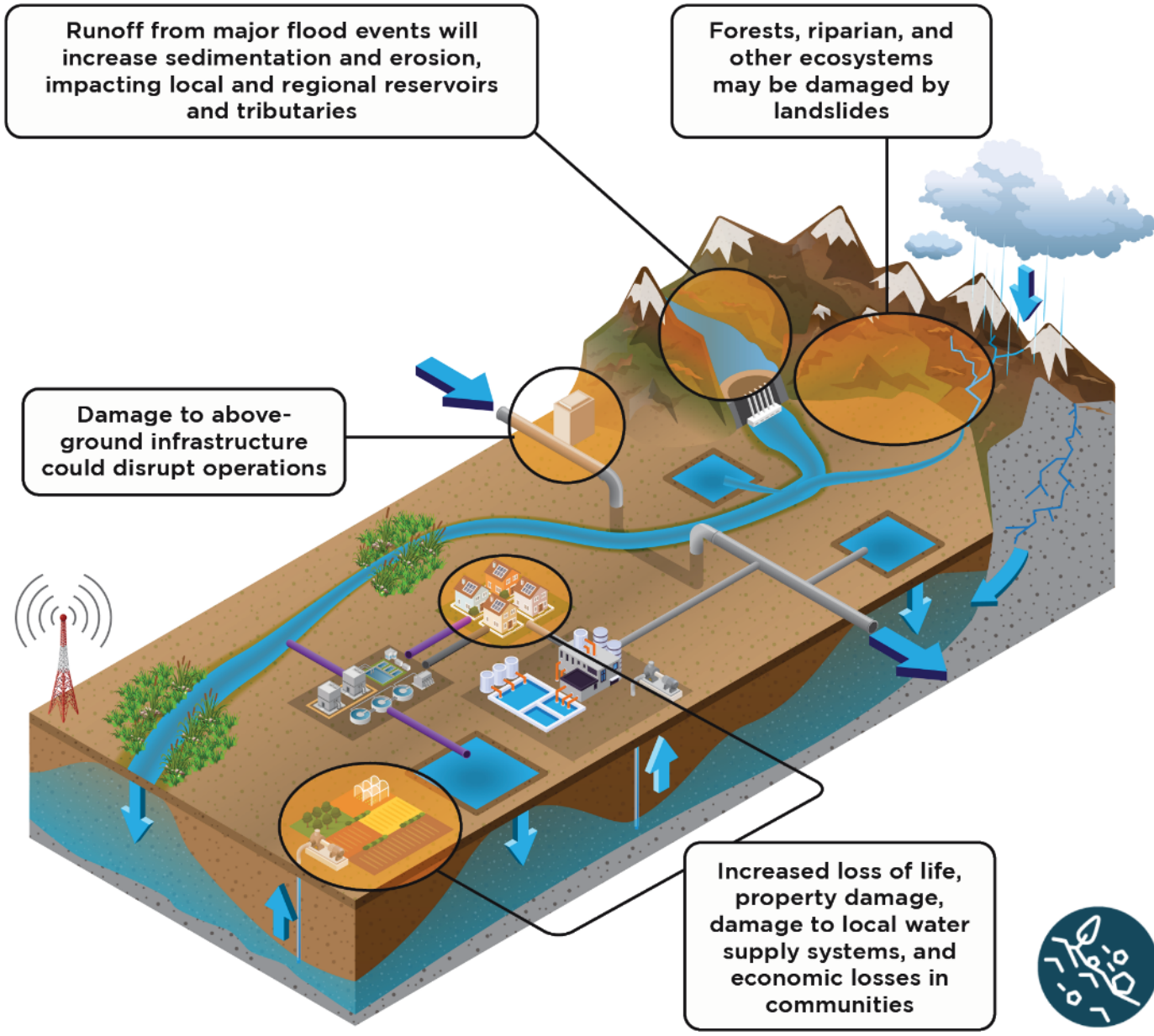
A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Debris flows (commonly referred to as mudflows or mudslides) and rock falls are examples of common landslide types on alluvial landforms, particularly at the urban-wildland interface. Almost every landslide has multiple causes. Slope movement occurs when forces acting down-slope (mainly gravity) exceed the strength of the earth materials that compose the slope. Landslides can be initiated in slopes already on the verge of movement by rainfall, snowmelt, changes in water level, stream erosion, changes in groundwater, earthquakes, disturbance by human activities, or any combination of these factors. Climate change is projected to increase landslide risk for two reasons. First, the projected increase in the frequency and severity of extreme precipitation events increases the likelihood that a landslide will be triggered. Secondly, landslides are even more likely to occur on areas affected by wildfires (See Figure 24). Potential impacts to SBVMWD related to landslides are shown below in Figure 25.

**Figure 24** Climate Change Contributions to Landslide Risk



An example of the cascading effects of climate change for wildfires. AghaKouchak et al., Annual Review of Earth and Planetary Sciences, 2020

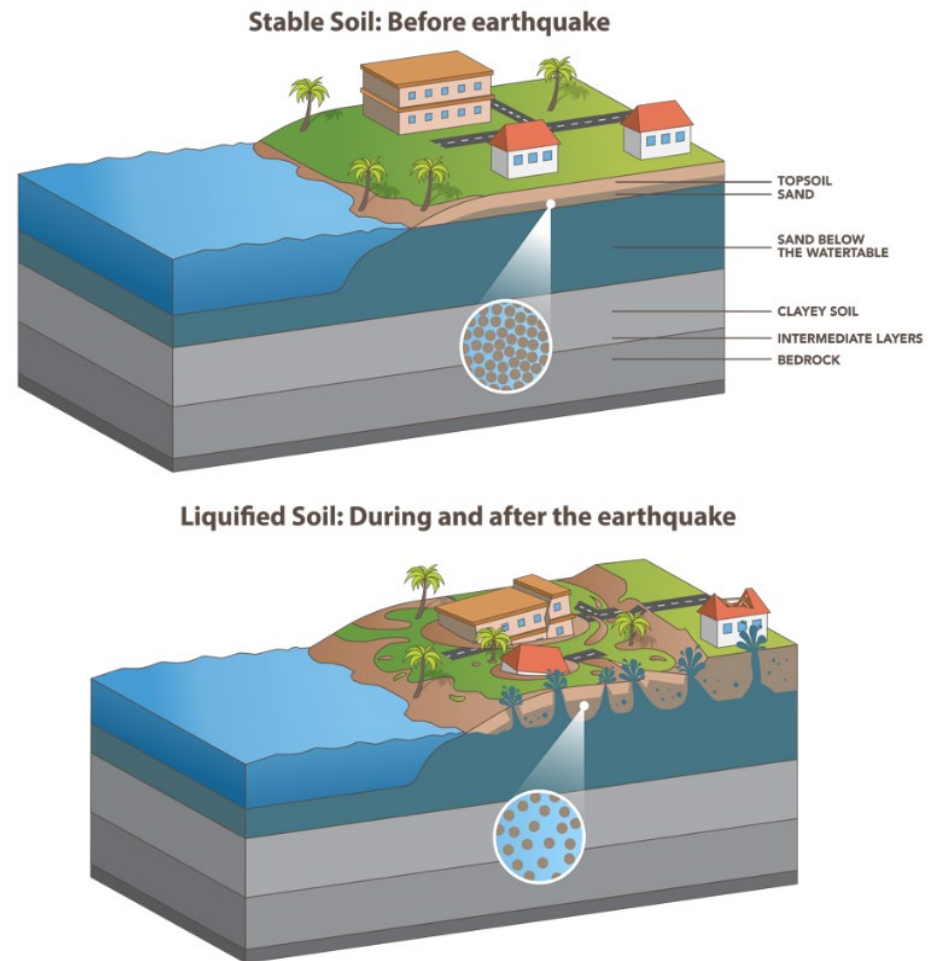
Figure 25 Potential Landslide Impacts



# Liquefaction

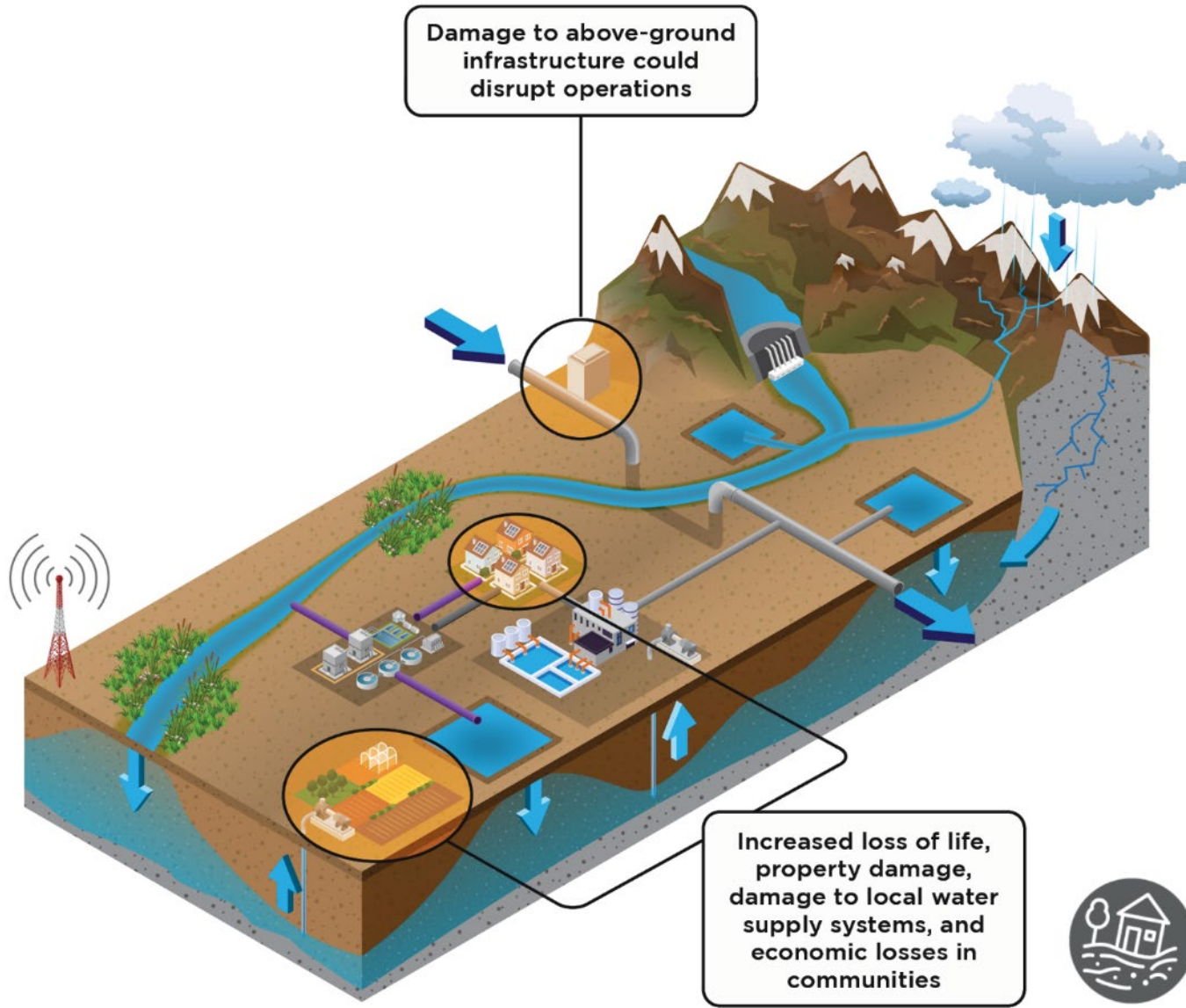
The presence of various fault lines in proximity to SBVMWD’s service area, in combination with pockets of sandy soils and predicted increases in extreme rain events, presents liquefaction as an important hazard for consideration (See Figure 26). In the context of SBVMWD, the potential for liquefaction is connected to high groundwater levels, which can occur under extreme precipitation conditions. SBVMWD has a history of managing local groundwater-related liquefaction risk and it has management options for alleviating high-groundwater conditions, particularly in the Pressure Zone of the San Bernardino Basin. Potential impacts to SBVMWD related to liquefaction are listed below in Figure 27.

**Figure 26 Liquefaction Overview**



<https://researchoutreach.org/articles/predicting-post-seismic-liquefaction-geological-response-analysis/>

Figure 27 Potential Liquefaction Impacts

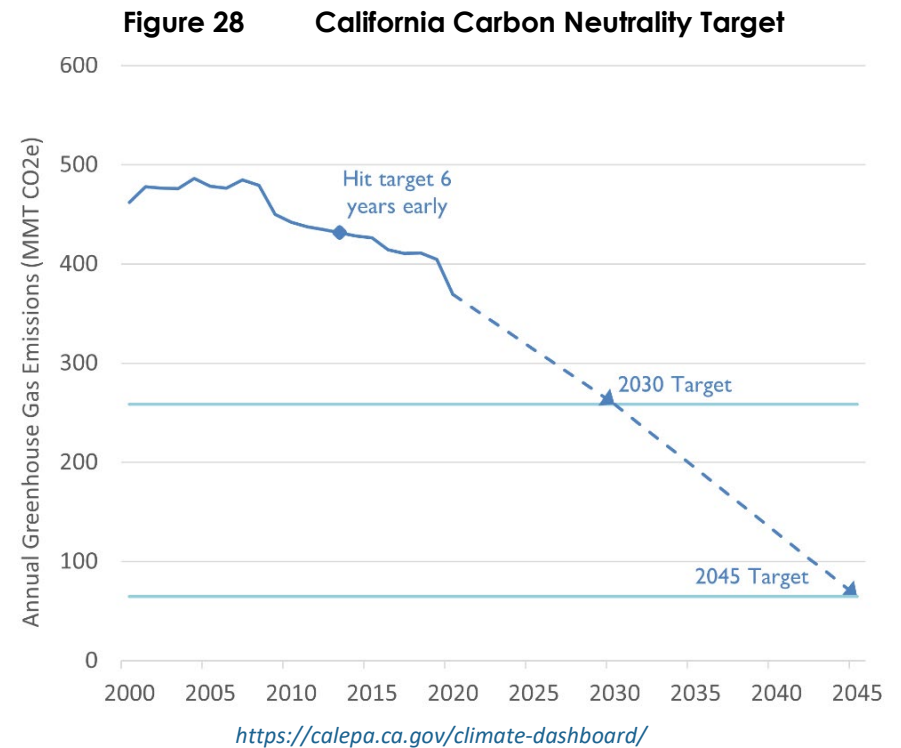


## 4. GHG Emissions Footprint

California has a sector-by-sector roadmap for carbon neutrality by 2045 (See Figure 28 a near-term target to return GHG emissions to 1990 levels by 2020. California surpassed this target 4 years early in 2016 (CARB). California’s next climate target is set to reduce emissions by 40 percent below 1990 levels by 2030. The 2022 Scoping Plan lays out how California can surpass this target, estimating a 48 percent reduction by 2030. AB 1279 establishes California’s long-term target to reduce anthropogenic emissions 85 percent below 1990 levels in 2045 and achieve carbon neutrality (the remaining 15 percent of emissions in 2045 will be addressed through carbon dioxide removal). For a comprehensive overview of related legislation, see Appendix B.

Water districts like SBVMWD play a fundamental role supporting state climate change resilience and mitigation goals, particularly by contributing to reducing local GHG emissions. California’s water sector is a major source of GHG emissions; this is largely related to the energy required to move water across the state through systems such as the State Water Project, Central Valley Project, and the Colorado River Aqueduct. Water agencies account for approximately 5 percent of California’s electricity consumption.<sup>1</sup> However, water utilities are positioned to reduce their emissions dramatically, through the identification of energy efficiency opportunities and conversion to carbon free energy sources.

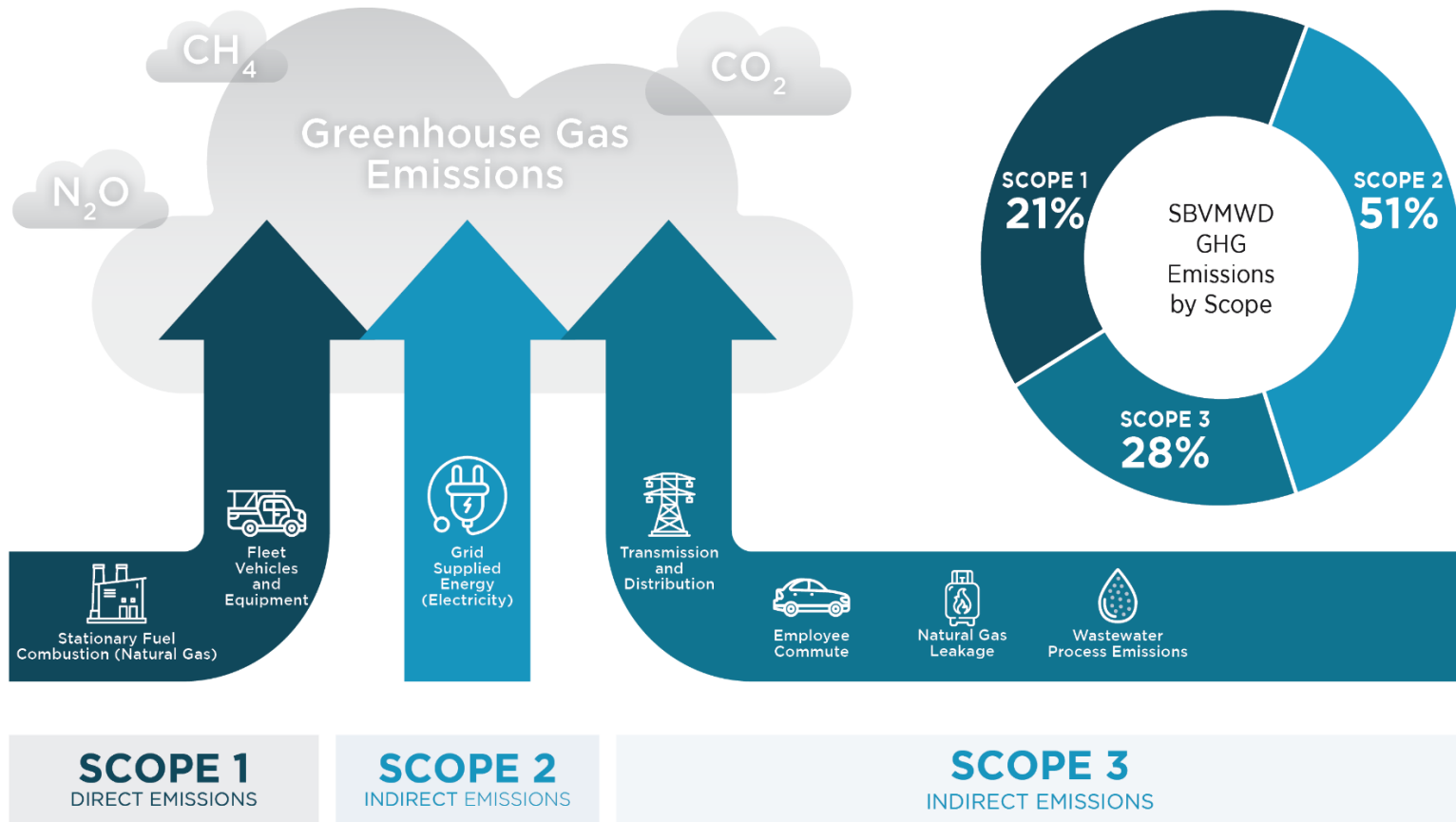
SBVMWD exercises direct and indirect control over its GHG emissions-generating activities (see GHG Emissions by Scope for definitions of GHG emissions by Scope). For example, SBVMWD can reduce or offset energy consumption with renewable energy in its buildings and facilities and reduce or mitigate consumption in its vehicle fleet. Estimating GHG emissions in an inventory enables SBVMWD to quantify the major sources of GHG emissions produced by its operations and programs and establish an emissions baseline for developing a forecast. The forecast allows SBVMWD to estimate future emissions trends and facilitates target setting for future reductions. These will be the first GHG inventory, forecast, and reduction targets established for SBVMWD.



18 California Air Resource Board. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality

Standard protocols for organization-focused inventories, such as the inventory for SBVMWD, commonly utilize a framework that categorizes GHG emissions by scope. The various scopes account for GHG emissions based on the level of operational control that the organization has over each GHG emissions source. The operational control methodology is well documented by established protocols, such as the Corporate Standard GHG Protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) and has been used by other agencies to avoid double counting of GHG emissions and conservation efforts (WRI and WBCSD 2015). See Figure 29 for an overview of SBVMWD’s GHG emissions share by scope and source.

**Figure 29 SBVMWD GHG Emissions by Scope and Source**



GHG emissions generated by activities directly controlled by the District.

GHG emissions associated with production of the District’s electricity, outside of the District’s direct control.

GHG emissions associated with all other activities required for the District operations, outside of the District’s direct control.



## GHG Emissions by Scope

**Scope 1** is defined as direct GHG emissions generated from sources that are owned or directly controlled by SBVMWD, including:

- Natural gas – emissions from natural gas delivered by Southern California Gas (SCG).
- Vehicle fleet and equipment (on- and off-road) – vehicle fleet emissions from diesel, gasoline, compressed natural gas, and propane usage.

**Scope 2** refers to GHG emissions that are indirectly generated by SBVMWD due to its consumption of purchased electricity, steam, heating, or cooling, including:

- Emissions from electricity delivered by Southern California Edison (SCE).

**Scope 3** refers to all other indirect GHG emissions not covered under Scope 2 that are associated with sources that are not directly owned or controlled by SBVMWD but are fundamental to the organization's operation, including:

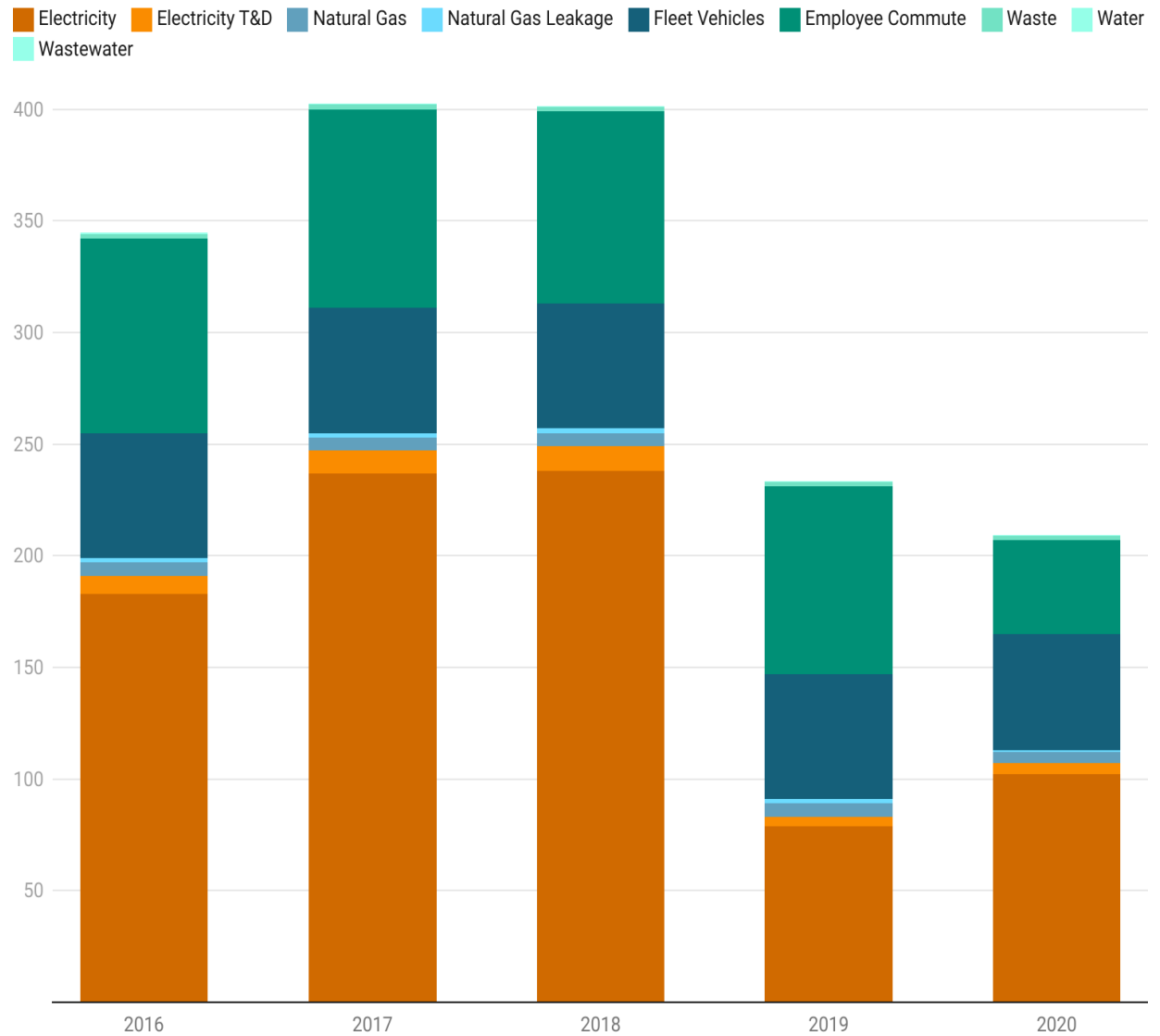
- Water – emissions associated with water use at SBVMWD facilities.
- Wastewater – process emissions associated with wastewater from SBVMWD facilities.
- Electricity transmission and distribution (T&D) losses – transmission and distribution losses associated with delivered electricity from SCE.
- Waste – emissions from waste generated by all SBVMWD office buildings and facilities.
- Employee commute – emissions from vehicles used by employees to commute to and from SBVMWD facilities.
- Construction – emissions associated with construction projects affecting SBVMWD facilities.

## GHG Emissions Inventory

The methodology used to calculate SBVMWD’s inventory is consistent with standard reporting protocols from the WRI, WBCSD, and the International Council for Local Environmental Initiatives (ICLEI). These protocols serve to guide the measurement and reporting of GHG emissions in a standardized way and have been used by other water agencies to support their own inventory and CARP development. They also include steps to evaluate the relevance, completeness, consistency, transparency, and accuracy of data used in the inventory and forecast.

Scope 1 makes up approximately 21 percent of SBVMWD emissions. Scope 2 makes up the largest share of emissions at approximately 51 percent of total emissions. Scope 3 emissions make up approximately 28 percent of total emissions. The largest emissions source driving SBVMWD’s emissions is electricity consumption at offices and pump stations (Scope 2). Other major sources of emissions include employee commute and the vehicle fleet. SBVMWD’s GHG emissions fluctuate year to year depending on the source of water and the extent of water demand and services provided. The inventory was therefore developed to include GHG emissions accounting for years 2016, 2017, 2018, 2019, and 2020, to capture and quantify some of this variability. See Figure 30 for a visual summary of SBVMWD emissions by source, scope 1 emissions are depicted in blue tones, scope 2 emissions are depicted in orange tones, and scope 3 emissions are depicted in green tones. The multi-year inventory, informed by an understanding of the variability drivers for each year, was then used to develop SBVMWD’s GHG emissions forecast.

**Figure 30 SBVMWD Annual Emissions by Source (2016-2020)**



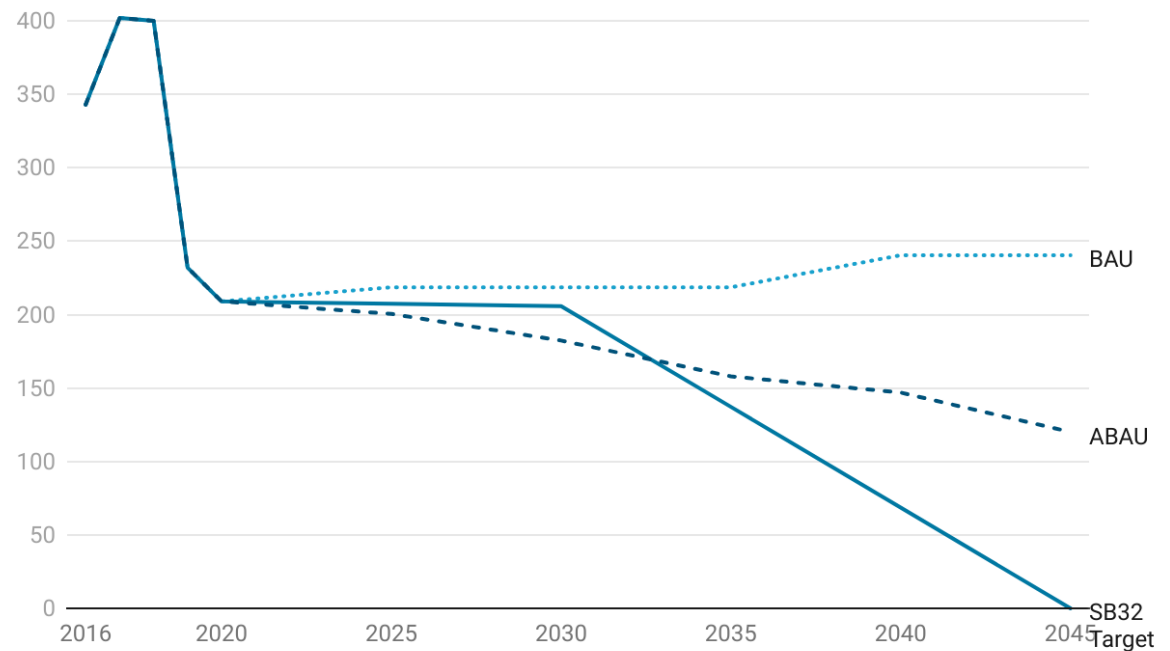
## Forecast and Targets

SBVMWD's GHG emissions are expected to change over time due to expected changes in water demand and new projects. A GHG emissions forecast accounts for projected future changes using growth rates and extrapolates from the inventory an estimate of GHG emissions in future years, while also accounting for projected GHG emissions reduction impacts from state legislation. Calculating the difference between the forecasted GHG emissions and the reduction targets determines the gap to be closed through direct action taken by SBVMWD to reduce GHG emissions.

Two forecast scenarios are presented in Figure 30: a BAU (Business as Usual) forecast scenario and an adjusted forecast scenario. The BAU forecast scenario projects the expected growth for all GHG emissions sources based solely on SBVMWD's water service changes. The adjusted forecast accounts for water demand changes and additionally quantifies and incorporates State legislation that is expected to help reduce SBVMWD's future GHG emissions. The adjusted forecast, when compared to the BAU forecast, represents a more accurate picture of future GHG emissions inclusive of the anticipated effects of future State legislation. The adjusted forecast is therefore used to determine the gap between the forecast and the GHG reduction targets that will need to be bridged through actions taken by SBVMWD.

Figure 31 also shows SBVMWD's target emissions forecast needed to support the State's carbon neutrality goals as codified in SB 32 and AB 1279. SBVMWD is currently on track to meet SB 32 requirements of a 40 percent reduction below 1990 levels by 2030 based on State actions. However, it will need to take additional actions (approximately 120 MT CO<sub>2</sub>e) to achieve carbon neutrality by 2045. It should be noted that this forecast does not include any significant operational changes (such as adding new pumps or other facilities) or construction projects. Measures and action that SBVMWD will take to eliminate the 120 MT CO<sub>2</sub>e are described in Section 5 (Measures 3-I through 3-P).

**Figure 31 SBVMWD GHG Emissions Forecast and Targets**

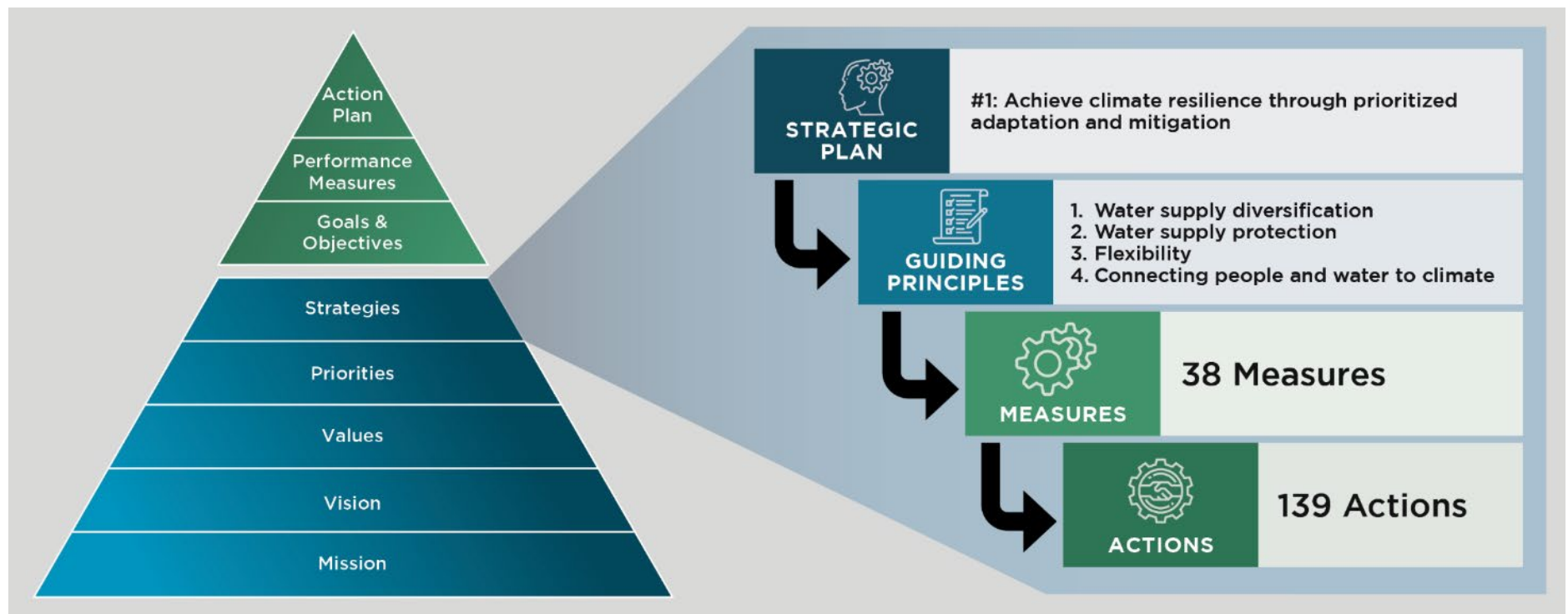


# 5. Goals, Measures, and Actions


The CARP is designed to build on the strong foundation of climate action and adaptation already integrated into SBVMWD’s operations and will provide a framework for updated policies and programs that work towards resilience. The CARP will incorporate the many programs that SBVMWD has in place and will include new guiding principles, measures, and actions that SBVMWD will develop based on climate vulnerabilities, the needs of the community, and the values of SBVMWD. CARP actions have been organized into two phases of implementation, which is described in Section 6.


As described in Section 1, SBVMWD’s Strategic Plan recognizes that the long-term viability of the region’s water supply must include the reduction of GHG emissions and adaptation to the impacts of climate change among other priorities. The CARPs strategy framework includes measures and actions that primarily support SBVMWD’s adaptation and resilience strategic priorities, while also supporting other aspects of its strategic plan, including its core values. The CARP Framework begins with guiding principles. The guiding principles support Strategy 1 (Achieve climate resilience through prioritized adaptation and mitigation) in the SBVMWD Strategic Plan. Measures or strategies will then be developed to support CARP guiding principles. The measures are then implemented through a set of actions. Indicators for CARP guiding principles, measures, and actions to assist staff in tracking progress and evaluating efficacy. Included in Figure 32 below is a summary of the framework.


**Figure 32 Overview of How the CARP Supports the SBVMWD Strategic Plan**




The CARP supports SBVMWD's Strategic Plan and aligns with the State Water Resilience Portfolio through its four Guiding Principles:

- 

1. **Maintain a Diverse Water Portfolio** through recycled water production, stormwater capture, aquifer recharge and strategic water imports in order to provide multiple benefit resilience outcomes for the regional water supply. By relying on a diversified mix of imported and localized water sources, SBVMWD can help the region better cope with future climate extremes as they occur at a local and statewide scale. Diversification additionally maintains a reliable and sustainable water supply, particularly in the Southern California region that is prone to water supply volatility and relies on imported water.
- 

2. **Protect the Water Portfolio** through conjunctive use planning, watershed restoration initiatives and strategic aquifer recharge. Sustainable management of existing supplies and natural resources will help maintain SBVMWD's investments and the benefits provided by our infrastructure and the natural environment, allowing SBVMWD to meet the needs of a changing and dynamic population of customers and the environment.
- 

3. **Improve Operational and Infrastructure Resilience** by making strategic investments in crucial operations and infrastructure in order to create reliability and continuity of service and assist in long-term regulatory compliance. By creating redundant systems where necessary, exploring water transfer options, and incorporating resilient design criteria in capital improvement projects, SBVMWD is setting itself up for providing reliable service in an uncertain climate future prone to disruptions. Prioritizing resilience in operations and infrastructure, while requiring initial investments up front, will prevent more extensive and expensive damages that might occur in vulnerable or outdated systems.
- 

4. **Connect People and Water to Climate** By leading education and engagement programs and supporting familiarity and use of the Watershed. Support activities that enable the communities that SBVMWD serves to understand and meaningfully engage with the complex water systems that sustain it. SBVMWD will embrace community members and groups as allies in sustainable water management and regional climate resilience.

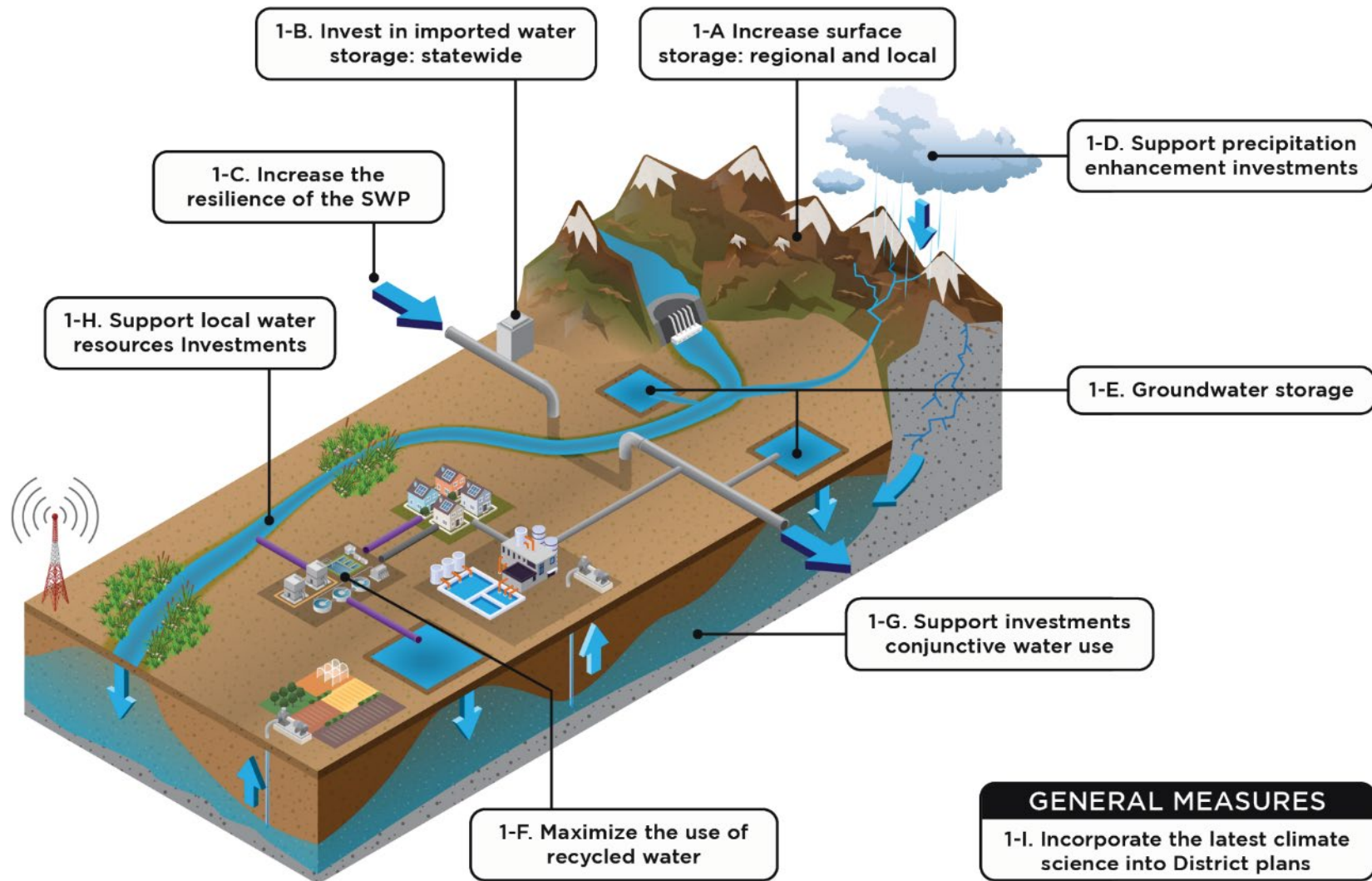
CARP Measure descriptions include the following elements.

- Adaptive Management Indicators outlining how efficacy will be assessed
- Climate vulnerabilities addressed by the measure
- Partners necessary for successful implementation
- Actions SBVMWD will take to implement the measure

# 1. Maintain a Diverse Water Portfolio

Figure 33 below depicts the CARP measures that support Guiding Principle 1: Maintain a Diverse Water Portfolio. The diagram illustrates how measures contribute to enhancing the resilience of SBVMWD's water portfolio within its operational context.

**Figure 33 CARP Measures Supporting Guiding Principle 1: Maintain a Diverse Water Portfolio**



## 1-A Surface Storage: Regional and Local



**Description:** Increase capacity to store and deliver local surface water or a blend to treatment plants.

**Adaptive Capacity Indicator:** Local Surface Water Storage Capacity (acre-feet)

**Key Partners:** Western Municipal Water District, Western Water, Scripps UC San Diego, U.S. Army Corps of Engineers, and other local and regional agencies



### Actions:

1-A-1. Complete Master Plan for Sunrise Ranch to evaluate the potential for an on-site reservoir that can store local and imported water.

1-A-2 If feasible, design Sunrise Ranch Reservoir - including engineering, CEQA, and permits.

1-A-3 If feasible, construct the Sunrise Ranch Reservoir; action include financing, partnerships and construction management.

1-A-4 Conduct a Viability Assessment for seasonal and temporary storage at Seven Oaks Dam through Forecast Informed Reservoir Operations (FIRO) Study.



## 1-B Surface Storage: Statewide



**Description:** Increase imported water storage capacity, such as through the development of Sites Reservoir and other off-aqueduct storage.

**Adaptive Capacity Indicator:** Imported Surface Water Storage Capacity (acre-feet)

**Key Partners:** State Water Contractors (SWC), SWC Class 8 Contractors, Department of Water Resources, Sites Reservoir participating agencies



### Actions:

1-B-5. Continue participation in Sites Reservoir Authority's design, planning, environmental documentation, and permitting for the Sites Reservoir Project.

1-B-6 Consider Board action to fund the construction of Sites Reservoir and determine the funding mechanism of SBV's share of the construction cost only. Future O & M cost not included.

1-B-7 Participate in the construction and delivery of the Sites Reservoir Project through the Sites Project Authority.

1-B-8 Complete a Storage Feasibility Study with Class 8 State Water Contractors to evaluate storage needs and opportunities.

1-B-9 Identify or explore additional short-to-intermediate term storage programs with other partners such as the State Water Contractors Association and MWDSC (for example, storage in Diamond Valley Lake), Pass Agency, Antelope Valley-East Kern, Central Valley, Mojave Basin, etc. and local direct delivery customers.

## 1-C Delta Conveyance and California Aqueduct Resilience



**Description:** Continue support for reliability investments in the SWP system, such as the Delta Conveyance and California Aqueduct improvements.

**Adaptive Capacity Indicator:** Additional SWP imported water capacity (acre-feet)

**Key Partners:** California Department of Water Resources, Delta Conveyance Project Participating Agencies, and State Water Contractors



### Actions:

1-C-10. Continue to participate in project planning and completion of environmental documentation and permitting through the Delta Conveyance Design and Construction Authority (DCA).

1-C-11 Consider Board action to fund the Delta Conveyance Project (DCP) and funding mechanism for SBV's share of the construction cost only. Future O & M cost not included.

1-C-12 Participate in the construction of the DCP by DCA, other DCP agreements and export of water through DCP.

1-C-13 Evaluate investments to optimize the operations and maintenance of the California Aqueduct and maximizing its conveyance capacity, especially on the East Branch.

## 1-D Precipitation Enhancement



**Description:** Implement and assess effectiveness of weather modification pilot program by SAWPA

**Adaptive Capacity Indicator:** Additional potential local precipitation per year (inches)

**Key Partners:** Santa Ana Watershed Project Authority (SAWPA) and SAWPA Member Agencies



### Actions:

1-D-14. Participate and monitor the implementation of the SAWPA Weather Modification Pilot Program (2023-26), evaluate results, and make recommendation to the Board on next steps.

1-D-15 If the decision is to implement a Weather Modification Program, develop and implement the program with partners.

## 1-E Groundwater Storage



**Description:** Develop and implement stormwater capture projects and SWP recharge in conjunction with demand management to increase groundwater volume and water levels

**Adaptive Capacity Indicator:** Additional regional annual stormwater capture capacity (acre-feet)

**Key Partners:** Western Water, Riverside Public Utilities, Fontana Water Company, West Valley Water District, Redlands, East Valley Water District, Yucaipa Valley Water District, San Bernardino Valley Water Conservation District, and San Bernardino County Flood Control District, and others.



### Actions:

1-E-16 Complete Enhanced Recharge, Phase 1B to allow for the diversion and recharge of up to 80,000 acre-feet per year and maximizing the two water right permits held by San Bernardino Valley and Western Water.

1-E-17 Complete facilities' upgrades and agreements to recharge imported water at Cactus Basins, Weaver Basins, County Line Basins, and other feasible locations.

1-E-18 Evaluate the use of demand and supply management incentives to encourage retail agencies to maximize direct deliveries when recharge capacity is limited in order to reduce groundwater pumping; explore treated water delivery.

1-E-19 Develop a priority list for the Program for Enhanced Recharge Capability (PERC) and other active recharge projects, complete the pre-construction strategy, and develop a funding strategy.

1-E-20 Complete a change in point of diversion petition to the State Water Board (Umbrella Permit) and time extension to maximize Santa Ana River water rights.

1-E-21 If feasible, support the implementation of Phase 1 Project(s) of PERC and other active recharge projects outside of PERC; coordinate or provide necessary funding and resources.

1-E-22 Evaluate, identify, and utilize passive recharge opportunities using local streambeds while mitigating habitat and invasive species concerns.

## 1-F Recycled Water



**Description:** Support projects to sustainably increase production and use of recycled water

**Adaptive Capacity Indicator:** Additional annual recycled water production capacity (acre-feet)

**Key Partners:** East Valley Water District, City of San Bernadino Municipal Water Department, City of Redlands, Yucaipa Valley Water District, City of Colton, City of Rialto, Riverside Public Utilities, and others



### Actions:

1-E-23 Complete the Regional Recycled Water System Phase 1 (Pipeline and Weaver Basins).

1-E-24 Complete Phase 2 of Regional Recycled Water Pipeline to connect City of San Bernardino Municipal Water Department Tertiary Treatment System to Weaver Basins.

1-E-25 Continue working with retail agencies to maximize their recycled water programs, evaluate dual plumbing where feasible and direct potable reuse while prioritizing findings from the Salt and Nutrient Management Plan and Regional Salt Mitigation Study.

## 1-G Conjunctive Use



**Description:** Secure up to 120,000 acre-feet in additional groundwater storage for dry year yield for local and regional partners

**Adaptive Capacity Indicator:** Annual conjunctive water use capacity (acre-feet)

**Key Partners:** Basin Technical Advisory Committee, San Geronio Pass Water Agency, Yucaipa Valley Water Districts, Western Water, and others



### Actions:

1-G-26 Engage with participating agencies and potential partners to finance the planning, development, and operation of conjunctive use projects such as BHCUP and SARCCUP; reevaluate the IRUWMP and BTAC Conjunctive Use Guidelines.

1-G-27 Update/revise the Surplus Water Policy (Ordinance No. 79).

1-G-28 Complete the modeling and conjunctive use proposal for the Santa Ana River Conservation and Conjunctive Use Program/BHCUP and related approvals from BTAC, Board, and Watermaster.

1-G-29 Finalize and implement conjunctive use investments for SARCCUP and Bunker Hill CUP, and related construction.

## 1-H Local Resource Investment



**Description:** Invest in local and regional water supply projects that reduce demand on imported water supplies and increase water supply reliability

**Adaptive Capacity Indicator:** Increase in annual local water availability (acre feet)

**Key Partners:** Retail Agencies



### Actions:

1-H-30 Continue the implementation of a local resource investment program incentivizing local stormwater capture, groundwater replenishment and recovery, water conservation, and recycled water and onsite reuse, tree-planting in disadvantaged communities lack tree canopy, rain-barrel distribution and dual-plumbing investments.

## 1-I Adaptive Supply Planning and Portfolio Management



**Description:** Incorporate latest climate science and scenarios into plans for water resource development and management, emergency preparedness and response, and financial sustainability.

**Adaptive Capacity Indicator:** Number of plans that incorporate the latest climate science.

**Key Partners:** Retail Agencies, United States Geological Survey, California Department of Water Resources, Center for Western Weather and Water Extremes, Santa Ana Watershed Project Authority, California Data Collaborative, and technology solutions providers



### Actions:

1-I-31 Periodically update models and plans with the latest data and forecast; invest in high-quality science and enhanced data management to better understand Basin's trends and response to management actions; and conduct climate sensitive analysis (back-end solutions).

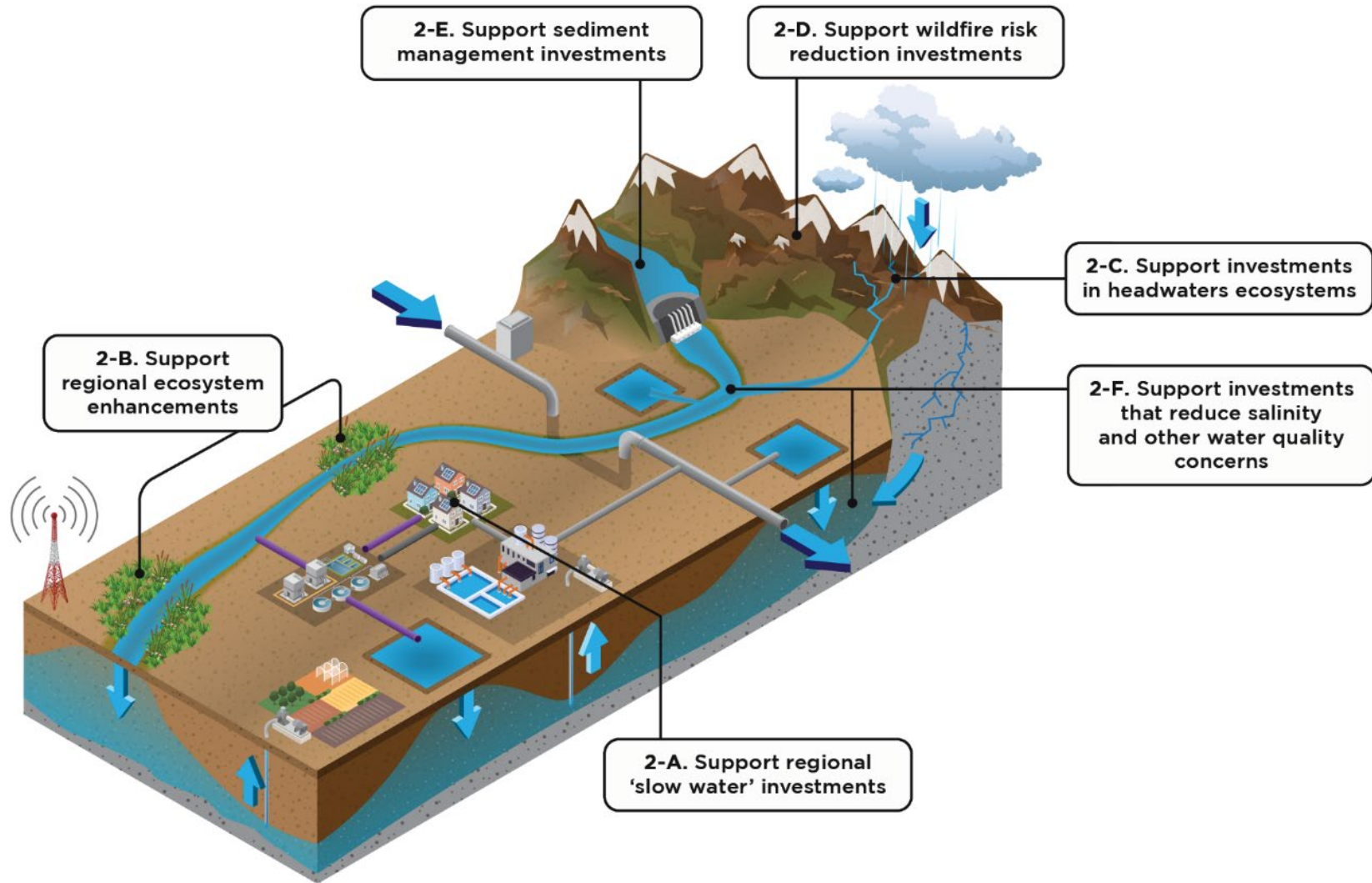
1-I-32 Identify and implement water portfolio tool(s), dashboards and decision-support and engagement portals necessary to adapt to a variety of plausible futures successfully and agile enough to adjust the water portfolio to changing times (front-end solutions).



## 2. Protect the Water Portfolio

Figure 34 below depicts the CARP measures that support Guiding Principle 2: Protect the Water Portfolio. The diagram illustrates how measures contribute to enhancing the resilience of SBVMWD's water portfolio within its operational context.

**Figure 34** CARP Measures Supporting Guiding Principle 2: Protect the Water Portfolio



## 2-A Nature-Based Solutions



**Description:** Support regional slow water initiatives or local efforts to attenuate runoff and increase permeable surfaces in urban areas

**Adaptive Capacity Indicator:** Additional aquifer recharge capacity from storm runoff per year (acre-feet)

**Key Partners:** Retail agencies, cities, flood control district, property owners, non-profits



### Actions:

2-A-33 Engage with retail agencies, cities, and flood control district to identify urban areas affected by localized flooding, areas that are a significant source of pollutant loads, and ongoing efforts to increase urban habitats and open space.

2-A-34. Consider conducting a study to determine opportunities to attenuate runoff and to determine the extent to which these opportunities (tree canopy, rain gardens, rain-barrels, infiltration basins, check dams, ponds, wetlands, etc.) can improve recharge and water quality.

2-A-35 Identify funding opportunities to pool resources or develop a regional fund for financing these projects (e.g., grants, loans, bonds, fees).

2-A-36 In partnership with land use authorities such as cities, consider opportunities for direct use of local runoff in addition to infiltration as an offset to potable water or recycled water.

2-A-37 Evaluate additional recharge and infiltration opportunities through passive recharge in local waterways and flood plains, while providing multiple benefits and mitigating habitat issues.

## 2-B Ecosystem Enhancements



**Description:** Support the implementation of the HCP conservation and restoration activities

**Adaptive Capacity Indicator:** Annual additional restored/conserved area (acres)

**Key Partners:** City of Rialto, East Valley Water District, Inland Empire Utilities Agency, Metropolitan Water District of Southern California, Orange County Water District, Riverside Public Utilities, San Bernardino Municipal Water District, San Bernardino Valley Municipal Water District, San Bernardino Valley Municipal Water Conservation District, West Valley Water District, Western Municipal Water District of Riverside County



### Actions:

2-B-38 Complete the ecosystem restoration and translocation projects identified in the HCP.

2-B-39. Evaluate additional enhancement opportunities within the HCP Preserve System (for example Sunrise Ranch), and if feasible, develop and implement.

## 2-C Headwaters Landscape Management



**Description:** Support the implementation of headwaters landscape management practices in the upper SAR watershed

**Adaptive Capacity Indicator:** Annual additional enhanced/ improved habitat (acres)

**Key Partners:** San Bernardino National Forest, US Forest Service, all members of the Headwaters Resilience Partnership



### Actions:

2-C-40 Investigate, identify, and develop an investment and partnership plan for headwater health and restoration projects.

2-C-41 Develop and prioritize a web-based inventory of watershed and/or ecosystem services projects that feature nature-based solutions and enhanced ecosystem services to prioritize a list of projects for investment and implementation.

2-C-42 Develop a long-range financial plan to fund ecosystem investments that provide water quality, water supply, and resilience benefits.

2-C-43 Develop a monitoring and evaluation approach for headwaters/forest resources and align with regional, state, and federal monitoring efforts.

2-C-44 Consider conducting a study to determine headwaters landscape management opportunities to increase water storage capacity (e.g., meadows and mountain wetlands, catchment pools).

## 2-D Land Stewardship and Land Use Planning



**Description:** Develop and implement wildfire abatement and response program

**Adaptive Capacity Indicator:** Adopted document or policy

**Key Partners:** Inland Empire Fire Safe Alliance, USDA Forest Service, San Bernardino County Fire Protection District, Southern California Edison, Cal FIRE



### Actions:

2-D-45 Partner with Inland Empire Fire Safe Alliance, USDA Forest Service, San Bernardino County Fire Protection District, Southern California Edison, Cal FIRE, and other agencies and partners with vegetation and fuel management programs to identify opportunities to reduce wildfire risks in the headwaters and urban-wildlands interface.

2-D-46 Engage with and educate public users, landowners, businesses, and resorts to encourage participation in vegetation and fuel management programs that reduce fire and erosion risks.

2-D-47 Partner with relevant authorities to plan, implement, maintain, and enhance wildfire risk reduction strategies in the headwaters that would additionally address risks to San Bernardino Valley's infrastructure, conservation investments, water supply, and water quality.

2-D-48 Leverage current and upcoming State and federal wildfire risk scenarios to develop appropriate response and restoration policies and strategies.

2-D-49 Develop and implement a long-range financial plan or strategy to conduct targeted vegetation management in the Upper SAR Watershed.

2-D-50 Partner to develop, implement, and maintain an Ignition Reduction Plan and Wildfire Early Detection in the areas of greatest risk, including the use of cameras and artificial intelligence.

## 2-E Sediment Management



**Description:** Support and implement a Sediment Management Plan for surface storage facilities and recharge basins that incorporates climate change extremes

**Adaptive Capacity Indicator:** Increased annual sediment capture capacity (cubic feet)

**Key Partners:** Water Conservation District, Flood Control District



### Actions:

2-E-51 Conduct studies or synthesize existing studies to assess the risks due to climate change-driven increases in sediment and identify high-priority investments for implementation.

2-E-52 Scope potential enhancements to existing water infrastructure and/other projects and implement high-priority projects to reduce maintenance costs associated with increased sediment flow.

2-E-53 Partner with relevant agencies to develop and implement a Sediment Management Plan to reduce impacts and increase water supply, water quality, and habitat benefits.

## 2-F Salt and Water Quality Management



**Description:** In collaboration with partners, develop and implement a Water Quality Program

**Adaptive Capacity Indicator(s):** Adopted document or policy with salinity, blending quantities/requirements

**Key Partners:** Santa Ana Regional Water Quality Control Board, Santa Ana Watershed Project Authority



### Actions:

2-F-54 Assess the salt and nutrient impacts of existing and new water supply projects and basin management activities under different climate change scenarios; update and maintain a Water Quality Model and continue collaboration with the Santa Ana Watershed Project Authority on Watershed water quality initiatives.

2-F-55 Evaluate the potential impacts to water supply reliability and water quality of State and federal water quality standards especially pertaining to PFAS, emerging constituents, recycled water, and stormwater in the context of climate change.

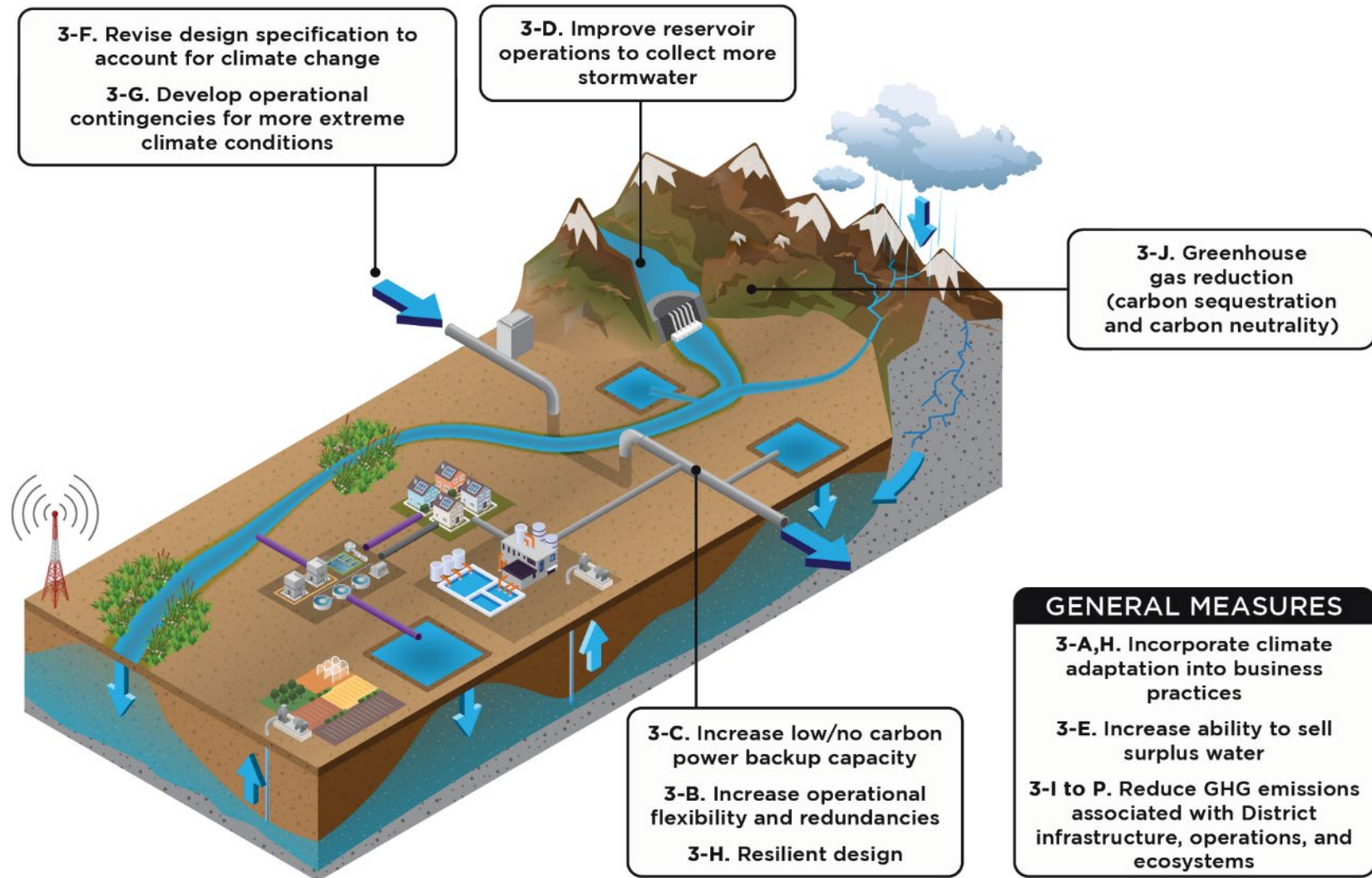
2-F-56 Complete the Salt and Nutrient Management Plan and continue collaboration with the Santa Ana Regional Water Quality Control Board and SAWPA on water quality.

2-F-57 Evaluate investments and programs to mitigate salt, manage contamination plumes, manage, and treat emerging contaminants, and provide equitable access to available supplies.

### 3. Improve Operational and Infrastructural Resilience

Figure 35 below depicts the CARP measures that support Guiding Principle 3: Improve Operational and Infrastructural Resilience. The diagram illustrates how measures contribute to enhancing SBVMWD’s infrastructure resilience within its operational context.

**Figure 35** CARP Measures Supporting Guiding Principle 3: Improve Operational and Infrastructural Resilience





### 3-A Climate Adaptable and Resilient Business Model



**Description:** Evaluate existing services and programs that may support climate adaptation and explore opportunities to innovate

**Adaptive Capacity Indicator:** Number of new/ revised decision-making frameworks that incorporate climate change risks and opportunities

**Key Partners:** TBD



#### Actions:

3-A-58 Mainstream adaptation into decision-making by factoring climate risk and evaluating complex trade-offs and unintended consequences; this may involve more climate-centric extended financial costs and benefits, avoided losses and damage, extended returns on investment, etc.

3-A-59 Annually evaluate that climate resilience is being built in SBVWD's human, political, physical, financial, social, and natural systems to maintain holistically resilient operations, strategies, human resources, finances, and legal/compliance functions

3-A-60 Evaluate the formation of a Climate Resilience District (SB 852) with other entities for the purposes of raising and allocating funding for eligible projects

3-A-61 Utilize technology to reimagine both climate risks and opportunities e.g. artificial intelligence (AI) and machine learning to integrate real-time observations and simulations to determine the effects of extreme weather events and climate hazards, digital twins to provide insights into systems and processes, etc.

### 3-B Operational Flexibility and Redundancies



**Description:** Maximize operational flexibility and redundancies, including periodically reviewing and evaluating water transfer agreements, interties, flexible exchanges, additional system interconnections, points of delivery, etc.

**Adaptive Capacity Indicator:** Number of additional connections/interconnections developed

**Key Partners:** TBD



#### Actions:

3-B-62 Review all water transfer, exchange and cooperation agreements (e.g. CLAWA, MWDSC, SGPWA, and SARCCUP) to confirm their relevance to resilience, and repeal or update if necessary.

3-B-63 Annually evaluate and test interconnections and delivery points to maintain operability and ability to function at installed capacity; develop action report and perform any repairs and upgrade.

3-B-64 Evaluate and utilize the flexibility and redundancy provided by interties such as the Central Feeder-East Branch Extension Intertie, and the MWDSC Intertie at the Foothill Pump Station; complete any associated construction/improvements.

3-B-65 Consider utilizing storage and delivery partnerships to meet short and intermediate needs (e.g., Diamond Valley Lake with MWDSC and SARCCUP agencies, Class 8 Contractors, Sunrise Ranch Reservoir with other partners).

3-B-66 Develop programs to bridge infrastructural and contractual gaps through initiatives such as the San Bernardino Basin Optimization and Stewardship Program.

### 3-C Onsite Renewable, Backup Power & Grid Resilience



**Description:** Increase the availability of environment-friendly backup power or onsite renewable energy production at critical facilities

**Adaptive Capacity Indicator:** Number of additional redundancies added to system

**Key Partners:** TBD



#### Actions:

3-C-67 Use renewable energy and optimize battery storage at critical facilities to meet basic electrical needs and reduce grid dependence for heating and air-conditioning, lights and security, and communication and Board meetings; examples include rooftop solar at Headquarters and battery storage for the 9th Street Well (BLF).

3-C-68 Assess the reliability of renewable-based backup power and energy storage systems for continuity of business operations for facilities and field operations during power disruptions that may be caused by extreme weather (wind, heatwaves, floods, etc.).

3-C-69 Assess the need for additional backup power capacity to mitigate power outages, emergency water storage capacity to provide pumping flexibility, and the feasibility of pumped-storage hydroelectricity.

3-C-70 Maintain partnership with local and regional agencies to develop mutual aid agreements for standby power (e.g., Regional Standby Generator Fleet through ERNIE).

3-C-71 Incorporate on-site renewable generation and storage (wind, solar, small hydropower, hydrogen, battery, etc.) when feasible at new facilities (for example, future facilities at Sunrise Ranch).

3-C-72 Consider long-term leases, licenses, temporary easements, or other arrangements for the use of appropriate SBVMWD properties for energy developers and investors to develop renewable energy generation and storage projects, thereby increasing grid resilience

### 3-D System Reoperation (Parts 1 and 2)



**Description:** (3-D1) Forecast Informed Reservoir Operation (FIRO) at Seven Oaks Dam; and, (3-D2) Prioritize multipurpose facilities over single-use facilities

**Adaptive Capacity Indicator:** Additional annual usable storage capacity in Seven Oaks Dam (acre-feet)

**Key Partners:** U.S. Army Corps of Engineers, Western Water Municipal District, Seven Oaks Dam Local Sponsors



#### Actions (3-D1):

3-D-73 Continue working with the USACE, relevant Flood Control Districts, and other interested parties to assess FIRO at Seven Oaks Dam.

3-D-74 Continue working with interested parties to determine best use of seasonal storage across users, taking into account climate change.

3-D-75 Update or create an Optimization Model that maximizes the benefits of direct use, surface storage, water quality benefits, and groundwater storage of stormflow captured and diverted at the Dam; coordinate this effort with Sediment Management Plan.

#### Actions (3-D2):

3-D-76 Complete facilities' improvements to optimize local and imported water recharge at SAR and Mill Creek Spreading Basins, Cactus Basins, County Line Basin, and Weaver Basins.

3-D-77 Complete the next phase of facility improvements to optimize recharge, including Program for Expanded Recharge Capability (PERC) sites, Devil Canyon, Oak Creek Basins, and other feasible locations.

3-D-78 Evaluate and identify how to reoperate or maximize the use of local and regional facilities that can be shared to maximize resilient water and power grid resilience and resilient habitat and ecosystem (e.g., Foothill Pump Station, Greenspot Pump Station, Central Feeder).

3-D-79 Evaluate and identify how to reoperate or maximize hydropower facilities to aid regional water reliability.

### 3-E Water Sales and Transfers



**Description:** Develop principles to evaluate selling surplus water under certain conditions

**Adaptive Capacity Indicator:** Additional ability to sell or transfer excess water (acre-feet)

**Key Partners:** Western Water, Basin Technical Advisory Committee



#### Actions:

3-E-80 Review and update decision criteria and/or thresholds for sale of surplus water, ensuring that sale or transfer outside the service area is done strategically to maintain a diverse water portfolio.

3-E-81 Maintain a High Groundwater Mitigation and Liquefaction Reduction Plan (Dewatering Contingency Plan) to dewater areas of concern and pump additional water to beneficial users.

### 3-F Resilient Design



**Description:** Develop a policy and/or process to prioritize when to apply and implement climate change-informed design criteria for flooding, extreme heat, wildfire, liquefaction, and other climate extremes.

**Adaptive Capacity Indicator:** Number of assets designed based on resilient design criteria

**Key Partners:** San Georgino Pass Water Agency



#### Actions:

3-F-82 Review existing standards and guidelines for the design and operation of SBVMWD assets and habitat investments to identify potential weaknesses and climate risks, including where thresholds for resilience are missing or insufficient; update standards and specifications where necessary.

3-F-83 For new projects, perform a Climate Vulnerability Analysis and develop project designs that address those vulnerabilities using cutting-edge climate science and research into technical guidance (Climate Resilience Design Guidelines).

3-F-84 Create and implement a priority list of assets that need to be prepared for changing extreme weather decades into the future (e.g., City Creek Tunneling Project).

3-F-85 For new buildings, incorporate resilient design and construction sustainability elements such as fire-resistant building envelopes, geothermal energy, green roofs, high efficiency toilets, etc.; design buildings to meet LEED (Leadership in Energy and Environmental Design) certification, the nationally accepted benchmark of high performance, green buildings.

### 3-G Operational Contingencies



**Description:** Develop and implement operational contingencies for projected extreme weather conditions

**Adaptive Capacity Indicator:** Number of operational contingencies developed and incorporated into plans

**Key Partners:** TBD



#### Actions:

3-G-86 Review and update the Local Hazard Mitigation Plan every 5 years, which also helps receive state and federal grants.

3-G-87 Incorporate data and information from the United States Geological Survey, Center for Western Weather and Water Extremes, National Weather Service, and other credible sources to improve operational planning, emergency preparedness and response, and water deliveries.

### 3-H Climate Resilient Infrastructure and Operations



**Description:** Develop and implement adaptive management and processes, including monitoring, infrastructure planning, financing, and capacity building to maintain continuity of business.

**Key Performance Indicator(s):** Number of new adaptive management processes incorporated in existing business systems

**Key Partners:** TBD



#### Actions:

3-H-88 Develop a process or guidelines for routinely assessing climate vulnerabilities and risks, incorporating climate change into a clearly defined capital improvement program development, and determining the right investment mix to achieve climate adaptation and resilience targets.

3-H-89 Establish a climate monitoring and evaluation framework, as well as regular updates of climate adaptation and resilience planning that includes key climate indicators and progress toward desired outcomes; conduct climate adaptation analysis and planning for climate-informed financial and management decisions and program implementation.

3-H-90 Periodically educate and train San Bernardino Valley and key retail agencies' staff on adaptive water management approaches (e.g., Water Utility Climate Alliance (WUCA) Engagement, Training, and Best Practices); maintain awareness of best available science as new climate research, projections, and scenarios better constrain likely future climate risks.

3-H-91 Pursue more flexible and innovative financing strategies, including, but not limited to, Watershed Connect, WIFIA, Public-Public Partnerships, and Public-Private Partnerships just to mention a few to fund resilience projects.

3-H-92 Develop and use SBVMWD-wide information management systems and dashboards to track energy use/purchase and water deliveries.

3-H-93 Reform policies and programs that are maladaptive to climate change or that increase climate risks and vulnerabilities; develop and enhance tools that assess climate change impacts, and support climate adaptation planning and implementation.

3-H-94 Cultivate a culture of resilience throughout the organization by ensuring that planning and exercises are based on principles rather than processes; preparedness and resilience must become part of the DNA and be inclusive of everyone, from the staff all the way to the Board.



### 3-I Greenhouse Gas Reduction (Investments, Procurement and Supply Chain)



**Description:** Revise/update investment and purchasing policies and procedures to reduce the embedded carbon of purchased goods and services

**Climate Mitigation Indicator:** GHG Emissions associated with investments, procurement, and supply chain (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-I-95 Evaluate the District's Investment Policy and procurement practices to identify opportunities to increase sustainability and reduce GHG emissions without introducing undesired risk.

3-I-96 Consider updating procurement rules to prioritize vendors and contractors that can demonstrate progress in their own climate adaptation and resilience journey; explore a climate leadership preference similar to the Local Purchasing Preference (5 percent) under State law.

3-I-97 Maximize the procurement of sustainable products and services, including EnergyStar rated equipment; products that are bio-based, made from recycled content, water efficient, fuel-efficient, made with safer chemical ingredients, and non-ozone depleting; products that have earned third-party ecolabels and recommended by USEPA and avoid the procurement of products containing PFAS.

3-I-98 Set procurement specifications to quantify and reduce waste and emissions from procured goods and services (e.g., battery recycling, composting, comprehensive recycling program, electronics recycling, recycled and reusable service items).

### 3-J Greenhouse Gas Reduction (Carbon Sequestration and Carbon Neutrality)



**Description:** Neutralize emissions that cannot be reduced or eliminated

**Climate Mitigation Indicator:** Sequestered GHG Emissions (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-J-99 Develop a carbon neutrality hierarchy to SBVMWD projects and programs with Avoid being the highest priority followed by Reduce, Replace, Compensate/Offset; Neutralize/Remove should be the least used.

3-J-100 To achieve carbon neutrality by 2035, reduce emissions where feasible, sequester carbon from unavoidable emissions (such as essential flights), and when emissions are unavoidable (such as from construction), calculate the amount of emissions produced and then take appropriate actions to remove an equivalent or greater amount of carbon emissions from the atmosphere.

3-J-101 Develop and implement a Carbon Sequestration Plan to capture and store unavoidable carbon emissions through forest restoration, growing trees, or other forms of carbon capture that are directly controlled by SBVMWD or in active partnership; monitor and track the CO<sub>2</sub> captured; and consider developing a carbon offset program that can be sold to others.

### 3-K Greenhouse Gas Reduction (Buildings & Facilities)



**Description:** Phase out natural gas combustion at facilities to reduce natural gas use and associated GHG emissions by 50% before 2030

**Climate Mitigation Indicator:** GHG Emissions associated with natural gas use (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-K-102 Collect data on aging natural gas equipment due for replacement and identify operationally and financially viable electric alternatives.

3-K-103 Develop and establish guidelines for new HVAC equipment and appliances acquired by SBVMWD to be EnergyStar certification or have the highest level of efficiency available; guidelines should require any new building to be all-electric and use heat pumps for space and water heating.

3-K-104 Electrify equipment at the time of replacement to reduce natural gas consumption over time; if desirable, accelerate replacement before end of life by taking advantage of energy efficiency rebates, incentives, and financing.

### 3-L Greenhouse Gas Reduction (Energy Efficiency and Carbon Pollution-Free Electricity)



**Description:** Proactively reduce SBVMWD’s electricity carbon footprint

**Climate Mitigation Indicator:** GHG Emissions associated with electricity use (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-L-105 Conduct an energy audit of SBVMWD’s facilities and buildings and implement the findings/improvements especially for motors and pumps, lighting and lighting controls, and HVAC.

3-L-106 Consider offsetting grid power use by at least 25 percent by 2030 by installing solar power, energy storage (battery) system), and other renewable energy systems to lower carbon footprint, reduce fossil fuel use, and improve resilience to power outages.

3-L-107 Seek ways to pilot and accelerate promising carbon pollution-free electricity sources such as green hydrogen, fuel cells, and other innovative approaches.

### 3-M Greenhouse Gas Reduction (Light-Duty Vehicles)



**Description:** Reduce emissions associated with SBVMWD’s light-duty fleet

**Climate Mitigation Indicator:** GHG Emissions associated with the light-duty fleet (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-M-108 Conduct a zero-emission vehicles assessment to determine which fleet vehicles can be converted to electric vehicles (EV) or alternative fuels, what chargers are required, and where they should be located.

3-M-109 Implement an “EV first” purchasing rule and fast-track the replacement of ICE vehicles. When vehicles are due for replacement, check for EV availability and purchase. If EV is not available, then buy the most environmentally-friendly option.

3-M-110 Install EV chargers, refueling infrastructure, energy storage technologies, and ancillary services to support zero-emission vehicles.

3-M-111 Expand the use of vehicle telematics and using fleet operational data to inform fleet planning and vehicle acquisition strategies; improve accounting and reporting of asset-level fleet data including fueling transactions, mileage, and acquisition and disposal costs.

### 3-N Greenhouse Gas Reduction (Heavy-Duty Vehicles and Construction)



**Description:** Reduce emissions from construction through decarbonization of construction machinery

**Climate Mitigation Indicator:** GHG Emissions associated with heavy-duty vehicles and construction equipment (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-N-112 Consider offsetting emissions from construction machinery by reducing embedded carbon through the use of low-carbon concrete and steel where feasible; consider preferences for such material in public works projects.

3-N-113 Improve collaboration with project partners to rethink design and construction processes to reduce emissions, minimize hauling and onsite waste, and tracking and reporting of construction-related emissions.

### 3-O Greenhouse Gas Reduction (Equipment and Tools)



**Description:** Replace gas-powered equipment with electrically powered equivalents

**Climate Mitigation Indicator:** GHG Emissions associated with equipment and tool fuel combustion (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-O-114 Create an inventory of gas-powered equipment including generators, pumps, landscaping equipment, etc.

3-O-115 Research appropriate electric and battery-powered replacements and develop a phased approach to replace (replacement schedule).

3-O-116 Implement a replacement program and explore applicable incentives from utility (e.g., SCE and SCG), regulatory (e.g. South Coast AQMD), state, and federal sources.

### 3-P Greenhouse Gas Reduction (Commuting and Business Travel)



**Description:** Reduce GHG emissions associated with commuting

**Climate Mitigation Indicator:** GHG Emissions associated with commuting (tons CO<sub>2</sub>e)

**Key Partners:** TBD



#### **Actions:**

3-P-117 Evaluate the feasibility of workplace EV charging and install chargers if feasible; evaluate potential EV charging incentives.

3-P-118 Continue to encourage flexible working arrangement and virtual meetings where appropriate to reduce commute trips.

3-P-119 Increase awareness among Board members and staff on the impact of business travel, and update travel policy or guidelines to encourage low-carbon travel alternatives and sustainable practices where feasible (EV and hybrid car rentals, airlines with sustainable practices, eco-friendly hotel chains, rail and bus travel, and videoconferencing).

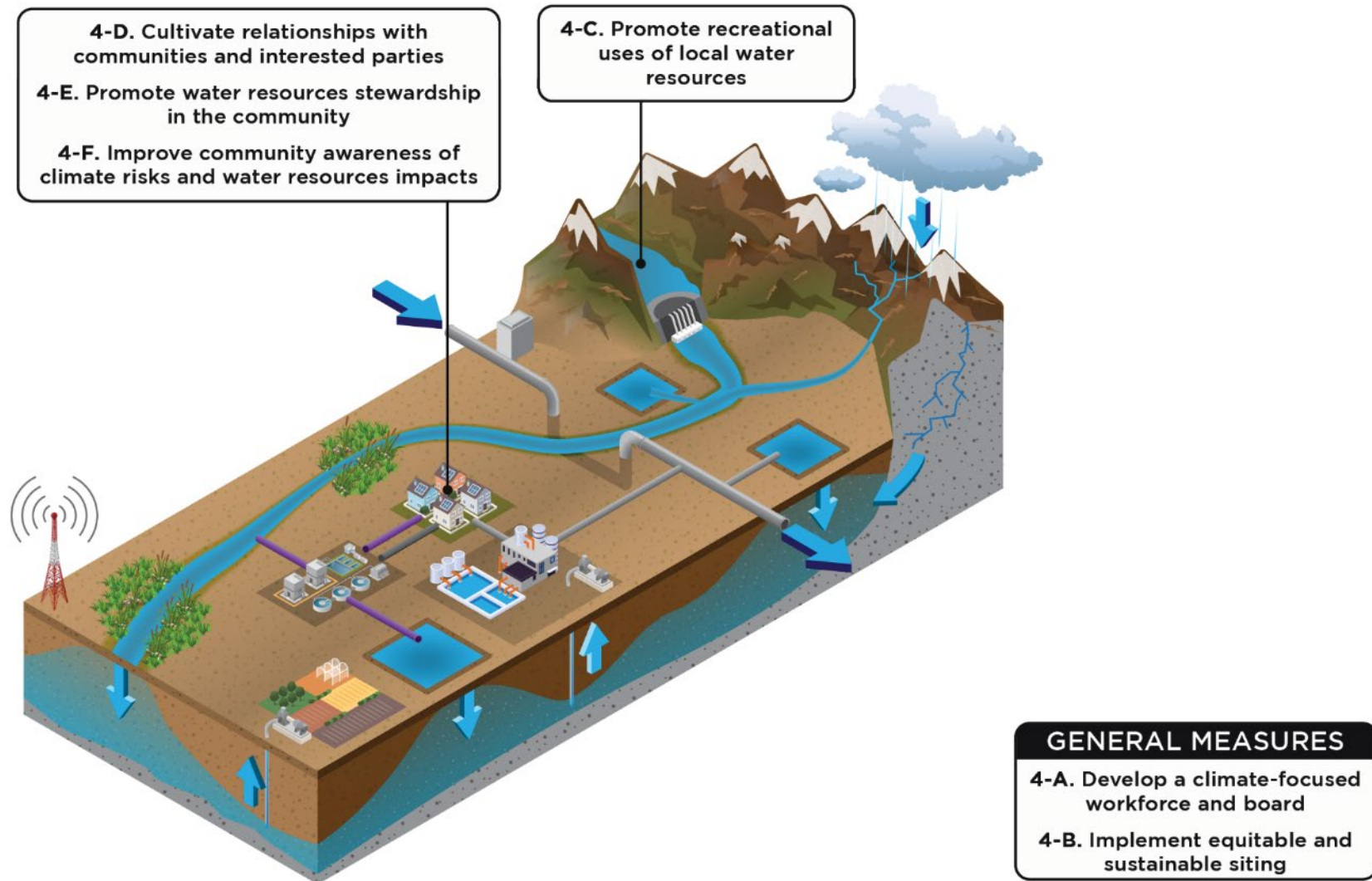
3-P-120 Improve accounting and reporting of business travel data, such as car rental miles, personal vehicles mileage reimbursement, air travel miles, etc., and their associated GHG emissions.



## 4. Connect People to Water and Climate

Figure 36 below depicts the CARP measures that support Guiding Principle 4: Connect People to Water and Climate. The diagram illustrates how measures support better connectivity between the services that SBVMWD provides and the communities it serves.

**Figure 36** CARP Measures Supporting Guiding Principle 4: Connect People to Water and Climate



## 4-A Develop a Climate-Focused Workforce and Board



**Description:** Build internal capacity through engagement, education, and training on climate adaptation and resilience

**Adaptive Capacity Indicator:** Annual person-hours supporting implementation of the CARP

**Key Partners:** TBD



### Actions:

4-A-121 Identify human resources requirements for effective implementation of climate adaptation and resilience goals and objectives so that SBVMWD has the necessary staff, training, and resources; develop workload/staff planning to implement the CARP.

4-A-122 Incorporate sustainability and climate resilience into staffing, engagement and training, performance, etc., to foster a culture of climate competency and action throughout SBVMWD.

4-A-123 Incorporate sustainability and climate resilience content in Board's ongoing leadership development efforts and decision-making.

## 4-B Equitable and Sustainable Siting



**Description:** Strategically plan to construct SBVMWD's future assets in a manner that will reduce GHG emissions and reduce climate hazard risks. Work with local agencies to encourage regional planning for economic growth that is equitable and sustainable.

**Adaptive Capacity Indicator:** Number of assets developed with adaptive design features and/or low/no carbon footprints

**Key Partners:** TBD



### Actions:

4-B-124 Develop and adopt climate adaptive and resilient policies that will be used to evaluate future development in all areas vulnerable to changing climate impacts.

4-B-125 Develop and adopt green infrastructure policies to protect, restore and mimic the natural water cycle (tree planting, wetlands, and sustainable urban drainage systems) so that the most vulnerable communities will benefit as evaluated by climate-equity guidelines and priority criteria.

4-B-126 Create clear guidelines to promote sustainable location of SBVMWD facilities and strengthen the community benefits of SBVMWD facilities; the guidelines may address topics such as strategically locating future SBVMWD facilities to promote efficient use of local infrastructure.

## 4-C Public Access and Sustainable Events



**Description:** Partner with local agencies, nonprofits and other interested parties to support recreational uses of applicable SBVMWD assets

**Adaptive Management Indicator:** Recreational use statistics per year (number of visits)

**Key Partners:** TBD



### Actions:

4-C-127 Identify educational uses of District's water resources and assets that could be impacted by climate change and consider new or improved programs to offset impact.

4-C-128 Establish guidelines so that all events hosted by SBVMWD are eco-friendly, sustainable, and creates minimal waste with consideration being given to sustainability practices in communication and marketing, waste management, food and beverage, decorations, giveaways, transportation, and energy saving opportunities.

## 4-D Cultural and Community Issues (Environmental Equity & Justice)



**Description:** Develop and maintain relationships with community groups and other interested parties so that SBVMWD is aware of community needs

**Adaptive Management Indicator:** Survey data indicating awareness and support

**Key Partners:** Community groups, US Water Alliance Water Equity Network, and The Climate Center



### Actions:

4-D-129 Identify community groups and neighborhoods that are likely to be impacted by measures and actions at SBVMWD's infrastructure investments and take actions to collaborate with impacted community members.

4-D-130 Assign staff responsible for responding to community groups and engaging in a thoughtful and impactful way that reflects San Bernardino Valley's commitments to connecting people to water and climate.

4-D-131 Consider collaborating with national organizations or efforts developing approaches to enhance equity and inclusion in water resources planning and management (e.g., U.S. Water Alliance Water Equity Network, The Climate Center).

## 4-E Educate the community we serve on Watershed Sustainability



**Description:** Support and amplify programming and investments in water stewardship

**Adaptive Management Indicators:** Number of people reached through outreach efforts or survey data indicating improved knowledge

**Key Partners:** Retail Agencies



### Actions:

4-E-132 Leverage findings from the Ultimate Demand Study to understand which retail agencies could drive risk of heightened demand, and advance water efficiency through assisting retail agencies to implement the Making Conservation a California Way of Life efficiency standards.

4-E-133 Partner with retail agencies to design strategic/high-priority programming, education, and investment programs to manage demand and empower customers to become water stewards.

4-E-134 Promote holistic legislative and regulatory understanding of the water resources complexity in the face of climate resilience and adaptability through a system approach.

4-E-135 Implement a tailored funding program to fund customer-side solutions such as stormwater capture, water efficiency and conservation, and on-site reuse and recycled water investment.

## 4-F Community Climate Risk Reduction



**Description:** Invest in programs that help community groups understand climate risks and how to mitigate impacts at the local level with a focus on partnerships with organizations already engaged in this work

**Adaptive Management Indicators:** Number of programs implemented with support from SBVMWD staff or survey data indicating improved knowledge

**Key Partners:** Local community groups



### Actions:

4-F-136 Identify staff at San Bernardino Valley responsible for sustained community engagement and accelerating progress through partnerships.

4-F-136 Implement regular engagement with local community groups undertaking climate risk reduction activities to identify activities and opportunities that could be effective broadly or replicated in other communities.

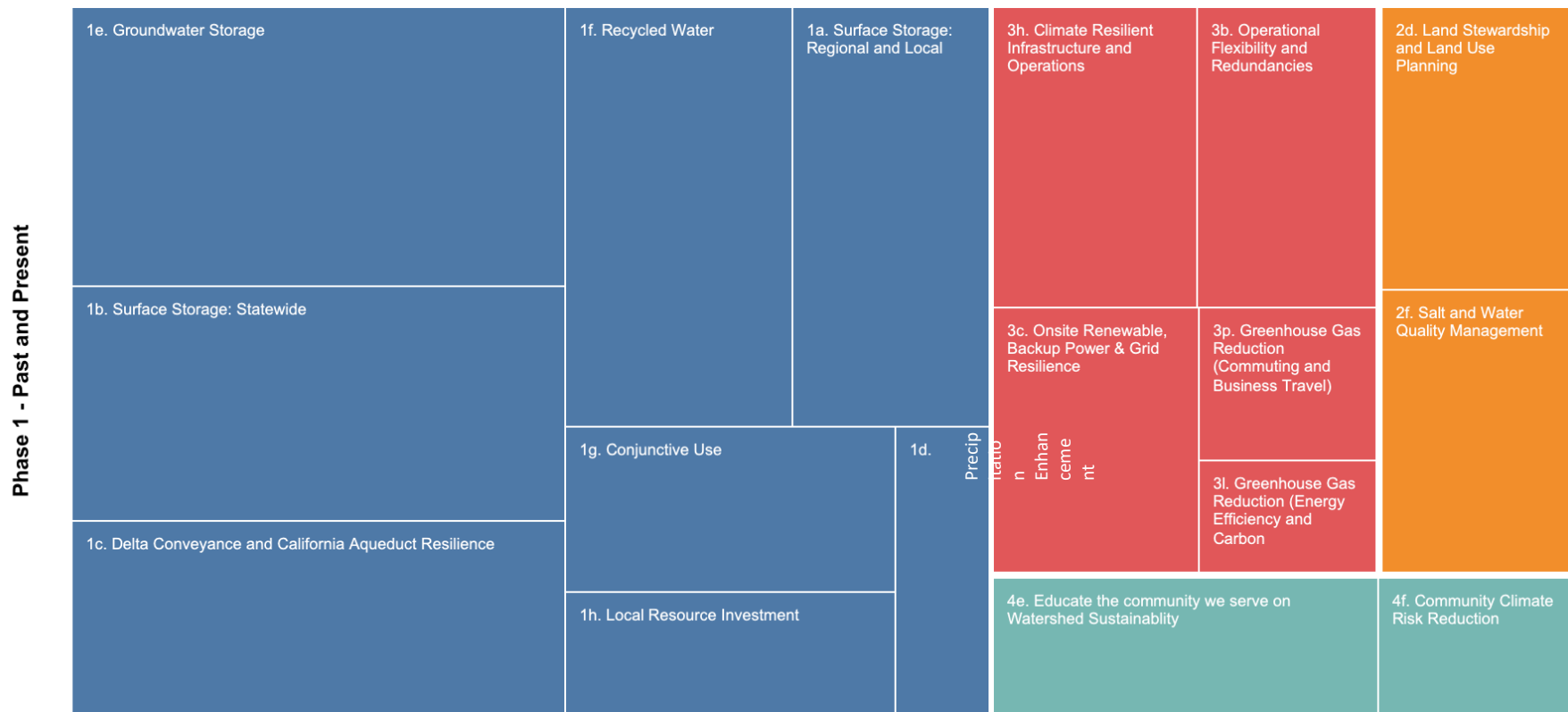
4-F-136 Identify areas where San Bernardino Valley could directly support, provide expertise, or foster formal discussions about new programming and investments that could reduce climate risks and enhance community resilience.

4-F-136 Establish best practices for inclusive community engagement as appropriate for the community we serve (e.g., Groundwork USA's Best Practices for Meaningful Community Engagement).

# 6. Phasing and Implementation

To effectively implement this plan, it is necessary to incorporate flexibility into its implementation as conditions change alongside a general phasing of planned measures to maintain continued progress. Section 5 identifies the planned measures and actions that support climate adaptation and mitigation for SBVMWD. Figure 37 and Figure 38 bring these together and show all planned measures separated into two proposed phases – Phase 1 which includes complete, ongoing or already approved measures and Phase 2 which contains those measures planned to begin, from conceptualization or detailed planning to full implementation, in FY24 and beyond. The total size of all the boxes in each phase represents the relative approximate cost of the portfolio of measures, with the size of individual boxes indicating their cost relative to all other measures. As an example, 1e. Groundwater Storage is a relatively high-cost measure but one that is already in progress and addresses key water system vulnerabilities – namely, drought and extreme precipitation. Relatedly, most of the relatively higher cost measures are those related to securing and bolstering aspects of the water supply portfolio, a core mission of San Bernardino Valley.

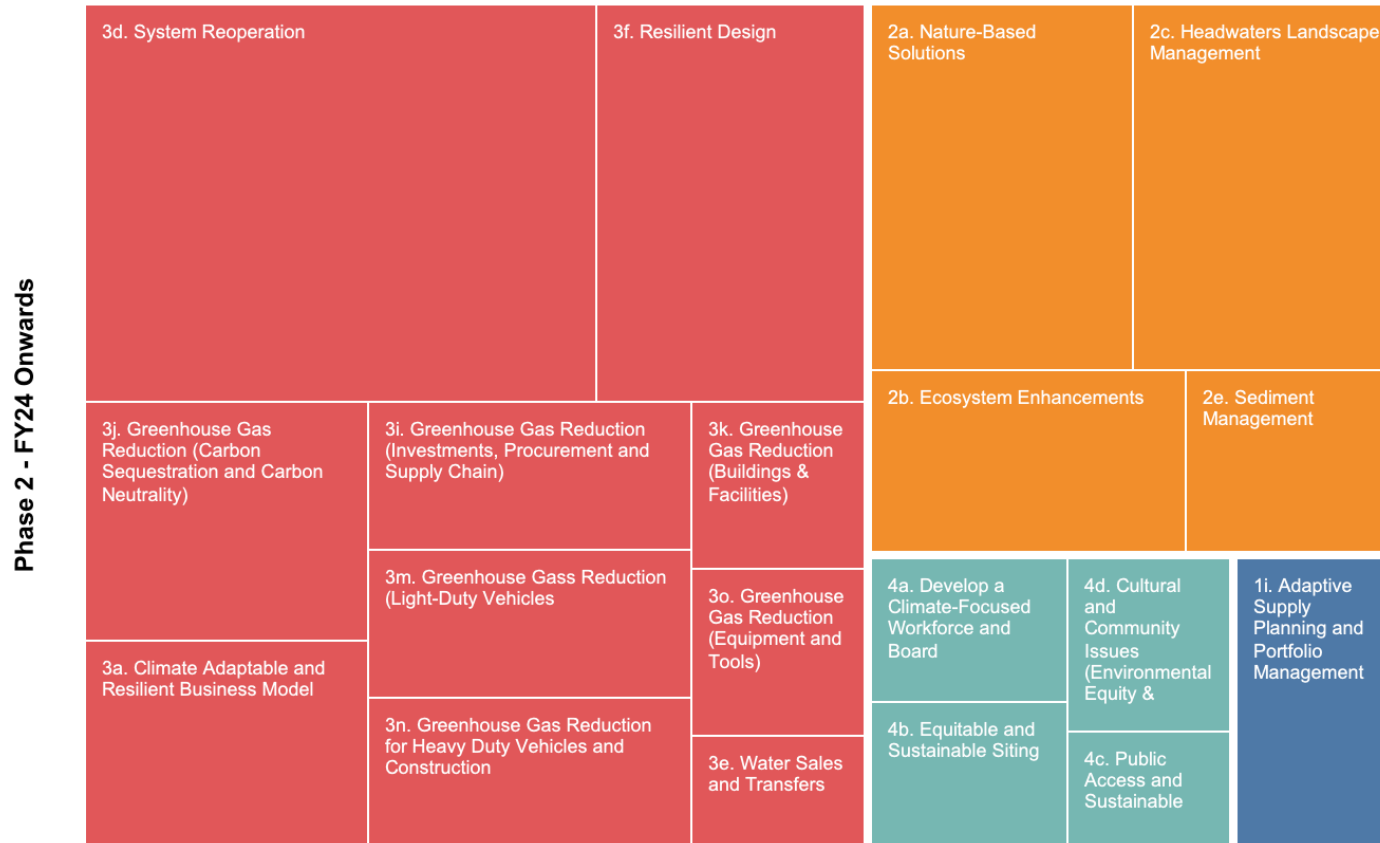
**Figure 37 Phase 1 Measures by Guiding Principle**



*Note: The size of all boxes for Phase 1 and Phase 2 depicts the relative anticipated costs of these portfolios. The size of individual boxes depicts their relative cost across all measures.*



**Figure 38 Phase 2 Measures by Guiding Principle**



*Note: The size of all boxes for Phase 1 and Phase 2 depicts the relative anticipated costs of these portfolios. The size of individual boxes depicts their relative cost across all measures.*

Phase 1 measures are generally those related to SBVMWD’s water supply portfolio, covering imported and local surface water, groundwater, recycled water and precipitation enhancement. Operational and infrastructure resilience are also prioritized here, with a focus on climate resilience, operational redundancy and flexibility and greenhouse gas emissions mitigation efforts. Phase 2 expands this focus on adaptation and mitigation to include efforts related to resilient design, reservoir operations and multi-benefit projects, and a greater expansion of measures that mitigate greenhouse gas emissions. Importantly, both watershed protection and community engagement measures span across both phases, with a nearer-term focus on wildfire abatement and management, water quality management, water demand management and community education around climate risk.

Each measure will be implemented as a set of actions that contribute to the goals set forth by a given measure. For example, 1a. Surface Storage: Regional and Local includes a set of actions that build on one another – a master plan and feasibility study that evaluate local storage options followed by the design and construction of these storage options. This means that while a measure may begin in Phase 1, the implementation of actions within it may extend out further out into the future. Looking across planned actions, most actions related to assessing, studying or planning, such as assessing FIRO at Seven Oaks Dam, are anticipated to be implemented in Phase 1, meaning they have already begun or are already complete, or early in Phase 2. Actions related to monitoring, engagement, programming and policy are generally spread across implementation horizons on an ongoing basis.

## Adaptive Management

Adaptive management approaches seek to move from static plans to dynamic planning processes in which entities track metrics of consequence to their management decisions and adjust their decision-making over time. Adaptive management approaches have been increasingly used across California to respond to changing conditions due to climate change, human and ecological factors or other uncertainties present in a system during a given planning process. For San Bernardino Valley, the decision to adjust the phasing and implementation of measures or actions, potentially re-prioritizing them, could be triggered by a number of factors. These could include deeper droughts affecting water supply, more severe atmospheric rivers bringing the potential for local storage or contrastingly damaging the watershed's natural or built infrastructure, high rates of population growth or per capita water use, or many other climatic, demographic, and geographic variables that impact SBVMWD's short and long-term operations. From a management perspective, nearly all actions can be framed with an eye towards adaptive management.

This suggests that moving forward, San Bernardino Valley could utilize the metrics detailed in Figure 39 to set performance targets based on changing climate conditions, track both the performance of their investments over time, determine where performance is lower or higher than anticipated or where additional needs have emerged, and trigger the re-evaluation or implementation of additional actions or measures.

- **Signpost Metrics** describe factors that influence strategic planning decisions, such as if SWP allocations are trending downward or if local precipitation trends are changing. Signposts should be monitored and used to determine if SBVMWD should change its strategies and performance targets, such as changing its level of investment in local water resources or headwaters resilience. Signposts are intended to be reviewed on a five-year basis.
- **Performance Metrics** are intended to track changes in the function of water resources, infrastructure, operations, or demand. SBVMWD can use these metrics to evaluate the efficacy of its measures and actions. Performance measures are intended to be reviewed on an annual basis.
- **Adaptive Capacity Metrics** are intended to track the implementation of CARP Measures and Actions (see Section 5 for a complete list organized by Measure). Adaptive Capacity Metrics are intended to be reviewed on an annual basis to determine if implementation is taking place as expected.

Figure 39 Performance Metrics

<p><b>Should Performance Metrics be Adjusted?</b></p> <p><i>Signpost Metrics track actual trends in factors that influence future planning decisions (i.e., setting performance targets)</i></p>	<p><b>Supply/Headwaters</b></p> <ul style="list-style-type: none"> <li>Annual SWP allocations (Acre-Feet)</li> <li>Soil moisture in the upper watershed (volumetric water content)</li> <li>Vegetation mapping in the Upper Watershed (Acres)</li> <li>Average annual surface water flow (cu-ft/sec)</li> </ul>	<p><b>Infrastructure/Operations</b></p> <ul style="list-style-type: none"> <li>Average annual temperature in the service area (°F)</li> <li>Number of climate-related disasters</li> <li>Changes in Water quality regulations</li> </ul>	<p><b>Demand</b></p> <ul style="list-style-type: none"> <li>Population change</li> <li>Economic growth</li> <li>Water use regulations</li> </ul>																					
<p><b>Are adaptive capacity investments having impact?</b></p> <p><i>Performance Metrics track actual changes in the function of ecosystems, infrastructure, operations, and communities that CARP measures aim to improve</i></p>	<table border="1"> <thead> <tr> <th>1. Maintain a Diverse Water Portfolio</th> <th>2. Protect the Water Portfolio</th> <th>3. Improve Operational and Infrastructure Resilience</th> <th>4. Connect People to Water and Climate</th> </tr> </thead> <tbody> <tr> <td colspan="4">Annual water stored, by type (Acre-Feet)</td> </tr> <tr> <td colspan="2">Annual groundwater recharge, by type (Acre-Feet)</td> <td>Annual water sold/transferred (Acre-Feet)</td> <td>Annual recreational visits to water resources</td> </tr> <tr> <td>Annual SWP deliveries (Acre-Feet)</td> <td>Sediment removed (cubic-feet)</td> <td>Annual GHG footprint (tons GHGe)</td> <td>Per capita water use (CCF/cap/year)</td> </tr> <tr> <td>Regional recycled water use (Acre-Feet)</td> <td>Salinity/Water quality (Concentration)</td> <td>Number of service disruptions</td> <td>People who understand the value of water resources (survey results)</td> </tr> </tbody> </table>				1. Maintain a Diverse Water Portfolio	2. Protect the Water Portfolio	3. Improve Operational and Infrastructure Resilience	4. Connect People to Water and Climate	Annual water stored, by type (Acre-Feet)				Annual groundwater recharge, by type (Acre-Feet)		Annual water sold/transferred (Acre-Feet)	Annual recreational visits to water resources	Annual SWP deliveries (Acre-Feet)	Sediment removed (cubic-feet)	Annual GHG footprint (tons GHGe)	Per capita water use (CCF/cap/year)	Regional recycled water use (Acre-Feet)	Salinity/Water quality (Concentration)	Number of service disruptions	People who understand the value of water resources (survey results)
1. Maintain a Diverse Water Portfolio	2. Protect the Water Portfolio	3. Improve Operational and Infrastructure Resilience	4. Connect People to Water and Climate																					
Annual water stored, by type (Acre-Feet)																								
Annual groundwater recharge, by type (Acre-Feet)		Annual water sold/transferred (Acre-Feet)	Annual recreational visits to water resources																					
Annual SWP deliveries (Acre-Feet)	Sediment removed (cubic-feet)	Annual GHG footprint (tons GHGe)	Per capita water use (CCF/cap/year)																					
Regional recycled water use (Acre-Feet)	Salinity/Water quality (Concentration)	Number of service disruptions	People who understand the value of water resources (survey results)																					
<p><b>How is adaptive capacity improving?</b></p>	<p><b>Measures and Actions</b></p> <p><i>Adaptive Capacity Metrics track changes in the capabilities of ecosystems, infrastructure, operations, and communities that are intended to achieve performance improvements (see Section 5 for a complete list organized by Measure)</i></p>																							

**DATE:** May 14, 2024

**TO:** Board of Directors' Workshop – Resources/Engineering

**FROM:** Joanna Gibson, MS – Executive Director Upper SAR HCP Program  
Kai Palenscar, PhD – Environmental Compliance and Permitting Manager

**SUBJECT:** Consider Ratification of Advance Expenditures and Approval of Lands Restoration and Maintenance Consulting Services Agreement

---

### **Staff Recommendation**

Staff is requesting the Board ratify the advance expenditure of \$15,102 (pursuant to Resolution 1048, Paragraph c), and authorize the CEO/General Manager to execute a Consulting Services Agreement with the Santa Ana Watershed Association (SAWA) to conduct habitat restoration and lands management and maintenance to portions of the Upper Santa Ana River Habitat Conservation Plan Preserve System, properties owned by San Bernardino Valley, and additional lands being managed by San Bernardino Valley on behalf of other agencies due to environmental permit requirements. The total amount for this proposed work is not to exceed \$919,596 (which includes the ratification amount of \$15,102).

### **Summary**

The tasks identified in the scope of work include the following categories:

- 1) Habitat restoration actions associated with the Upper Santa Ana River Habitat Conservation Plan (HCP) Preserve System (Tributary Restoration Projects, and San Bernardino kangaroo rat mitigation lands)
- 2) Land management actions on properties owned by San Bernardino Valley
- 3) Habitat restoration actions on lands San Bernardino Valley is managing on behalf of West Valley Water District and East Valley Water District resulting from environmental permits for water projects (Cactus Basins # 2 and Sterling Natural Resource Center respectively.)

The proposed management actions are required in order to maintain the integrity of habitats, adhere to environmental permit requirements, reduce the threat of spreading wildfire, and remain

compliant with California Fire Code (including property treatment requirements dictated in abatement notices issued to San Bernardino Valley from various Cities and the County of San Bernardino).

Due to timing of presenting this item on a Board Workshop agenda, and a desire to get habitat management actions underway during the spring critical weed growth period, a portion of the scope included in the Consulting Services Agreement (Agreement) was initiated in April 2024, in advance of the Board’s consideration of approval of the Agreement (Attachment 1). Resolution 1048, adopted by the Board on October 4, 2016, designates expenditure authority rules and limits for the General Manager, however Paragraph c of Resolution No. 1048, provides some flexibility for expenditures in excess of the General Manager’s authority rules and limits where the expenditures are deemed necessary. The work initiated ahead of the Board’s consideration was necessary in response to changing environmental conditions that could threaten the viability of two mitigation sites, and achievement of performance criteria tied to existing permits. Though the amount expended prior to the Board’s consideration (\$15,102) is less than the General Manager’s authorized limit, a purchase order in the amount of \$24,550 was authorized on March 1, 2024, for nonnative plant management by the Santa Ana Watershed Association (SAWA), and Staff opted to work with SAWA on a scope and Agreement to cover additional actions at these sites, and others, including properties owned by San Bernardino Valley.

The scope of work is provided in Attachment 1. Table 1, below, shows the properties/locations and not-to-exceed budget for the proposed scope of work.

**Table 1. Tasks and costs associated with the scope of work.**

<b>Location</b>	<b>Not to Exceed Budget</b>
Weaver Basins	\$25,000
Redlands Airport	\$25,000
Mentone	\$15,000
Lytle Creek/Frisbee Wash	\$10,000
Frisbee Wash	\$25,000
Lower Hole Creek	\$20,683
Anza Creek	\$101,935
Anza Creek SARCCUP Ext.	\$101,934
Old Ranch Creek	\$131,106
Hidden Valley Creek	\$25,000
Waterman Basins Riparian	\$100,000
Lower Cactus Basins #2 (West Valley WD)	\$42,548

Waterman Basins Alluvial	\$50,000
SAR River Corridor (East Valley WD)	\$146,419
SBVMWD Facilities	\$50,000
Restoration Planting – Hidden Valley	\$24,986
Restoration Planting – Anza Creek	\$24,986
<b>Total</b>	<b>\$919,596</b>

The Tributary Restoration Projects (Anza Creek, Old Ranch Creek, Hidden Valley Creek and Lower Hole Creek), and San Bernardino kangaroo rat habitat (Redlands Airport, Mentone, Lytle Creek/Frisbee Wash, Frisbee Wash) are the mitigation that allows implementation of projects proposed in our Upper Santa Ana River HCP Incidental Take Permit (ITP) applications to the USFWS and CDFW. These permits authorize projects that will increase regional water supply reliability through the capture and recharge of approximately 87,000 AFY of local stormflow and recycled water and allow San Bernardino Valley and our HCP Partners to conduct operations and maintenance of existing facilities for the next 50 years.

The Weaver Basins, Waterman Basins Alluvial, and Waterman Basins Riparian are the mitigation sites for construction of the Weaver Basins, and San Bernardino Valley’s ongoing maintenance of the Waterman Basins. These projects increase our drought resiliency through groundwater recharge.

The Lower Cactus Basins #2 site is West Valley Water District’s mitigation obligation for the long-term maintenance of Lower Cactus Basins #2 which they use to discharge treated water from their plant. The SAR River Corridor is part of East Valley Water District’s mitigation obligations associated with the Sterling Natural Resources Project.

Lastly, the line item SBVMWD Facilities, will encompass land management actions (herbicide application, tree trimming, etc.) needed at properties owned by San Bernardino Valley, e.g., conducting fuel reduction actions in response to abatement notices issued to San Bernardino Valley by various Cities and the County of San Bernardino to remain compliant with California Fire Code, which have short timelines. Currently, our in-house Operations Staff complete these activities, however due to high amounts of pumping and other workload needs they have limited capacity to provide corrective actions within the timeframe mandated in the notice.

**Background**

SAWA has been conducting habitat and land management in the watershed for over 20 years and has conducted vegetation management for San Bernardino Valley for several years. They

are widely regarded as professional habitat management experts in the Santa Ana Watershed, with unique qualifications for working on lands occupied by threatened or endangered species. Their longstanding experience allows SAWA to utilize efficiencies with study design, access, and coordination with landowners and the regulatory agencies USFWS and CDFW.

The work proposed in this Agreement will initiate required habitat restoration and land management actions stipulated in permits issued to San Bernardino Valley, West Valley Water District, and East Valley Water District, and in our Incidental Take Permit (ITP) applications to the USFWS and CDFW that will permit the construction and/or operations and maintenance of 100+ water infrastructure projects identified in the Upper SAR HCP. The work will also ensure that property owned by San Bernardino Valley will remain compliant with California Fire Code and provide capacity for actions to be addressed within the timeframe stipulated in abatement notices).

All activities will require pre-approval by San Bernardino Valley via the submission of Task Orders and no work associated with West Valley Water District's or East Valley Water District's mitigation obligations will occur until a reimbursement agreement has been executed between San Bernardino Valley and each agency.

Costs associated with West Valley Water District's and East Valley Water District's mitigation obligations will be fully reimbursed by each agency, and a significant portion of costs associated with the Tributary Restoration Projects will be reimbursed with grant monies (Proposition 84 funds, and two grants from the US Bureau of Reclamation [USBR]; see Table 2).

### **District Strategic Plan Application**

The land management actions identified in the Agreement will support mitigation that is necessary to offset impacts associated with the construction of Weaver Basins and operations and maintenance of Waterman Basins, for the purposes of groundwater recharge, and proposed water supply reliability projects proposed in our ITP applications that allow the capture and recharge of approximately 87,000 AFY of local water in compliance with the state and federal Endangered Species Acts. The actions will also reduce the risk of spreading wildfire within properties owned by San Bernardino Valley and ensure we have sufficient support to remain compliant with California Fire Code. Finally, these actions will support our partner agencies in meeting their permit mitigation obligations by providing high quality habitat restoration.

## **Fiscal Impact**

The not-to-exceed budget for the project proposal is \$919,596, which is anticipated to cover the remainder of FY 23-24, and FY 24-25. Funds for these services were identified in multiple line items in the approved FY 23-24 General Fund Budget and will also be included in the proposed FY 24-25 General Fund Budget. A cost breakdown, including reimbursement sources (grant funds and partner cost-share) is provided below in Table 2.

As identified in Table 2, costs associated with Lower Cactus Basins #2 (\$42,548) and SAR River Corridor (\$146,419) will be reimbursed 100% by West Valley Water District, and East Valley Water District, respectively, and no work will occur until reimbursement agreements have been executed. Approximately 50% of costs associated with Old Ranch Creek, Lower Hole Creek, and Anza Creek – SARCCUP extension will be reimbursed with Proposition 84 grant funds. Approximately 50% of costs associated with Anza Creek and Hidden Valley Creek will also be reimbursed with Proposition 84 grant funds, with 75% of the remaining balance also eligible for reimbursement from USBR grants that we have been awarded.

Factoring in reimbursements (from West Valley, East Valley, and grants, totaling approximately \$470,621), the net adjusted cost to San Bernardino Valley will be \$448,975. Of this total, the \$148,975 in costs associated with the Tributary Restoration Projects (the outstanding balance after grant deductions), would be reimbursed 100% by HCP Partners requiring mitigation at the Tributary Restoration Sites. Costs associated with this agreement would be spread over fiscal years 23/24 and 24/25.

## **Attachments**

- 1) Consulting Services Agreement



**Table 2. Cost Breakdown Summary**

Project	Not to Exceed Cost	Cost recovery	Reimbursement (Grants, Cost-share)	Net Adjusted Cost
Waterman Basins Riparian, and Alluvial, Weaver Basins, and SBVMWD Facilities	\$ 225,000	None		\$ 225,000
West Valley Water District (Lower Cactus Basins #2)	\$ 42,548	100% reimbursed by WVWD	\$ 42,548	\$ -
East Valley Water District (SAR River Corridor)	\$ 146,419	100% reimbursed by EVWD	\$ 146,419	\$ -
Redlands Airport, Mentone, Lytle Creek/Frisbee Wash, Frisbee Wash	\$ 75,000	100% by HCP Partner Agencies needing mitigation at these properties		\$ 75,000
Lower Hole Creek, Anza Creek SARCCUP Ext., Old Ranch Creek	\$ 253,723	50% (Proposition 84 Grant Monies), then 100% by HCP Partner Agencies needing mitigation at these locations	\$ 126,861	\$ 126,861
Anza Creek, Hidden Valley Creek, Restoration Planting - Hidden Valley, and Anza Creek	\$ 176,906	50% (Proposition 84 Grant Monies), plus 75% of balance (USBR Grants), then 100% by HCP Partner Agencies needing mitigation at these properties	\$ 154,793	\$ 22,113
<b>TOTALS</b>	<b>\$ 919,596</b>		<b>\$ 470,621</b>	<b>\$ 448,975</b>



## CONSULTING SERVICES AGREEMENT

**THIS CONSULTING SERVICES AGREEMENT (“Agreement”)** is entered into as of May 14, 2024 (“*Effective Date*”), by and between San Bernardino Valley Municipal Water District, a municipal water district organized and operating under the Municipal Water District Law of 1911 (“*District*”), and the Santa Ana Watershed Association, a 501(c)(3) non-profit organization (“*Consultant*” or “*Contractor*”). District and Consultant are sometimes referred to herein collectively as “*Parties*” and individually as “*Party*.”

### RECITALS

A. District is a public agency of the State of California and is in need of a qualified consultant to provide professional services for the following project:

**JOB NAME:** Upper Santa Ana River HCP

**JOB NUMBER:** 1770

B. Consultant is duly licensed in the State of California and has the necessary qualifications to provide such professional services.

C. The Parties desire to enter into this Agreement for the purpose of setting forth the terms and conditions upon which Consultant will render such professional services to District.

**NOW, THEREFORE,** the Parties agree as follows:

### ARTICLE I SCOPE OF SERVICES TO BE PERFORMED, TIME OF PERFORMANCE AND TERM

1.1 Term. The term (“*Term*”) of this Agreement shall commence on the Effective Date and shall automatically terminate when the Compensation Amount has been spent, unless earlier terminated.

1.2 Scope of Services and Time of Performance. During the Term of this Agreement, Consultant shall perform all services, and provide all materials, equipment, tools, labor, and expertise, necessary to furnish the professional services set forth in Consultant’s proposal (“*Proposal*”), a true and correct copy of which is attached as *Exhibit “A”* hereto and incorporated herein by reference (collectively, “*Services*”). All Services shall be performed in accordance with the timeframes set forth in the Proposal.

1.3 Task Orders. From time to time, the Parties may make changes to or authorize certain work set forth in the scope of Services, including without limitation issuing additional instructions, requiring additional work, or deleting work previously ordered, by executing one or more task orders (each a “*Task Order*”). The provisions of this Agreement shall apply to all such Task Orders. The costs of each Task Order, or any modification of time for completion that might be required thereby, shall be mutually agreed upon in writing by District and Consultant before

commencement of the work called for by such Task Order. A Task Order is a request for additional Services and/or changes to Services, and shall not be effective unless and until accepted in writing by both Parties. Consultant shall be solely responsible for all costs and expenses associated with any additional Services, including additional Services already performed, that have not been specifically agreed upon in writing by Consultant and District. As used in this Agreement, the term “*Services*” shall include Services added, deleted, or modified by any Task Order.

1.4 Qualifications. Consultant represents and warrants to District that it has the qualifications, experience, licenses, and facilities necessary to properly perform the Services in a timely, competent, and professional manner.

1.5 Licenses. Consultant shall, in accordance with applicable laws and ordinances, obtain and maintain at its expense all permits and licenses necessary to accomplish the Services. Failure to maintain a required permit or license may result in immediate termination of this Agreement.

1.6 Standard of Care. Consultant shall perform all Services in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and competence ordinarily exercised by members of the profession currently practicing under similar conditions and in compliance with all federal, state, and local laws, rules, regulations, or ordinances applicable to the Services.

1.7 Relations with Construction Contractor. Outside of the normal commission of Consultant’s scope of work for the project, Consultant shall not directly or indirectly communicate with or consult with any construction or other District contractor utilized in the project, except in the presence of or with the specific written consent of the District.

1.8 Non-Exclusivity. District agrees that Consultant may perform services in matters that are not substantially related to the Services for people or entities that are or might be adverse to District. Subject to the restrictions of this Section 1.8 and Sections 3.2 and 3.3, Consultant will have no obligation to limit or restrict the assignment of its consultants, employees, and principals to other projects as a result of their performance of the Services.

## **ARTICLE II COMPENSATION AND EXPENSES**

2.1 Compensation. As full and complete compensation for the Services to be rendered by Consultant, District shall pay Consultant for all Services performed pursuant to this Agreement, inclusive of subconsultants and miscellaneous expenses, in the amount and on the schedule set forth in the Proposal (“*Compensation*”), which amount shall not exceed Nine Hundred Nineteen Thousand Five Hundred Ninety Six Dollars (\$919,596) (“*Maximum Fee*”). To the extent different payment terms are set forth in a Task Order that conflict with the general payment terms set forth in the Proposal, the terms in the Task Order shall control. Consultant acknowledges and agrees that in no event shall Consultant receive or have a claim of any kind for any payment in excess of the Maximum Fee for any work, including additional Services under any Task Order, performed under this Agreement, unless such amount exceeding the Maximum Fee is specifically approved in writing by District.

2.2 Billing Procedure. On or before the tenth (10th) day of each month, Consultant will submit to District an accurate and complete statement (“**Invoice**”) for Services actually performed during the previous month and other amounts due under this Agreement. Each Invoice shall include, at a minimum: (a) District’s job name; (b) District’s job number; (c) Consultant’s point of contact for billing questions; (d) basis of billing; (e) total contract value; (f) total billing to date; (g) amount remaining in contract; (h) estimated percentage of completion at time of billing; and (i) a summary of Services actually performed during the billing period. Each Invoice shall be supported by such data substantiating Consultant’s right to payment as District may reasonably require.

2.3 Payment. District shall pay to Consultant within thirty (30) calendar days after receipt of an Invoice, or the resolution of any billing dispute, all undisputed amounts. District may withhold a portion of an Invoice because of defective Services not remedied or unsatisfactory prosecution of the Services by Consultant. District will release any withheld funds upon Consultant satisfactorily remedying the issue that resulted in the withholding. District will not pay late fees to Consultant on the compensation due Consultant under the terms of this Agreement. Payment of any Invoice shall not constitute acceptance of any Services completed by Consultant, and the making of final payment shall not constitute a waiver of any claims by District for any reason whatsoever.

2.4 Disputed Invoices. In the event District disputes an Invoice, District shall provide a written explanation of the dispute to Consultant within thirty (30) days after receiving the Invoice. District and Consultant shall cooperate to resolve any disputed amount. District shall not be penalized for any reasonable dispute and shall not be obligated to pay any amount in dispute until the dispute has been resolved.

2.5 Expenses. District must pre-approve in writing each reasonable and necessary expense for which Consultant intends to seek reimbursement, which expenses are directly related to the performance of the Services. If pre-approved, such expenses for reasonable and necessary travel, lodging, or miscellaneous expenses incurred in the performance of this Agreement will be reimbursed to Consultant in accordance with District’s general reimbursement policy. Consultant shall submit an Invoice of all incurred expenses accompanied by reasonable supporting documentation or transaction receipts. Invoices that fail to include reasonable supporting documentation or receipts will not be honored and District will have no obligation of any kind to reimburse Consultant for unsupported expenses listed on such Invoices.

2.6 Taxes. Any Taxes imposed by governing taxing authorities with respect to the Services will be the responsibility of Consultant. “**Taxes**” shall mean all taxes imposed with respect to the provision of the Services and associated amounts payable with respect to the Services, whether denominated as sales taxes, gross receipts taxes, transaction privilege taxes, use taxes, excise taxes, or otherwise.

**ARTICLE III**  
**WORK PRODUCT; CONFIDENTIAL INFORMATION**

3.1 Project Data. Consultant shall be exclusively responsible for obtaining from the appropriate sources, persons or third parties, all data and information necessary for the proper, timely and complete performance and satisfaction of the Services.

3.2 Work Product. Upon completion or other termination of this Agreement, Consultant shall provide to District, and such other consultants approved by District, all papers, maps, models, designs, calculations, surveys, reports, data, notes, computer files, documents, drawings and other work product (collectively "**Work Product**") developed from or associated with the Services. Upon completion of the Services, Consultant shall provide one reproducible physical copy and one electronic copy of all final Work Product described in the Proposal, in forms acceptable to District. Consultant acknowledges that all Services performed or Work Product prepared for District by Consultant hereunder, including without limitation all data, calculations, reports, models, working notes, drawings, designs, improvements, trademarks, patents, copyrights (whether or not registered or patentable), and specifications developed or prepared by Consultant in connection with or related to such Services or Work Product shall become the sole and exclusive property of District, unless specifically otherwise agreed upon in writing by District and Consultant. Consultant hereby unconditionally assigns, transfers and conveys to District all rights, interests and claims of any kind related thereto, including copyright. Consultant shall promptly disclose such Work Product to District and, at the District's expense, perform all actions reasonably requested by District (whether during or after the Term) to establish and confirm such ownership (including, without limitation, executing any necessary assignments, consents, powers of attorney, and other instruments). Notwithstanding the preceding, all pre-existing intellectual property owned by Consultant which is incorporated in or utilized to develop the Services performed or Work Product prepared for District hereunder shall remain the sole and exclusive property of Consultant; provided, however, that Consultant grants to District a non-exclusive, perpetual, fully transferable, worldwide, royalty-free, limited license to use such pre-existing intellectual property in connection with such Services or Work Product. Consultant shall not be held liable for reuse of Work Product or modifications thereof by District or its representatives for any purpose other than the original intent of this Agreement, without written authorization of Consultant.

3.3 Confidential Information. Consultant acknowledges that during the Term it may receive or have access to certain information, observations, and data (including without limitation trade secrets, designs, ideas, products, research, software, financial data, and personal information) concerning the business or affairs of District which is designated as confidential or proprietary or should reasonably be understood to be confidential given the nature of the information and the circumstances surrounding its disclosure ("**Confidential Information**"). All Confidential Information is, and shall remain, the property of District. Consultant shall: (a) use all Confidential Information solely for the purpose of providing the Services described in this Agreement; (b) hold all Confidential Information in strict confidence; (c) protect all Confidential Information from dissemination to, and unauthorized access or use by, any third party, using the same level of care and discretion that it uses with its own similar information, which in no case will be less than commercially reasonable care; (d) restrict access to all Confidential Information to such of its personnel, agents, and/or subconsultants, if any, who have a need to have access in order to provide

the Services and who are under obligations of confidentiality substantially similar to those in this Agreement; and (e) return or destroy all Confidential Information of the other Party in its possession upon termination or expiration of this Agreement and promptly confirm such return or destruction. Consultant shall not sell or make any unauthorized use of any Confidential Information.

#### **ARTICLE IV BOOKS AND RECORDS**

4.1 Books and Records. Consultant shall keep and preserve for no less than four (4) years after the date of final billing or termination of this Agreement, whichever shall first occur, accurate and detailed records of all ledgers, books of account, invoices, vouchers, cancelled checks, and other documents or records evidencing or relating to the Services and disbursements charged to District under this Agreement (collectively, “*Books and Records*”). All Books and Records shall be maintained in accordance with generally accepted accounting principles and must be sufficiently complete and detailed so as to permit an accurate evaluation of the Services provided by Consultant under this Agreement. District and its agents shall be given full access to such Books and Records during normal business hours. District and its agents shall have the right to make copies of any of the said Books and Records.

4.2 Work Product Documentation. Consultant further agrees to maintain all design calculations and final Work Product on file in legible and readily accessible form. In addition to the requirements of Section 3.2, Consultant shall make copies of such material available to District, at District’s sole cost and expense, and Consultant shall not destroy the originals of such materials and items, including any additions, amendments or modification thereto, unless District fails to object to such destruction upon Consultant providing District with sixty (60) days advance written notice, indicating that such material is scheduled to be destroyed.

#### **ARTICLE V INDEPENDENT CONTRACTOR**

5.1 Status. The Parties hereby acknowledge that in rendering the Services provided hereunder, Consultant shall be deemed to be an independent contractor and shall not be deemed in any way an agent, partner, or joint venturer of District. Consultant acknowledges and agrees that, as an independent contractor, it is solely responsible for the payment of any and all taxes and/or assessments imposed on account of payment to Consultant or the performance of Services by Consultant pursuant to this Agreement.

5.2 Agency Restrictions. Consultant understands and agrees that Consultant shall not represent itself to third parties to be the agent, employee, partner, or joint venturer of District. Furthermore, Consultant shall not make any statements on behalf of or otherwise purporting to bind the District in any contract or otherwise related agreement. Consultant further agrees and acknowledges that Consultant does not have the authority to and shall not sign any contract on behalf of District. Consultant shall not obligate District to do any other act that would bind District in any manner.

5.3 Further Assurances. Consultant shall furnish District with any documents or records that District reasonably believes necessary to properly and timely carry out the Services. District shall first tender written notice to Consultant regarding any documents or records that it reasonably believes necessary to properly carry out the Services. Consultant shall then have ten (10) days from the receipt of such notice to provide District with the requested documents or records.

## **ARTICLE VI TERMINATION**

6.1 Termination. At any time during the Term of this Agreement, District may terminate this Agreement, in whole or in part, with or without cause, upon ten (10) working days' written notice to Consultant. Upon receipt of the termination notice, Consultant shall promptly discontinue Services except to the extent the notice otherwise directs. In the event District renders such written termination notice to Consultant, Consultant shall be entitled to compensation for all Services properly rendered prior to the effective date of the notice and all further Services set forth in the notice. District shall be entitled to reimbursement for any compensation paid in excess of Services properly rendered and shall be entitled to withhold compensation for defective Services or other damages caused by Consultant's work. Consultant acknowledges District's right to terminate this Agreement as provided in this Article VI, and hereby waives any and all claims for damages that might arise from District's termination of this Agreement. Consultant shall deliver to District and transfer title (if necessary) to all completed Work Product. District shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed Services, and shall not be entitled to damages or compensation for termination of Services.

## **ARTICLE VII CALIFORNIA LABOR CODE PROVISIONS FOR PUBLIC WORKS PROJECTS**

7.1 Prevailing Wage Rates. Consultant is aware of the requirements of California Labor Code sections 1720 *et seq.* and 1770 *et seq.* (collectively, "**Prevailing Wage Laws**"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws, if applicable. Consultant shall indemnify, defend, and hold harmless District and its directors, officers, employees, and agents from any claims, liabilities, costs, fines, penalties, or interest arising out of any failure or alleged failure of Consultant or its subconsultants to comply with the Prevailing Wage Laws. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, including without limitation prevailing wages, employment of apprentices, hours of labor, and debarment of contractors and subcontractors.



7.2 Registration. If the Services are being performed as part of an applicable “public works” or “maintenance” project, in addition to the foregoing, then pursuant to California Labor Code sections 1725.5 and 1771.1, Consultant and all subconsultants must be registered with the Department of Industrial Relations (“*DIR*”). Consultant shall maintain registration for the duration of this Agreement and require the same of any of its subconsultants. This Agreement may also be subject to compliance monitoring and enforcement by the DIR. Consultant shall have sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll records directly to the DIR.

7.3 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of California Labor Code section 3700, which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and Consultant agrees to comply with such provisions before commencing the performance of any Services.

**ARTICLE VIII**  
**ENVIRONMENTAL PROTECTION AGENCY**  
**WATER INFRASTRUCTURE FINANCE AND INNOVATION ACT**  
**(“*WIFIA*”) PROVISIONS FOR WIFIA FUNDED PROJECTS**

8.1 Debarment and Suspension. Contractor certifies that it will not knowingly enter into a contract with anyone who is ineligible under the 2 CFR part 180 and part 1532 (per Executive Order 12549, 51 FR 6370, February 21, 1986) or who is prohibited under Section 306 of the Clean Air Act or Section 508 of the Clean Water Act to participate in the Services. Suspension and debarment information can be accessed at <http://www.sam.gov>. Contractor represents and warrants that it has or will include a term or conditions requiring compliance with this provision in all of its subcontracts under this Agreement.

8.2 Federal Lobbying Restrictions (31 U.S.C. 1352). Recipients of federal financial assistance may not pay any person for influencing or attempting to influence any officer or employee of a federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress with respect to the award, continuation, renewal, amendment, or modification of a federal grant, loan, or contract. These requirements are implemented for USEPA in 40 CFR Part 34, which also describes types of activities, such as legislative liaison activities and professional and technical services, which are not subject to this prohibition. Upon award of this contract, Contractor shall complete and submit to District the certification and disclosure forms in Appendix A and Appendix B to 40 CFR Part 34. Contractor shall also require all subcontractors and suppliers of any tier awarded a subcontract over \$100,000 to similarly complete and submit the certification and disclosure forms pursuant to the process set forth in 40 CFR 34.110.

8.3 Civil Rights Obligations. Contractor shall comply with the following federal non-discrimination requirements:

(a) Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP). (42 U.S.C 2000D *et seq.*)

(b) Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities. (29 U.S.C. 794, supplemented by EO 11914, 41 FR 17871, April 29, 1976 and EO 11250, 30 FR 13003, October 13, 1965)

(c) The Age Discrimination Act of 1975, which prohibits age discrimination. (42 U.S.C 6101 *et seq.*)

(d) Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.

(e) 40 CFR Part 7, as it relates to the foregoing.

8.4 Equal Employment Opportunity (EEO). The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60). (EO 11246, 30 FR 12319, September 28, 1965).

Contractor's compliance with Executive Order 11246 shall be based on implementation of the Equal Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

During the performance of this contract, the Contractor agrees as follows:

- 1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- 2) The Contractor will, in all solicitations or advancements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- 3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has

inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

- 4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- 5) The Contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- 6) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- 7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- 8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such

direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States. [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966–1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230, EO 13665 of April 8, 2014, 79 FR 20749, EO 13672 of July 21, 2014, 79 FR 42971]

8.5 Affirmative Action. (41 CFR 60-2) The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 12086, and 13672. (EO 12086, 43 FR 46501, and EO 13672, 79 FR 42971).

- a) *General.* The requirements of this part apply to nonconstruction (supply and service) contractors. The regulations prescribe the contents of affirmative action programs, standards and procedures for evaluating the compliance of affirmative action programs implemented pursuant to this part, and related matters.
- b) *Affirmative action programs.*
  - 1) Each nonconstruction contractor must develop and maintain a written affirmative action program for each of its establishments if it has 50 or more employees and:
    - i. Has a contract of \$50,000 or more; or
    - ii. Has Government bills of lading which in any 12-month period, total or can reasonably be expected to total \$50,000 or more; or
    - iii. Serves as a depository of Government funds in any amount; or
    - iv. Is a financial institution which is an issuing and paying agent for U.S. savings bonds and savings notes in any amount.
  - 2) Each contractor and subcontractor must require each nonconstruction subcontractor to develop and maintain a written affirmative action program for each of its establishments if it has 50 or more employees and:
    - i. Has a subcontract of \$50,000 or more; or
    - ii. Has Government bills of lading which in any 12-month period, total or can reasonably be expected to total \$50,000 or more; or
    - iii. Serves as a depository of Government funds in any amount; or
    - iv. Is a financial institution which is an issuing and paying agent for U.S. savings bonds and savings notes in any amount.
- c) *When affirmative action programs must be developed.* The affirmative action programs required under paragraph (b) of this section must be developed within 120 days from the commencement of a contract and must be updated annually.

- d) *Who is included in affirmative action programs.* Contractors subject to the affirmative action program requirements must develop and maintain a written affirmative action program for each of their establishments. Each employee in the contractor's workforce must be included in an affirmative action program. Each employee must be included in the affirmative action program of the establishment at which he or she works, except that:
- 1) Employees who work at establishments other than that of the manager to whom they report, must be included in the affirmative action program of their manager.
  - 2) Employees who work at an establishment where the contractor employs fewer than 50 employees, may be included under any of the following three options: In an affirmative action program which covers just that establishment; in the affirmative action program which covers the location of the personnel function which supports the establishment; or, in the affirmative action program which covers the location of the official to whom they report.
  - 3) Employees for whom selection decisions are made at a higher level establishment within the organization must be included in the affirmative action program of the establishment where the selection decision is made.
  - 4) If a contractor wishes to establish an affirmative action program other than by establishment, the contractor may reach agreement with OFCCP on the development and use of affirmative action programs based on functional or business units. The Director, or his or her designee, must approve such agreements. Agreements allowing the use of functional or business unit affirmative action programs cannot be construed to limit or restrict how the OFCCP structures its compliance evaluations.
- e) *How to identify employees included in affirmative action programs other than where they are located.* If pursuant to paragraphs (d)(1) through (3) of this section employees are included in an affirmative action program for an establishment other than the one in which the employees are located, the organizational profile and job group analysis of the affirmative action program in which the employees are included must be annotated to identify the actual location of such employees. If the establishment at which the employees actually are located maintains an affirmative action program, the organizational profile and job group analysis of that program must be annotated to identify the program in which the employees are included.

8.6 Segregated Facilities. (41 CFR 60-1.8). The Contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The Contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The Contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the Contractor's control, where the

facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term “facilities,” as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; provided, that separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

8.7 Disadvantaged Business Enterprises (DBE). The Contractor must ensure that the DBE’s six good faith efforts are used during the procurement of subcontractors for the Services. The six good faith efforts are found at: <https://www.epa.gov/grants/disadvantaged-business-enterprise-program-requirements#sixgoodfaihefforts>.

8.8 Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (effective August 13, 2020). The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115-232), at Section 889, prohibits EPA financial assistance recipients, including WIFIA borrowers, from expending loan funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in the Act, “covered telecommunications equipment or services” means:

(a) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(b) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(c) Telecommunications or video surveillance services provided by such entities or using such equipment.

(d) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Act does not prohibit:

(a) Procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements.

(b) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

**ARTICLE IX  
PROJECT MANAGEMENT**

9.1 Consultant's Representative. Neda Delmont ("*Consultant's Representative*") is hereby designated as the principal and representative of Consultant authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection herewith. Consultant shall not substitute Consultant's Representative without first notifying District in writing of Consultant's intent. District shall have the right to review the qualifications of said substitute. If District determines said substitute Consultant's Representative is unacceptable, Consultant shall submit alternate candidates until District determines the substitute Consultant Representative is acceptable.

9.2 District's Representative. Mike Esquer ("*District's Representative*") is hereby designated to represent District and except as otherwise provided herein authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection therewith. District may substitute District's Representative at any time upon written notice to Consultant.

**ARTICLE X  
INDEMNIFICATION; LIMITATION OF LIABILITY**

10.1 Indemnification. To the maximum extent permitted by law, Consultant shall indemnify, defend, and hold harmless District and District's directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns from and against any and all claims, demands, losses, costs, expenses, obligations, liabilities, damages, judgments, fines, penalties, and deficiencies, including attorneys' fees (collectively, "*Claims*"), arising out of or related to any acts or omissions, or goods, products, or services made, furnished, or otherwise provided, or alleged to be made, furnished, or otherwise provided, by Consultant or Consultant's employees, representatives, agents, subconsultants, contractors, subcontractors, suppliers, successors, permitted assigns, or anyone acting on behalf of Consultant in connection with the performance of the Services; provided, however, that Consultant's indemnification obligations shall not apply to the extent any Claim arises from District's sole negligence or willful misconduct. Consultant's indemnification responsibility with respect to the Services shall exist and continue regardless of the extent to which District may have reviewed and approved the Services performed by Consultant, except that Consultant shall not be responsible for any Claim attributable to the Services to the extent such Claim is attributable to a decision made by District with respect to which Consultant and District have specifically agreed in writing that District shall be the responsible party. Consultant's indemnification obligations shall not be affected by any insurance provisions or limitations of liability contained in this Agreement. Consultant's indemnification obligations shall continue in full force and effect notwithstanding the completion, expiration, or other termination of this Agreement.

10.2 Limitation of Liability. DISTRICT'S CUMULATIVE AGGREGATE LIABILITY IN CONNECTION WITH THIS AGREEMENT, WHETHER ARISING UNDER CONTRACT OR BASED UPON A CLAIM OF STRICT LIABILITY, NEGLIGENCE, OR ANY OTHER TORT OR STATUTORY BASIS, SHALL BE LIMITED TO THE TOTAL PAYMENTS MADE

BY DISTRICT TO CONSULTANT HEREUNDER DURING THE 12-MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT UPON WHICH LIABILITY IS PREDICATED. IN NO EVENT WILL DISTRICT OR ANY OF ITS DIRECTORS, OFFICERS, EMPLOYEES, REPRESENTATIVES, AGENTS, OR AFFILIATES BE LIABLE FOR LOST PROFITS, LOST BUSINESS OPPORTUNITIES, LOST REVENUES, OR FOR EXEMPLARY, PUNITIVE, SPECIAL, INCIDENTAL, DELAY, INDIRECT, OR CONSEQUENTIAL DAMAGES OR THE LIKE, EACH OF WHICH IS HEREBY EXCLUDED BY AGREEMENT OF THE PARTIES REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE OR WHETHER DISTRICT HAS BEEN ADVISED OF THE POSSIBILITY THEREOF. THE PARTIES EACH ACKNOWLEDGE THAT THE FORGOING LIMITATION OF LIABILITY IS A MATERIAL CONDITION OF DISTRICT'S WILLINGNESS TO ENTER INTO THIS AGREEMENT, AND THAT DISTRICT WOULD NOT ENTER INTO THIS AGREEMENT BUT FOR SUCH LIMITATION.

## **ARTICLE XI INSURANCE**

11.1 Insurance. Consultant shall provide, pay for, and maintain in force at all times during the performance of the Services hereunder, the policies of insurance set forth below. Consultant shall provide original certificates of insurance and endorsements evidencing coverage on forms reasonably acceptable to District prior to commencing any Services under this Agreement and promptly upon request thereafter, and District reserves the right to require complete, certified copies of all required insurance policies, including policy declaration pages and endorsement pages. The existence of the required insurance coverage under this Agreement shall not be deemed to satisfy, substitute for, or otherwise limit Consultant's indemnification obligations under this Agreement. Consultant acknowledges that the insurance coverage and the policy limits set forth in this Agreement constitute the minimum coverage and policy limits required; if Consultant maintains broader coverage and/or higher limits than the minimums shown above, District requires and shall be entitled to the broader coverage and/or higher limits maintained by Consultant and any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to District.

(a) Commercial General Liability Insurance covering liabilities for death and personal injury, liabilities for loss of or damage to property, and contractual indemnity obligations with a combined single limit of \$2,000,000 per occurrence and \$4,000,000 in the aggregate.

(b) Automobile Liability Insurance for bodily injury or death and property damage, including coverage for owned, non-owned, leased, and hired auto, with a minimum \$1,000,000 per person and \$2,000,000 per occurrence.

(c) Workers' Compensation Insurance as required by applicable law.

(d) Employers' Liability Insurance with limits of at least \$1,000,000 per occurrence.



(e) Professional Liability Insurance/Errors and Omissions Liability Insurance appropriate to Consultant's profession, with limits of liability of not less than \$2,000,000 each claim/annual aggregate.

11.2 Policy Requirements. All insurance policies required pursuant to this Agreement shall:

(a) For all liability policies, include an additional insured endorsement at least as broad as ISO CG 20 10 10 01 and consistent therewith naming as additional insureds "San Bernardino Valley Municipal Water District and its directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns".

(b) Be on an "occurrence" basis, not a "claims-made" basis. The foregoing policies must contain an aggregate limit not less than the occurrence limit. The required limits may be satisfied by a combination of a primary policy and an excess or umbrella policy.

(c) Be primary and non-contributory with any insurance programs carried by or available to District and, with respect to Commercial General Liability Insurance, include a primary and non-contributory endorsement at least as broad as ISO CG 20 01 04 13.

(d) Waive all rights of subrogation and contribution against District and its insurers; provided, however, this provision shall apply regardless of whether or not District has received a waiver of subrogation from the insurer.

(e) Provide that coverage shall not be revised, cancelled or reduced until at least thirty (30) days' written notice of such revision, cancellation or reduction shall have been given to District. In the event any policies of insurance are revised, cancelled or reduced, Consultant shall prior to the revision, reduction or cancellation date, submit evidence of new insurance to District complying with this Agreement.

(f) Be issued by insurance companies which are qualified to do business in the State of California and which have a current rating of A-VII or better in Best's Insurance Report.

11.3 Subconsultant Insurance. In the event Consultant subcontracts any portion of its performance, the agreement between Consultant and the subconsultant shall require the subconsultant to carry the same policies of insurance that Consultant is required to maintain pursuant to this Agreement.

## **ARTICLE XII REPRESENTATIONS AND WARRANTIES**

12.1 Representations and Warranties. Each Party represents and warrants the following:

(a) Such Party is duly organized, validly existing, and in good standing under the laws of its state of formation or incorporation and has all requisite power and authority to conduct the business with which it conducts and proposes to conduct.

(b) All action on the part of such Party necessary for the authorization, execution, delivery, and performance of this Agreement, and the consummation of the transactions contemplated herein, has been properly taken and obtained in compliance with applicable law.

(c) Such Party has not entered into nor will either enter into any agreement (whether written or oral) in conflict with this Agreement or which would prevent such Party from performing its obligations under this Agreement.

(d) Such Party has the contacts and expertise, and will reasonably allocate its financial and time resources on a best efforts basis to enable it to perform its obligations hereunder.

### **ARTICLE XIII MISCELLANEOUS**

13.1 Entire Agreement. This Agreement contains the entire understanding between the Parties, and supersedes any prior understanding and/or written or oral agreements between them, respecting the subject matter of this Agreement. There are no representations, agreements, arrangements, or understandings, oral or written, by and between the Parties relating to the subject matter of this Agreement that are not fully expressed herein.

13.2 Assignment. Consultant may not assign its rights and obligations hereunder, in part or in whole, without the prior written consent of District, which consent may be granted or withheld in District's sole discretion.

13.3 Succession. This Agreement shall be binding upon and inure to the benefit of the Parties named herein and their respective successors and permitted assigns.

13.4 No Third-Party Beneficiaries. This Agreement shall not confer any rights or remedies upon any person or entity other than the Parties and their respective successors and permitted assigns.

13.5 Headings. The section headings contained in this Agreement are inserted for convenience only and shall not affect in any way the meaning or interpretation of this Agreement.

13.6 Notices. Any notice to be given or to be served upon either Party hereto in connection with this Agreement must be in writing and shall be deemed to have been given and received: (a) when personally delivered; (b) two (2) days after it is sent by Federal Express or similar overnight courier, postage prepaid and addressed to the Party for whom it is intended, at that Party's address specified below; (c) three (3) days after it is sent by certified or registered United States mail, return receipt requested, postage prepaid and addressed to the Party for whom it is intended, at that Party's address specified below; or (d) as of the date of electronic mail transmission addressed to the Party for whom it is intended, at that Party's electronic mail address specified below, and provided that an original of such notice is also sent to the intended addressee by means described in clauses (a), (b), or (c) within two (2) business days after such transmission. Either Party may change the place for the giving of notice to it by thirty (30) days prior written notice to the other Party as provided herein.

If to District: San Bernardino Valley Municipal Water District  
Attn: Heather Dyer, CEO/General Manager  
380 East Vanderbilt Way  
San Bernardino, CA 92408  
Telephone: (909) 387-9253  
E-Mail: heatherd@sbyvmwd.com

If to Consultant: Santa Ana Watershed Association  
Attn: Brian Brady, Executive Director  
Telephone: (951) 780-1012, ext. 102  
E-Mail: bbrady@sawatershed.org

13.7 Governing Law; Venue. This Agreement shall be governed by and interpreted in accordance with the laws of the State of California, excluding any choice of law provision that would apply the laws of any other jurisdiction. The Superior Court of the State of California in and for San Bernardino County shall have exclusive jurisdiction to adjudicate any dispute arising out of or relating to this Agreement. Each Party hereby consents to the jurisdiction of such court and waives any right it may otherwise have to challenge the appropriateness of such forum, whether on the basis of the doctrine of forum *non conveniens* or otherwise.

13.8 Waivers. No waiver by any Party of any default, misrepresentation, or breach of warranty or covenant hereunder, whether intentional or not, shall be deemed to extend to any prior or subsequent default, misrepresentation, or breach of warranty or covenant hereunder or affect in any way any rights arising by virtue of any prior or subsequent occurrence.

13.9 Amendment. Except as expressly provided otherwise herein, this Agreement may not be modified, altered, or changed in any manner whatsoever except by a written instrument duly executed by authorized representatives of both Parties.

13.10 Severability. If any provision of this Agreement shall be deemed or held to be invalid or unenforceable for any reason, such provision shall be adjusted, if possible, rather than voided, so as to achieve the intent of the Parties to the fullest extent possible. In any event, such provision shall be severable from, and shall not be construed to have any effect on, the remaining provisions of this Agreement, which shall continue in full force and effect.

13.11 Time of the Essence. Time is of the essence in the performance of each and every provision or obligation of this Agreement as to which time is an element.

13.12 Release of Information and Advertising. Consultant shall not, without the prior written consent of District, make any news release or other public disclosure regarding this Agreement.

13.13 Construction. The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Any reference to any federal, state, local, or foreign statute or law

shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. The word “including” shall mean including without limitation.

13.14 Attorneys’ Fees. If any legal action is necessary to enforce or interpret the terms of this Agreement, the prevailing Party shall be entitled to reasonable attorneys’ fees, reasonable expert witness fees, costs, and necessary disbursements in addition to any other relief to which that Party may be entitled.

13.15 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Signatures may be delivered electronically or by facsimile and shall be binding upon the Parties as if they were originals.

***[Signature Page Follows]***

**IN WITNESS WHEREOF**, the Parties hereby execute this Agreement as of the Effective Date.

**DISTRICT:**

**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**CONSULTANT:**

**SANTA ANA WATERSHED ASSOCIATION**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**EXHIBIT “A”**

*Santa Ana Watershed Association*

*Nonnative Plant Management, Spring 2024 Project*

*Scope of Work*



1835 Chicago Avenue, Suite C  
Riverside, CA 92507  
(951) 780-1012  
Fax (951) 780-5893  
<http://www.sawatershed.org>

**Board of Directors:** To: San Bernardino Valley Municipal Water District (SBVMWD)  
From: Santa Ana Watershed Association (SAWA)  
Subject: SBVMWD-SAWA Spring 2024 Proposal

**Brett Mills,  
Chair**

**Kerwin Russell,  
Vice-Chair**

**Mandy Parkes,  
Treasurer**

**Teri Biancardi,  
Secretary**

**David McMichael,  
Director**

The Santa Ana Watershed Association (SAWA) is a 501 C3 nonprofit corporation. SAWA has been involved in native habitat restoration since it was founded in 1997 and strives to provide quality habitat restoration work throughout the Santa Ana Watershed. SAWA is excited at the potential partnership with San Bernardino Valley Municipal Water District to assist in the habitat restoration plans presented by SBVMWD. SAWA will work closely with SBVMWD staff to coordinate treatments at multiple project locations at the direction of SBVMWD staff. SAWA will propose and calendar treatments for SBVMWD staff to approve prior to conducting work. Since SAWA is a non-profit corporation only actual costs are charged as they are incurred by SAWA. All not to exceed amounts will be monitored to ensure accurate budgeting. SAWA looks forward to working closely with SBVMWD staff to achieve their desired habitat goals. If you have any questions, concerns or comments feel free to contact me.

Cordially,

A handwritten signature in black ink that reads "James Law".

James Law  
Habitat Restoration Services Manager  
Cell – (909)7871-6903

Project Name	Project Description	Project Acreage	Not To Exceed Amount	Project Work Description	Notes
Weaver Basins	Control non-native grasses, castorbean and mustard	18	25,000.00	SBVMWD - Access Improvements SAWA to treat non-native grasses and mustards SBVMWD to mow accessible areas >7 days after treatment SAWA to conduct post treatment Potential SAWA or CCC Line Trimming	SAWA to treat non-native vegetation in Winter 24 - 3 People 4 Days SAWA to treat non-native vegetation as needed - 3 People 3Days
Redlands Airport	Control non-native grasses, tumbleweeds, castorbean and mustard	40	25,000.00	SAWA to conduct Code Enforcement as Requested SAWA to treat non-native vegetation in Winter 24 SAWA to continue monitoring and treatments as needed to control re-growth	SAWA non-native application 1 = 3 People 4 Days SBVMWD to mow accessible areas SAWA post mow application 2 = 3 People 3 Days
Mentone	Control non-native grasses, castorbean, tumbleweeds and mustard	10	15,000.00	SAWA to conduct Code Enforcement as Requested SAWA to treat non-native vegetation in Winter 25 SAWA to continue monitoring and treatments as needed to control re-growth	SAWA non-native application 1 = 3 People 2 Days SBVMWD to mow accessible areas SAWA post mow application 2 = 3 People 2 Days
Lytle Creek/Frisbee Wash	Control non-native grasses, castorbean, giant reed and mustard, Eucalyptus ...?	48	10,000.00	SAWA to conduct code enforcement work to ensure SBVMWD is compliant with code enforcement SAWA to treat non-native vegetation in Winter 25 SAWA to continue monitoring and treatments as needed to control re-growth	SAWA non-native application 1 = 3 People 2 Days SBVMWD Mow Application >7 Days after Treatment SAWA post mow application 2 = 3 People 1 Day Potential CCC line trimming, trash removal and eucalyptus removal
Frisbee Wash	Control non-native grasses, castorbean and mustard	30	25,000.00	SAWA to conduct code enforcement work to ensure SBVMWD is compliant with code enforcement SAWA to treat non-native vegetation in Winter 25 SBVMWD to mow >7 days after treatment SAWA to continue monitoring and treatments as needed to control re-growth	SAWA non-native application 1 = 3 People 4 Days SBVMWD to mow >7 Days after Treatment SAWA post mow application 2 = 3 People 3 Days Potential CCC line trimming trash removal and eucalyptus removal
Lower Hole Creek	Control castorbean, tamarisk, arundo and palm ssp.	5	20,682.70	SAWA to treat non-native vegetation in Summer 24 SAWA to remove giant reed, tamarisk Fall 24 SAWA follow up treatment Winter 25 SAWA follow up treatment Spring 25	SAWA non-native application 1 - 3 People 2 Days SAWA non-native removal - Green Climber 2 Days with Spotter SAWA non-native application 2 - 3 People 2 Days
Anza Creek	Palm tree control/Woody Non-Native Vegetation + Pepperweed	21	101,934.00	SAWA to treat non-native palms, Woody Species + Pepperweed in Summer 24 SAWA to treat non-native vegetation in Fall 24 SAWA follow up treatment Spring 25	SAWA - 2 Person Crew = Treat ~ 50 Palms/Day Pepperweed/Palms/Fig/Tree of Heaven/Salt Cedar/Giant reed - 3 People 8 Days
Anza Creek SARCCUP Ext.	Palm tree control/Woody Non-Native Vegetation + Pepperweed	12	101,934.00	SAWA to treat non-native Pepperweed/Palms/Fig/Tree of Heaven/Salt Cedar/Giant reed - 3 People 8 Days in Summer 24 SAWA to treat non-native vegetation in Fall 24 SAWA follow up treatment Spring 25	SAWA - 2 Person Crew = Treat ~ 50 Palms/Day Pepperweed/Palms/Fig/Tree of Heaven/Salt Cedar/Giant reed - 3 People 8 Days



Old Ranch Creek	Palm tree control/Woody Non-Native Vegetation + Pepperweed	17	131,106.00	SAWA to treat non-native palms, Pepperweed/Palms/Fig/Tree of Heaven/Salt Cedar/Giant reed - 3 People 8 Days in Summer 24 SAWA to treat non-native vegetation in Fall 24	SAWA - 2 Person Crew = Treat ~ 50 Palms/Day Pepperweed/Palms/Fig/Tree of Heaven/Salt Cedar/Giant reed - 3 People 8 Days
Hidden Valley Creek	Field Assessment + Mapping -> Treat all living palm ssp.	22	25,000.00	SAWA to assess palms at Hidden Valley Creek SAWA to treat palm ssp.	SAWA to assess palms - Max/James 2 Days SAWA palm treatment - ~ 20 palms per day (increased distance between palms)
Waterman Basins Riparian	Treat non-native herbaceous weeds	40	100,000.00	SAWA to treat non-native herbaceous species in Spring 24 SBVMWD/Riv Parks to Mow/Pile Fallen Trees in Fall 24 SAWA Treatment 2 in Fall 24 SAWA Treatment 3 in Winter 24	SAWA - 3 Person Crew Treatment 1 - 8 Days SAWA - 3 Person Crew Treatment 2 - 6 Days SAWA - 3 Person Crew Treatment 3 - 6 Days SAWA - 3 Person Crew Treatment 4 - 6 Days
Lower Cactus Basins #2	Treat non-native herbaceous weeds	12	42,548.10	SAWA to treat non-native herbaceous species in Spring 24 SBVMWD/Riv Parks to Mow in Fall 24 SAWA Treatment 2 in Fall 24 SAWA Treatment 3 in Winter 24	Treatment Rate ~ 2 Acres Per Day (estimated at 2 acres/day, crew first day treated ~ 3.5 Acres)
Waterman Basins Alluvial	Treat non-native herbaceous weeds	20	50,000.00	SAWA to treat non-native herbaceous species in Spring 24 SBVMWD/Riv Parks to Mow in Fall 24 SAWA Treatment 2 in Fall 24 SAWA Treatment 3 in Winter 24	SAWA - 3 Person Crew Treatment 1 - 6 Days SAWA - 3 Person Crew Treatment 2 - 3 Days SAWA - 3 Person Crew Treatment 3 - 3 Days SAWA - 3 Person Crew Treatment 4 - 3 Days
SAR River Corridor (1.4 miles X 200 feet)	Treat non-native fig, tree of heaven, salt cedar, giant reed, castorbean and pepperweed.	78	146,418.75	SAWA to treat non-native species in Spring 24 SAWA Treatment 2 in Summer 24 SAWA Treatment 3 in Winter 24 SAWA Treatment 4 in Spring 25	SAWA to treat non-native vegetation in Summer 24 = 3 People 12 Days SAWA to treat non-native vegetation in Fall 24 = 3 People 12 Days SAWA to treat non-native vegetation in Winter 24 = 3 People 12 Days SAWA follow up treatment Spring 25 = 3 People 12 Days
<b>Totals</b>		<b>373</b>	<b>819,623.55</b>		
SBVMWD Long Term Projects					
SBVMWD Facilities		Vaiable	\$50,000.00	Maintain access and ensure code enforcement compliance as requested by SBVMWD staff.	To ensure access to SBVMWD Facilities and code enforcement compliance
Restoration Planting Hidden Valley		Vaiable	\$24,986.25	# of Days Desired?	Collection of Pole Cuttings - ~ 100 per day with 3 person crew Planting of Pole Cuttings - ~ 75 per day with 3 person crew
Restoration Planting Anza Creek		Vaiable	\$24,986.25	# of Days Desired?	Collection of Pole Cuttings - ~ 100 per day with 3 person crew Planting of Pole Cuttings - ~ 75 per day with 3 person crew
<b>Totals</b>			<b>\$919,596.05</b>		

These rates are subject to change on January 1st, 2025 to reflect merit and cost of living adjustments for employees  
No biological monitoring, permitting or Ranger assistance is covered under this proposal.

Project	3 Person Crew Number of Days	Palm Tree Crew Number of Days	Removal Crew Number of Days	3 Person Daily Rate	Palm Tree Crew Daily Rate	Removal Daily Rate	Staff Total	Mileage	Chemical	Project Total	Miles Per Trip	# of Trips
Weaver Basins	7			\$2,850.00	\$1,750.00	\$3,800.00	\$19,950.00	\$382.80	\$4,667.20	\$25,000.00	40	11
Redlands Airport	7			\$2,850.00	\$1,750.00	\$3,800.00	\$19,950.00	\$382.80	\$4,667.20	\$25,000.00	40	11
Mentone	4			\$2,850.00	\$1,750.00	\$3,800.00	\$11,400.00	\$243.60	\$3,356.40	\$15,000.00	40	7
Lytle Creek/Frisbee Wash	3			\$2,850.00	\$1,750.00	\$3,800.00	\$8,550.00	\$174.00	\$1,276.00	\$10,000.00	40	5
Frisbee Wash	7			\$2,850.00	\$1,750.00	\$3,800.00	\$19,950.00	\$375.84	\$4,674.16	\$25,000.00	36	12
Lower Hole Creek	4		2	\$2,850.00	\$1,750.00	\$3,800.00	\$19,000.00	\$182.70	\$1,500.00	\$20,682.70	21	10
Anza Creek	24	15		\$2,850.00	\$1,750.00	\$3,800.00	\$94,650.00	\$1,044.00	\$6,240.00	\$101,934.00	20	60
Anza Creek SARCCUP Ext.	24	15		\$2,850.00	\$1,750.00	\$3,800.00	\$94,650.00	\$1,044.00	\$6,240.00	\$101,934.00	20	60
Old Ranch Creek	24	30		\$2,850.00	\$1,750.00	\$3,800.00	\$120,900.00	\$1,566.00	\$8,640.00	\$131,106.00	24	75
Hidden Valley Creek	7			\$2,850.00	\$1,750.00	\$3,800.00	\$19,950.00	\$3,050.00	\$2,000.00	\$25,000.00	35	
Waterman Basins Riparian	26			\$2,850.00	\$1,750.00	\$3,800.00	\$74,100.00	\$1,392.00	\$24,508.00	\$100,000.00	40	40
Lower Cactus Basins #2	12			\$2,850.00	\$1,750.00	\$3,800.00	\$34,200.00	\$548.10	\$7,800.00	\$42,548.10	35	18
Waterman Basins Alluvial	15			\$2,850.00	\$1,750.00	\$3,800.00	\$42,750.00	\$730.80	\$6,519.20	\$50,000.00	35	24
SAR River Corridor (1.4 miles X 200 feet)	48			\$2,850.00	\$1,750.00	\$3,800.00	\$136,800.00	\$978.75	\$8,640.00	\$146,418.75	15	75
SBVMWD Facilities				\$2,850.00	\$1,750.00	\$3,800.00	\$40,000.00	\$2,000.00	\$8,000.00	\$50,000.00		
Restoration Planting - Hidden Valley	8.5			\$2,850.00	\$1,750.00	\$3,800.00	\$24,225.00	\$761.25	\$0.00	\$24,986.25	35	25
Restoration Planting - Anza Creek	8.5			\$2,850.00	\$1,750.00	\$3,800.00	\$24,225.00	\$761.25	\$0.00	\$24,986.25	35	25
<b>Totals</b>	<b>229</b>	<b>60</b>	<b>2</b>				<b>\$805,250.00</b>	<b>\$15,617.89</b>	<b>\$98,728.16</b>	<b>\$919,596.05</b>		