BOARD OF DIRECTORS

*Case Van Wingerden*
*President*
*Kenneth Stendell*
*Vice President*
*Polly Holcombe*
*Shirley L. Johnson*
*Matthew Roberts*

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

# AGENDA
# REGULAR MEETING OF
# THE BOARD OF DIRECTORS OF
# CARPINTERIA VALLEY WATER DISTRICT

## Wednesday, April 13, 2022 at 5:30 p.m.

## Tele-Meeting

**https://us06web.zoom.us/j/83477659087?pwd=QkR2WndDWEpqR0l2SmdIcFBiaWFGdz09**

**Meeting ID: 834 7765 9087**
**Passcode: 321038**

**THE CARPINTERIA VALLEY WATER DISTRICT HAS DETERMINED THIS MEETING TO BE AN ESSENTIAL PUBLIC MEETING THAT WILL BE CONDUCTED PURSUANT TO THE PROVISIONS OF THE GOVERNOR'S EXECUTIVE ORDERS N-29-20 AND N-33-20 AND AB361 AND SANTA BARBARA COUNTY HEALTH OFFICER'S ORDER**

In response to the spread of the COVID-19 virus, Governor Newsom and the California Legislature has conditionally suspended the requirement for local agencies to provide a physical location from which members of the public can observe and offer public comment and has ordered all Californians to stay home where risk of Covid 19 exposure and health and safety risks exists except as needed to maintain continuity of operations of certain critical infrastructure.

**To minimize the potential spread of the COVID-19 virus, the Carpinteria Valley Water District is not permitting public access to the City Council Chamber and Boardroom for this meeting at this time. Meeting may be viewed, live or recorded, on the Districts Website through the Granicus platform**

If interested in participating in a matter before the Board, you are strongly encouraged provide the Board with public comment in one of the following ways:

1. **Comments** during a meeting may be submitted online through eComment function found on the website https://cvwd.net/about/our-board/meetings/ **(Livestream is available online).**

2. Submitting a Written Comment. If you wish to submit a written comment, please email your comment to the Board Secretary at Public_Comment@cvwd.net by **5:00 P.M. on the day of the meeting**. Please limit your comments to 250 words. Every effort will be made to read your comment into the record, but some comments may not be read due to time limitations.

3. Providing Verbal Comment Telephonically. If you wish to make either a general public comment or to comment on a specific agenda item as it is being heard please send an email to the Board Secretary at Public_Comment@cvwd.net by 5**:00 P.M. on the day of the meeting** and include the following information in your email: (a) meeting date, (b) agenda item number, (c) subject or title of the item, (d) your full name, (e) your call back number including area code. During public comment on the agenda item specified in your email, District staff will make every effort to contact you via your provided telephone number so that you can provide public comment to the Board electronically.

Please note the President has the discretion to limit the speaker's time for any meeting or agenda matter. Since this is an evolving COVID-19 situation, CVWD will provide updates to any changes to this policy as soon as possible. The public is referred to the website at www.cvwd.net. Thank you in advance for taking all precautions to prevent spreading the COVID-19 virus.

1301 Santa Ynez Avenue
Carpinteria, CA 93013
(805) 684-2816

**Indicates attachment of document to agenda packet.

**I. CALL TO ORDER AND PLEDGE OF ALLEGIANCE, President Van Wingerden.**

**II. ROLL CALL, Secretary McDonald.**

**III. PUBLIC FORUM (Any person may address the Board of Directors on any matter within its jurisdiction which is not on the agenda.).**

**IV. APPROVAL ITEMS**

**A. **Minutes of the Regular Board meeting held on March April 6, 2022**

**V. UNFINISHED BUSINESS – None**

**VI. NEW BUSINESS**

**A. **Public Hearing on proposed revisions to CVWD Board of Directors election districts to adjust for 2020 census.**

1. **Opening of Public Hearing (President Van Wingerden)**
2. **Receipt of Public Comment (President Van Wingerden)**
3. **Closing of Public Hearing (President Van Wingerden)**
4. **Director Comments**

**B. **Consider Adoption of Resolution 1113 Adjusting the Boundaries of the Director Divisions for use in Elections Commencing in November 2022 (for action, General Manager McDonald).**

**C. **Consider customer 08-082179-02 request for exemption of a dedicated landscape meter for proposed project (for action, General Manager McDonald).**

**D. **Consider starting public review of the CVWD Multi-Jurisdictional Hazard Mitigation Plan Annex (for information, General Manager McDonald).** *Presentation by Maso Motlow, CVWD Management Analyst*

**E. **Consider Cutout Policy for New Land Development Projects and methodology to calculate a Water Use Intensification Fee (for information, General Manager McDonald).** *Presentation by Maso Motlow, CVWD Management Analyst*

**VII. DIRECTOR REPORTS**

**A. **Rate & Budget Committee - April 11, 2022 – Directors Johnson & Roberts**

**VIII. GENERAL MANAGER REPORTS (for information) - none**

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**IX. [CLOSED SESSION]: CONFERENCE WITH LEGAL COUNSEL: EXISTING LITIGATION, [GOVERNMENT CODE SECTION 54956.9(D)(1)]: Name of Case: Central Coast Water Authority et al v. Santa Barbara County Flood Control & Water Conservation District et al. (Case No. 21CV02432)**

**X. CONSIDER DATES AND ITEMS FOR AGENDA FOR:**

**CARPINTERIA VALLEY WATER DISTRICT BOARD MEETING OF APRIL 27, 2022 AT 5:30 P.M., TELE-CONFERENCE**

**XI. ADJOURNMENT.**

Robert McDonald, Secretary

Note: The above Agenda was posted at Carpinteria Valley Water District Administrative Office in view of the public no later than 5:30 p.m., April 8, 2022. The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied benefits of, the District's programs, services, or activities because of any disability. If you need special assistance to participate in this meeting, please contact the District Office at (805) 684-2816. Notification at least twenty-four (24) hours prior to the meeting will enable the District to make appropriate arrangements.
Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the Carpinteria Valley Water district offices located at 1301 Santa Ynez Avenue, Carpinteria during normal business hours, from 8 am to 5 pm.

1301 Santa Ynez Avenue
Carpinteria, CA 93013
(805) 684-2816

**Indicates attachment of document to agenda packet.

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| | **MINUTES OF THE REGULAR MEETING OF THE BOARD OF DIRECTORS** |
| | **CARPINTERIA VALLEY WATER DISTRICT** |
| | **April 6, 2022** |
| | |
| | President Van Wingerden called the regular meeting of the Carpinteria Valley Water District Board of Directors held via tele-conference at 5:30 p.m., Wednesday, April 6, 2022, and led the Board in the Pledge of Allegiance.<br><br>In response to the spread of the COVID-19 virus, Governor Newsom has suspended the requirement for local agencies to provide a physical location from which members of the public can observe and offer public comment and has ordered all Californians to stay home except as needed to maintain continuity of operations of certain critical infrastructure. |
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| **ROLL CALL** | Directors Present; Holcombe, Johnson, Roberts, and Van Wingerden |
| | Director Absent: Stendell |
| | Others Present: Bob McDonald |
| | Norma Rosales<br>Cari Ann Potts<br>Nancy Phan<br>Lindsay Roth<br>Will Carleton |
| **PUBLIC FORUM** | No one from the public addressed the Board. |
| **RESOLUTION 1112** | General Manager McDonald presented to consider and discuss adopting Resolution 1112 proclaiming a local emergency, ratifying the proclamation of a State of Emergency by Governor Newsom's order dated March 4, 2020, and authorizing remote teleconference meetings of the legislative bodies of the Carpinteria Valley Water District for the period of April 6, 2022, to May 6, 2022.<br><br>Following discussion, Director Johnson moved, and Director Holcombe seconded the motion to approve the adoption of Resolution 1112. The motion carried by a 4-0-1 vote with Director Stendell absent. The motion was approved by roll call as follows; |

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| | Ayes: Roberts, Johnson, Holcombe, and Van Wingerden<br>Nayes: None<br>Absent: Stendell |
| **MINUTES** | Following discussion, Director Holcombe moved, and Director Johnson seconded the motion to approve the amended minutes of the Board meeting held on March 9, 2022, with Closed Session Item IX removed as it was not considered in the meeting. The motion carried by a 4-0-1 vote with Director Stendell absent. The minutes were approved by roll call as follows;<br><br>Ayes: Holcombe, Van Wingerden, Johnson, and Roberts<br>Nayes: None<br>Absent: Stendell |
| **PROPOSED OPERATING & CAPITAL BUDGET FY 22/23** | Assistant General Manager Rosales presented to discuss the proposed Fiscal Year 22/23 Operating & Capital Budget.<br><br>Proposed Budget Total: $14,703.263<br>• Operating Expenses: $8,878,698 – 11.3% increase<br>• Debt Service: $4,928,505 – 9.8% decrease<br>• Capital Expenditures: $896,060 – 4.6% decrease |
| **PROPOSED WATER RATES & CHARGES FY 22/23** | General Manager McDonald presented to discuss the Proposed Rates & Charges for FY 2022/2023 with presentation given by Nancy Phan, Raftelis.<br><br>Updates from Prior Year:<br>• CCWA Debt retirement (~$1 million reduction in costs)<br>• Interest on 2020A Revenue Bond increasing by $647,000<br>• Stage II Drought Declaration: 20% demand reduction goal<br>  o Potential net revenue loss<br>  o Supplemental water purchases (already incurred)<br>  o One-time drought expenses<br>• Revenues from Rates:<br>  o ~$14.1 million from base rates<br>  o ~$1.1 million total in Stage II drought rate revenues<br><br>Rate Study Schedule:<br>• Public Hearing for Rate Adoption – June 8, 2022<br>• Rates Implemented – July 1, 2022 |
| **PUBLIC HEARING** | General Manager McDonald presented the proposed revisions to CVWD Board of Directors election districts. |

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| | CVRA Map Revisions:<br>• Required because of the 2020 Census Updated data for demographics.<br>• Due by April 22, 2022 to elections office to be effective for 2022 election.<br><br>CVRA Map Revisions have been advertised for at least two consecutive weeks in the Coastal View and on CVWD website.<br><br>Following discussion, President Van Wingerden opened the Public Hearing on the proposed revisions to CVWD Board of Directors election districts at 7:14 p.m.<br><br>1. Opening of Public Hearing – no one from the public was present<br>2. Receipt of public comment – no public comments<br>3. Closing of Public Hearing – President Van Wingerden closed the Public Hearing at 7:15 p.m.<br>4. Director Comments – General McDonald addressed comments from Directors<br><br>The Board will review the final draft on April 13, 2022 after which the Board of Directors will consider adoption by resolution of the proposed changes. |
| **GENERAL COUNSEL AGREEMENT** | General Manager McDonald presented to consider the Amended and Restated General Counsel Agreement from Myers, Widders, Gibson Jones & Feingold, L.L.P.<br><br>Following discussion, Director Holcombe moved, and Director Johnson seconded the motion to approve the amended and restated agreement from Myers, Widders, Gibson Jones & Feingold, L.L.P.. The motion carried by a 4-0-1 vote with Director Stendell absent. The motion was approved by roll call as follows;<br><br>Ayes: Van Wingerden, Johnson, Roberts and Holcombe<br>Nayes: None<br>Absent: Stendell |
| **CUSTOMER CREDIT REQUEST** | Assistant General Manager Rosales presented to consider a customer appeal of District Rule 6(a), Establishment of Credit for account 04-040944-07 in the amount of $350 and account 05-051363-08 in the amount of $200, totaling $550.00.<br><br>Following discussion, Director Holcombe moved, and Director Johnson seconded the motion to approve the credit in |

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| | the amount of $550.00. The motion carried by a 4-0-1 vote with Director Stendell absent. The motion was approved by roll call as follows;<br><br>Ayes: Van Wingerden, Johnson, Roberts and Holcombe<br>Nayes: None<br>Absent: Stendell |
| **ACWA SPRING CONFERENCE** | General Manager McDonald presented to consider and discuss the ACWA Spring Conference 2022. |
| **DROUGHT EXECUTIVE ORDER N7-22** | General Manager McDonald presented to consider and discuss Governor Newsom's Drought Executive Order N7-22.<br><br>Key Features:<br>• Establishes new water supply reporting requirements to the State.<br>• Directs DWR to define "non-functional turf" as a class of water demand to CII users to be restricted during drought.<br>• Suspension of certain CEQA requirements as it applies to Water conservation and water supply projects.<br>• Suspends local anti-water-hauling ordinances with respect to Health and safety water needs.<br>• Limits permits on new wells and requires coordination with GSAs.<br>• Supports "flood" groundwater recharge by streamlining permitting by the State. |
| **WATER SUPPLY SITUATION** | General Manager McDonald presented to consider and discuss the Water Supply Situation. |
| **CACHUMA OPERATION & MAINTENANCE BOARD REGULAR BOARD MEETING** | Director Holcombe gave a verbal report on the COMB Regular Board meeting that was held on March 28, 2022. |
| **CACHUMA OPERATION & MAINTENANCE BOARD OPERATIONS COMMITTEE MEETING** | Director Holcombe gave a verbal report on the COMB Operations Committee meeting that was held on March 17, 2022. |
| **RATE & BUDGET COMMITTEE MEETING** | Director Johnson gave verbal reports on the Rate & Budget Committee that was held on March 10 & 31, 2022 |
| **CENTRAL COAST WATER AUTHORITY REGULAR MEETING** | Director Johnson did not attend the CCWA Regular Board Meeting that was held on March 24, 2022. No report given. |
| **CENTRAL COAST WATER AUTHORITY OPERATING COMMITTEE MEETING** | General Manager McDonald gave a verbal report on the CCWA Operating Committee Meeting that was held on March 10, 2022. |

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| **ADJOURNED TO CLOSED SESSION** | President Van Wingerden adjourned the meeting at 8:13 p.m. to convene the Board into closed session for the following matters:<br><br>**IX. CONFERENCE WITH LEGAL COUNSEL: EXISTING LITIGATION, [GOVERNMENT CODE SECTION 54956.9(D)(1)]: Name of Case: Central Coast Water Authority et al v. Santa Barbara County Flood Control & Water Conservation District et al. (Case No. 21CV02432)** |
| **BOARD RECONVENED IN OPEN SESSION** | At 8:21 p.m. President Van Wingerden reconvened the Board meeting in open session and said there were no reportable actions taken. |
| **NEXT BOARD MEETING** | The next regular Board meeting is scheduled to be held on April 13, 2022 at 5:30 p.m., via tele-conference.<br>Director Johnson requested a new report and update for the CAPP project. |
| **ADJOURNMENT** | President Van Wingerden adjourned the meeting at 8:22 p.m. |
| | Robert McDonald, Interim Secretary |

Revised Maps are being updated. Check District webpage for updated Maps.

https://cvwd.net/about/our-board/districtelections

# RESOLUTION NO. 1113

## A RESOLUTION OF THE CARPINTERIA VALLEY WATER DISTRICT BOARD OF DIRECTORS ADJUSTING THE BOUNDARIES OF THE DIRECTOR DIVISIONS FOR USE IN ELECTIONS COMMENCING IN NOVEMBER 2022

WHEREAS, Members of the Board of Directors of the Carpinteria Valley Water District ("Water District" or "District") are currently elected in "by-division" elections, i.e., elections in which each candidate for membership on the board is required to be a resident of an electoral division of the District and is elected only by the registered voters residing in that division (Elec. Code § 14026(a)(1); Water Code §§ 30730 & 30735); and

WHEREAS, the District first established by-division elections in August of 2020 in Resolution No. 1083; and

WHEREAS, Resolution No. 1083, provides in Section 4: "In accordance with Elections Code section 22000, after release of the 2020 Census tabulations the District General Manager shall cause the map to be reviewed for compliance with all applicable laws including requirements for relatively equal population in the divisions and the federal Voting Rights Act"; and

WHEREAS, Resolution No. 1083, further provides in Section 4: "If the map is not in compliance with law, the General Manager shall propose to the Board of Directors a process and timeline for making such adjustments to the division boundaries as may be necessary to bring the map into compliance with law. Any such adjustments shall be finalized prior to May 12, 2022, in accordance with Elections Code § 22000(d)"; and

WHEREAS, 2021 amendments to Elections Code § 22000.1 now require adjustments to be finalized on or before April 17, 2022; and

WHEREAS, Elections Code § 22000 requires special districts, by resolution, after each federal decennial census, and using that census as a basis, to adjust the boundaries of the director divisions so that the divisions are, as far as practicable, equal in population and in compliance with Section 10301 of Title 52 of the United States Code, as amended (section 2 of the federal Voting Rights Act); and

WHEREAS, Elections Code § 22000 also permits a special district, in adjusting the boundaries of the divisions, to consider the following factors: (1) topography, (2) geography, (3) cohesiveness, contiguity, integrity, and compactness of territory, and (4) community of interests of the division; and

WHEREAS, Water Code § 30734(c) permits the Board of Directors at any time after initially dividing the district into divisions but not less than 85 days before a general district election, by resolution to change the boundaries of the divisions to keep them as nearly as equal in size as practicable; and

WHEREAS, when the District first established by-division elections in August of 2020 it considered all the factors enumerated in Elections Code § 22000; and

WHEREAS, the District has retained experienced legal counsel to advise it on the process of adjusting the existing director divisions and an experienced redistricting/demographic consultant to analyze the District's demographics under the 2020 Census and to prepare draft adjusted Director Division boundaries if adjustments are required; and

WHEREAS, the demographic consultant determined that the 2020 Director Divisions do not comply with the requirement that, as far as practicable, the divisions be equal in population; and

WHEREAS, the demographic consultant developed a map adjusting the boundaries of the Director Divisions to bring them into compliance with the equal population requirements ("Draft Redistricting Map"); and

WHEREAS, the Draft Redistricting Map complies with section 2 of the federal Voting Rights Act and preserves the features of the August 2020 map that considered (1) topography, (2) geography, (3) cohesiveness, contiguity, integrity, and compactness of territory, and (4) community of interests of the divisions; and

WHEREAS, the District held duly noticed public hearings on April 6, 2022 and April 13, 2022 to receive public comment on the Draft Redistricting Map; and

WHEREAS, the sequence of elections in the Director Division map adopted by Resolution No. 1113 provides an opportunity for the voters in the most Latino portion of the District to have the opportunity to elect a chosen candidate for membership on the Board of Directors at the November 2022 elections, the first elections at which the by-division electoral system will be used, and the Board wishes to preserve that sequence of elections.

**NOW, THEREFORE, BE IT RESOLVED** as follows:

**SECTION 1. RECITALS ARE TRUE AND CORRECT.**

The above recitals are true and correct and form the basis of this Resolution.

**SECTION 2. PURPOSE AND AUTHORITY.**

The purpose of this Resolution is, pursuant to California Elections Code section 22000, to adjust the boundaries of the Director Division boundaries in accordance with the 2020 Census, and using that census as a basis, to provide that the divisions are, as far as practicable, equal in population and in compliance with Section 10301 of Title 52 of the United States Code, as amended (section 2 of the federal Voting Rights Act), for use in the November 2022 and thereafter until changed in accordance with law. This Resolution is adopted pursuant to the District's authority under California Elections Code section 22000 and California Water Code section 30734.

**SECTION 3. DIVISIONS.**

(a) Subject to Subsection (b) and (d) of this section, the Director Divisions of the District shall be as reflected in the map attached hereto as Exhibit A, which is incorporated herein by this reference.

(b) In accordance with Elections Code section 22000, after release of the 2030 Census tabulations the District General Manager shall cause the map to be reviewed for compliance with all applicable laws including requirements for relatively equal population in the divisions and the federal Voting Rights Act.

(c) If the map is not in compliance with law, the General Manager shall propose to the Board of Directors a process and timeline for making such adjustments to the division boundaries as may be necessary to bring the map into compliance with law.

(d) If necessary to facilitate the implementation of this Resolution, the General Manager or his or her designee is authorized to make technical adjustments to the division boundaries that do not substantively affect the populations in the divisions or the eligibility of candidates. The General Manager shall consult with the District's Special Counsel concerning any technical adjustments deemed necessary and shall advise the Board of Directors of any such adjustments required in the implementation of the divisions.

(e) The divisions specified in subdivision (a) shall continue in effect until they are amended or repealed in accordance with law.

**SECTION 4. TERM OF OFFICE AND ELECTIONS**

(a) A Director in office at the time this Resolution takes effect shall continue in office until the expiration of the full term to which he or she was elected or appointed and until his or her successor is qualified. If vacancies in Director offices elected at-large occur before expiration of the full term thereof, such vacancies may be filled according to law from the District at-large.

(b) Upon expiration of the full term of each Director elected at-large, that Director's successor shall be elected only on a by-division basis in the divisions established by this Resolution. A vacancy in a Director office elected or appointed by-division shall be filled according to law by a person qualified to hold the office, who lives, and is a registered voter, in the division.

(c) In November 2022, Directors shall be elected for Divisions 1, 3, and 5.

(d) In November 2024, Directors shall be elected for Divisions 2 and 4.

(e) The Director elected to represent a division must live in that division and be a registered voter in that division, and any candidate for Director must live in and be a registered voter in, the division in which he or she seeks election at the time nomination papers are issued, pursuant to California Water Code section 30735 and California Elections Code section 10227.

**SECTION 5. EXEMPTION FROM CEQA.**

The Board of Directors finds that the actions taken in this Resolution are exempt from the requirements of the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations, Section 15061(b)(3) because it can be said with certainty that there is no possibility that the activity in question may have a significant effect on the environment.

**SECTION 6. SEVERABILITY.**

If any section, subsection, sentence, clause, or phrase of this Resolution is for any reason held by a court of competent jurisdiction to be invalid, such a decision shall not affect the validity of the remaining portions of this Resolution. The Board of Directors of the Carpinteria Valley Water District hereby declares that it would have passed this Resolution and each section or subsection, sentence, clause, and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared invalid.

**SECTION 7. ADMINISTRATIVE IMPLEMENTATION.**

The General Manager is authorized and directed to establish appropriate administrative procedures consistent with the provisions of this Resolution and to take reasonable and appropriate action to fully implement the provisions of this Resolution.

ADOPTED by the Board of Directors of the Carpinteria Valley Water District, a public agency in the State of California, Carpinteria, at its regular meeting held on the 13th day of April 2020, by the following vote:

AYES: Board Members:

NOES: Board Members:

ABSTAIN: Board Members:

ABSENT: Board Members:

_____

Case Van Wingerden, President, Board of Directors

APPROVED AS TO FORM:

_____

Cari Ann Potts, District General Counsel

# EXHIBIT A

**Carpinteria Valley Water District**

# Memo

**To:** Robert McDonald, General Manager

**From:** Danielle Rose, Engineering Analyst

**cc:** Norma Rosales, Assistant General Manager

**Date:** April 7, 2022

**Re:** 4994 CARPINTERIA AVENUE (ACCOUNT 08-082179-02) – CUSTOMER REQUESTING EXEMPTION /VARIANCE FOR LANDSCAPE METER REQUIREMENT

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## Background

The customer at 4994 Carpinteria Avenue, the Santa Cruz Island Foundation, submitted plans to the City of Carpinteria for exterior improvements to the existing developed building and parking lot to complement recent interior building renovations that were performed under a separate permit. The District was forwarded the plans from the City to review. The Engineering department noted that the total new and renovated landscape area for the project, per the plans, was 2,876 square feet (sf). The Engineering department issued a comment letter to the City in response to the plans noting that according to **District Rule 17**, non-residential accounts exceeding 1,000 sf of landscaped areas require a dedicated landscape water meter. In addition, it was mentioned that they would be required to install and annually test a reduced pressure principle backflow assembly at the water meter.

## Additional Information

### *Estimated Cost*

This property is located at a busy intersection at Linden and Carpinteria Avenue (**Figure 1**) and the District Engineer has provided a rough estimate that, based on traffic control and location of the water main relative to the property, the water meter installation would be around $30,000, which exceeds the District's deposit of $14,000 for a ¾" or 1" water meter installation. The customer would be billed for any costs associated with installing the dedicated landscape meter that exceed the $14,000 deposit.

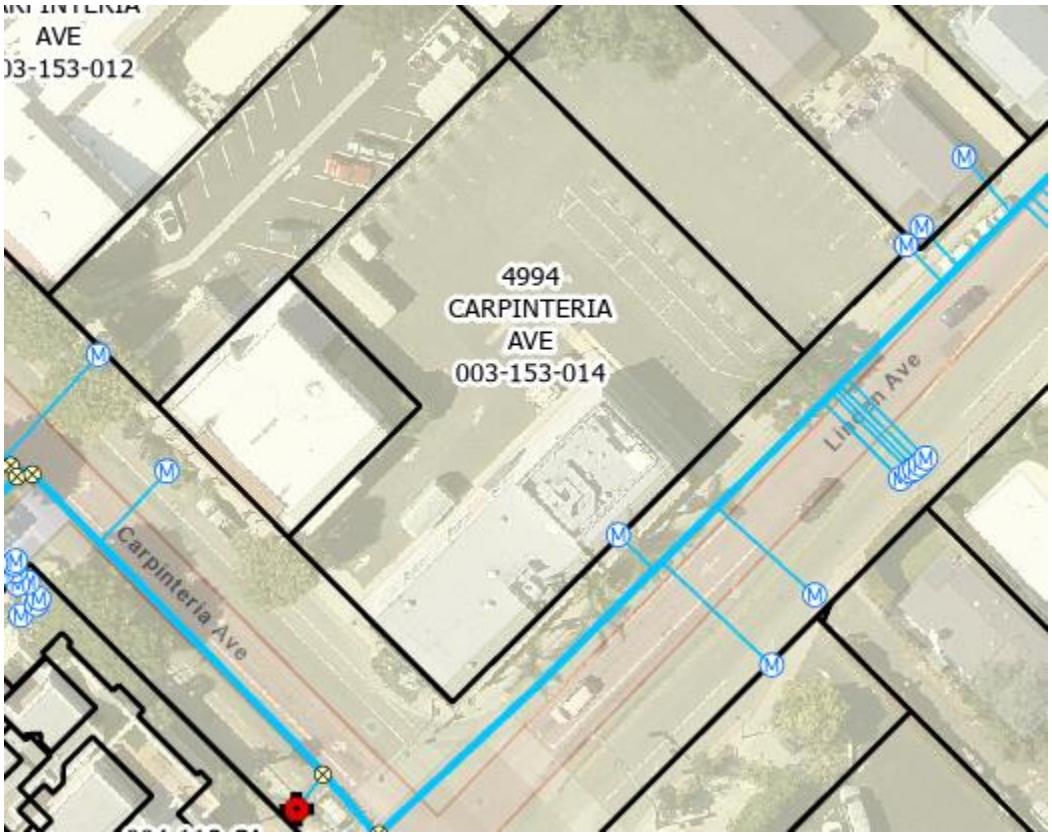



**Figure 1.** *Location of customer's property relative to approximate water main location and busy intersection.*

***District Rules***

District Rule 17:

> "Dedicated landscape water meters are required for residential landscapes over 5,000 square feet, non-residential landscapes over 1,000 square feet, and shared landscaped common areas. Dedicated landscape meters must be installed by the District, be on a dedicated service line and be installed with approved backflow prevention."

The customer's plans show 625 sf of renovated landscape area and 2,251 sf of new landscape area for a total of 2,876 sf (excluding planting in R.O.W.).

The customer has been informed that their current options are to purchase a dedicated landscape meter or modify their landscaping plans to not exceed the 1,000 sf threshold for non-residential landscapes and resubmit.

**Customer Request**

The customer wrote a letter to the Board of Directors C/O Robert McDonald, dated February 22, 2022, requesting an exemption/variance to the landscape requirement. They have stated that their water use will be less than that of a Carpinteria family household and noted that the state only requires a secondary submeter to monitor landscape use. They wish to plant a large garden with xeric island native and endemic plants which they state will require little to no watering, with drip irrigation utilized. They believe this project and garden space would be an enhancement to the City of Carpinteria.

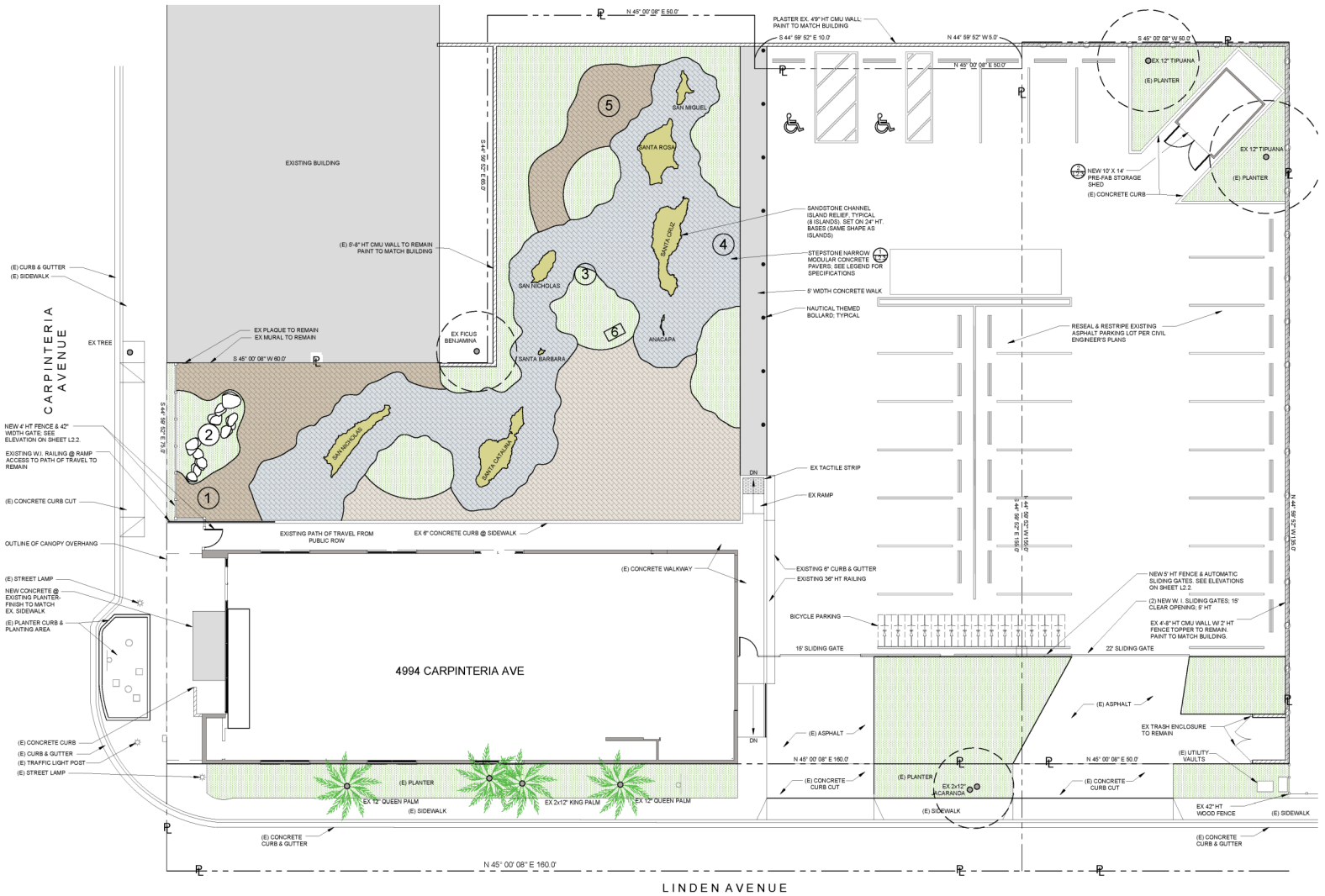
**Staff Recommendation**

The Engineering Department recommends the request be denied as the project exceeds the 1,000 square foot threshold stated in the current Rules and Regulations. No exemptions or variances exist for any water classifications for the dedicated landscape meter requirement.

**Attached Documentation**

Please see additional information:

- Landscape plans – Sheet L2.0 from customer's plan set showing 2,876 sf total
  - Dated December 10, 2021
- Comment Letter – Issued from the Engineering department on January 12, 2022
- Customer Letter – Written February 22, 2022, signed Marla Daily
- Page from District's Rules and Regulations




LEGEND

1 STATIC EXHIBIT, SEE EXHIBIT KEY ON L2.1

PLANTER AREA; SEE PLANTING PLAN, SHEET L3.0.

STEPSTONE NARROW MODULAR PAVER:

WATER: FRENCH GRAY #1804

LAND: ALMOND #1806

**CALCULATIONS:**

| | | |
|---|---|---|
| 1. | NEW/REPLACED IMPERVIOUS: | |
| 1.1. | NEW IMPERVIOUS PAVING: | 79 SF |
| 1.2. | REPLACED IMPERVIOUS PAVING: | 603 SF |
| 1.3. | TOTAL NEW & REPLACED IMPERVIOUS PAVING: | 709 SF |
| 2. | NEW & REPLACED PERVIOUS PAVING: | 4,027 SF |
| 3. | LANDSCAPE AREA (EXCLUDING PLANTING IN R.O.W.): | |
| 3.1. | RENOVATED LANDSCAPE AREA: | 625 SF |
| 3.2. | NEW LANDSCAPE AREA: | 2,251 SF |
| 3.3. | TOTAL NEW & RENOVATED LANDSCAPE AREA: | 2,876 SF |

N

SCALE: ⅛" = 1'-0"

0 4 8 16

SCOTT MENZEL
LANDSCAPE ARCHITECT
3823 Santa Claus Lane, Suite D
Carpinteria, California 93013
805.320.9751
www.ScottMenzel.com

PROJECT
SANTA CRUZ ISLAND FOUNDATION
CHRISMAN CALIFORNIA ISLANDS CENTER
4994 CARPINTERIA AVE
CARPINTERIA CA 93013

TITLE
PAVING PLAN

ISSUE DATE
PRINTED 12.10.21

DRAWN: SM
CHECKED: SM

SHEET No.
L2.0
OF
PROJECT No. 20032

# Carpinteria Valley Water District

1301 Santa Ynez Avenue • Carpinteria, CA 93013
Phone (805) 684-2816




January 12, 2022

Nick Bobroff
City of Carpinteria – Community Development Department
5775 Carpinteria Avenue
Carpinteria, CA 93013

**SUBJECT: 4994 CARPINTERIA AVE, APN 003-153-014, ACCOUNT 08-082179-02, BUILDING EXTERIOR AND PARKING LOT IMPROVEMENTS – COMMENT LETTER**

To Whom It May Concern,

Please be advised, this parcel is within the jurisdiction of Carpinteria Valley Water District and therefore is entitled to District water service in accordance with District Rules and Regulations. Currently the District is in a Stage II Drought Condition; for more information on Ordinance 21-1, please visit the District website www.cvwd.net. This letter is good for one year from the date of the letter.

The subject property is served by a 1" water meter. Based on the plans received on January 7, 2022, the District has the following comments:

- If a fire sprinkler system is required, fire demand calculations would need to be provided to determine the fire service size. The customer would be responsible for all fees and deposits associated with the installation as well as the costs of installing and annually testing a backflow assembly.
- Per District Rule 17 in the Rules and Regulations, non-residential accounts exceeding 1,000 square-feet of landscaped areas require a dedicated landscape water meter. The owner is responsible for all fees and deposits associated with installing a dedicated landscape water meter and for the costs of installing and annually testing a reduced pressure principle backflow assembly at the water meter.

If you have any questions, please feel free to contact me at danielle@cvwd.net or 805-684-2816x121.

Very truly yours,
Carpinteria Valley Water District

Danielle Rose
Engineering Analyst

CC: Brian King, District Engineer,
TCM to account

CHRISMAN CALIFORNIA ISLANDS CENTER

February 22, 2022

Re: 4994 Carpinteria Ave. (former Bank of America building)

Dear Robert McDonald and Board of the Carpinteria Valley Water District,

I write to request an exemption/variance to a local requirement that a dedicated second water meter be installed to cover commercial landscape projects of over 1,000 square feet. Our total water use will be less than that of a Carpinteria family household on a typical city lot. The state only requires a secondary submeter to monitor landscape use.

**Background**

The Santa Cruz Island Foundation [SCIF] purchased the former Bank of America building at the corner of Linden and Carpinteria Avenues in November 2019 as the future home of SCIF. The year 2020 was spent going through the City's permitting process [Phase I] for an interior remodel permit (issued in December). The remodeling spanned 2021. In 2022 we have now entered the permitting process for Phase II — the exterior Courtyard Gallery and Garden.

**Status**

The property site is currently served by a 1-inch water line/meter (large enough to serve a 6-unit apartment building!). The building has precious few opportunities for water use: 1 toilet, 1 bathroom sink, 1 utility sink each, upstairs and downstairs. They are seldom in use at any given time. There is an existing automatic sprinkler system that serves two small pockets of landscaped areas in the parking lot. Our water use is minimal, both now, and as projected in the future.

**Courtyard Gallery and Garden (Phase II)**

Phase II involves removing approximately 5,000 square feet of unsightly asphalt (former vehicular entrance off Carpinteria Ave.) to accommodate an attractive Courtyard Gallery and Garden. This will consist of pavers, seating areas, eight large raised island "cut-outs," five sculptures and memorials, and an Octopus's Garden with a dry bed of sand as its base. Interspersed throughout the courtyard are pockets of xeric island native and endemic plants which, once established, will require little to no watering. Some may have drip irrigation at the most. (There aren't sprinklers on 96-square miles of Santa Cruz or any of the other islands.)

**Discussion**

As a private operating foundation, we do the above voluntarily and at our pleasure, in order to enhance this important gateway corner to the City of Carpinteria. As a non-profit, we are not in a financial position to fund either the unnecessary installation of a second meter, nor maintain the monthly fees one would require.

It is with good conscious and sensible reasoning we kindly request the "requirement" for installation of a second dedicated landscape water meter be waived. We ask that common sense prevail, with the realization that a second meter, in this particular case, is excessive and unnecessary. Should our request be declined, we can simply eliminate much of the xeric landscape enhancements planned, but we believe our City deserves better.

With appreciation for your consideration,

Marla Daily

Marla Daily
Santa Cruz Island Foundation [SCIF]
Chrisman California Islands Center [CCIC]
4994 Carpinteria Ave.
Carpinteria, CA 93013
www.islapedia.com
www.scifoundation.org
West of the West (trailer)
https://www.youtube.com/watch?v=69l0JtEAsH8

f. **Irrigation Meters:** Facilities for irrigation of new and existing parks, medians, landscaped public area, lawns or gardens surrounding condominiums, townhouses, apartments, and industrial parks shall be designed and installed in such a way to conserve water. The rate and extent of water application shall be controlled by the owner so as to minimize water usages.

Dedicated landscape water meters are required for residential landscapes over 5,000 square feet, non-residential landscapes over 1,000 square feet, and shared landscaped common areas. Dedicated landscape meters must be installed by the District, be on a dedicated service line and be installed with approved backflow prevention.

In most cases the irrigation meter shall be sized based on the peak flow through a single valve of the irrigation system (i.e. highest producing valve). However, the District reserves the right to further evaluate the system and to select a meter size that best meets the needs of the system. The meter size may be based on multiple valves, branches of the system , square footage, or as deemed most appropriate by the District.

## 18. METER TESTS

Any customer may request the District to test his or her water meter. A deposit to cover the reasonable cost of the test will be required of the customer, in accordance with the District's annual fee table in Appendix C.

The amount so deposited will be returned to the customer if the meter is found, upon testing, to register more than one and one-half (1.5%) percent fast under conditions of normal operation; otherwise the deposit will be retained by the District.

A customer shall have the right to require the District to conduct the test in his or her presence, or if he or she so desires, in the presence of a representative appointed by him or

# STAFF REPORT Item VI. D.

**Prepared By: Maso Motlow, Management Analyst**

For Consideration:

**Item VI. D. Consider starting public review of the CVWD Multi-Jurisdictional Hazard Mitigation Plan Annex**

**Background**
The impact of foreseeable yet often unpredictable natural and human-caused disasters can be reduced through mitigation planning**.** This annex, prepared as part of the update to the County of Santa Barbara Multi-Jurisdictional Hazard Mitigation Plan (MJHMP), serves to update the District's existing 2017 Local Hazard Mitigation Plan (LHMP). The LHMP builds on and refines the MJHMP's assessment of hazards and vulnerabilities countywide to develop a mitigation plan specific to the District.

**Method**
The County of Santa Barbara team developed this annex based on the District's participation in the 2022 MJHMP Mitigation Advisory Committee (MAC) and Local Planning Team (LPT). District staff provided detailed information to the County to inform plan development, reviewed all portions of the MJHMP pertaining to the District, and incorporated relevant components into this annex. It contains updated capability assessment information, a current vulnerability assessment, and updated mitigation strategies.

**Deliverable**
The final 2017 Local Hazard Mitigation Plan (LHMP) that is an annex of the Santa Barbara (County) Multi-Jurisdictional Hazard Mitigation Plan (MJHMP).

**Schedule**
Currently, the countywide MJHMP including the District's annex is undergoing review by FEMA and CalOES. The County team will incorporate and respond to any comments from these agencies. The District will only need to revise its annex if comments from the reviewing agencies impact its specific content.

Concurrent with review by FEMA and CalOES, the District has the option to make its annex

available for public review. Public review of the District's annex is optional because the County team already led public review of the MJHMP which included information about the annexes.

Around September of 2022, when review by FEMA and CalOES is complete, the District will ask the Board to review and adopt the final annex. Adoption of the annex now (April 2022) would be premature because its content may change as a result of federal agency review.

**Recommendation**

While no action on the part of the Board of Directors is needed at this time Staff is seeking direction from the Board on starting the public review process for the District's HMP annex Staff would like to make the HMP annex available for two weeks concurrent with federal agency review so any comments from the public can be incorporated before the District asks the Board to adopt the final annex (anticipated in September 2022).

2022

# Carpinteria Valley Water District 2022 Local Hazard Mitigation Plan

## ANNEX TO SANTA BARBARA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

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# 1. Introduction

Natural and human-caused disasters can lead to death, injury, property damage, and interruption of business and government services. When they occur, the time, money, and effort to respond to and recover from these disasters divert public resources and attention from other important programs and problems.

However, the impact of foreseeable yet often unpredictable natural and human-caused events can be reduced through mitigation planning. History has demonstrated that it is less expensive to mitigate against disaster damage than to repeatedly repair damage in the aftermath. A mitigation plan states the aspirations and specific courses of action jurisdictions intend to follow to reduce vulnerability and exposure to future hazard events.

In December 2017, the Carpinteria Valley community experienced one of the worst natural disasters in a lifetime – the Thomas Fire. This wildfire – the largest at the time in California's recorded history – burned areas of the Los Padres National Forest – including the Santa Ynez Front Range, an area of forty-plus-year-old chaparral woodland. The weeks of smoke, ash, and proximity to the fire itself forced many within the community to flee their homes and livelihoods. Within the Carpinteria Valley, several homes and outbuildings were destroyed.

As tragic and daunting as the fire was itself, that crisis soon manifested as something much worse. On January 9, 2018, heavy rain saturated the burn area in the Santa Ynez Mountains, resulting in debris flows through communities along the coast of Southern Santa Barbara and Ventura Counties. These flows resulted in the deaths of 21 people (and 2 missing) and caused widespread rail and road closures – isolating some communities. Subsequent rain events resulted in continued evacuation orders to tens of thousands of people – many within the Carpinteria community.

Although natural disasters cannot be prevented from occurring, their impact can be lessened by preparation and mitigation. Hazards that cannot be fully mitigated must be addressed by communities that are resilient and capable of moving quickly – through planning, preparation, and action – to provide an efficient and effective response and recovery from these disasters. Education, awareness, and preparation are key to these responses.

The Carpinteria Valley Water District (CVWD or District) recognizes the consequences of disasters and the need to reduce the impacts of all hazards, natural and human-caused. This annex was prepared in 2022 as part of the update to the County of Santa Barbara (County) Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). This annex serves as the Local Hazard Mitigation Plan (LHMP) for the District. This LHMP builds on and refines the MJHMP's assessment of hazards and vulnerabilities countywide to develop a mitigation plan for the District. The District participated in the 2022 MJHMP Mitigation Advisory Committee (MAC) and Local Planning Team (LPT), reviewed all portions of the MJHMP pertaining to the District and incorporated relevant components into this annex. It contains updated capability assessment information, a current vulnerability assessment, and an updated/revised mitigation strategy. The methodology and process for developing this annex build on approaches employed in the 2022 MJHMP and are explained throughout the following sections.

The 2022 MJHMP update was prepared with input and coordination from each of the county's eight incorporated cities, six special districts, the County, citizen participation, responsible officials, and support from the State of California Governor's Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA). The process to update the MJHMP and this LHMP included over a year of coordination with representatives from all participating agencies within the County and County representatives who comprised the MAC (described further in Section 3, *Planning Process* below). The District is a participating agency in the County's MJHMP update.

The District's LHMP is used by local emergency management teams, decision-makers, and agency staff to implement needed mitigation to address known hazards. The MJHMP and this annex can also be used as a tool for all stakeholders to increase community awareness of local hazards and risks and provide information about options and resources available to reduce those risks. Informing and educating the public about potential hazards helps all county residents and visitors protect themselves against their effects.

Risk assessments were performed that identified and evaluated priority hazards that could impact the District. Vulnerability assessments summarize the identified hazards' impact on the District. Estimates of potential dollar losses to vulnerable structures are presented. The risk and vulnerability assessments were used to determine mitigation goals and objectives to minimize near-term and long-term vulnerabilities to the identified hazards. These goals and objectives are the foundation for a comprehensive range of specific attainable mitigation actions (see Section 7, *Mitigation Strategies*).

Approval of this LHMP by FEMA and CalOES will make the District eligible for federal funding assistance under the Local Hazard Mitigation Grant Program or the Pre-Disaster Mitigation program.

## 2. Plan Purpose and Authority

Federal legislation historically provided funding for disaster preparedness, response, recovery, and mitigation. The Disaster Mitigation Act (DMA) of 2000, also commonly known as "The 2000 Stafford Act Amendments" (the Act), constitutes an effort by the federal government to reduce the rising cost of disasters. The legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur.

Section 322 of the DMA requires local governments to develop and submit mitigation plans to qualify for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) funds. The 2022 MJHMP meets the statutory requirements of DMA 2000 (P.L. 106-390), enacted October 30, 2000, and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule, published February 26, 2002. The HMA grants include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and the Flood Mitigation Assistance (FMA) program. Additional FEMA mitigation funds include the HMGP Post Fire funding associated with Fire Management Assistance Grant (FMAG) declarations and the Building Resilient Infrastructure and Communities (BRIC) funding associated with the 2018 Disaster Recovery Reform Act (DRRA).

DMA 2000 specifically addresses mitigation planning at the state and local levels. It identifies requirements that allow HMGP funds to be used for planning activities and increases the amount of HMGP funds available to states that have developed a comprehensive, enhanced mitigation plan before a disaster. State, county, and local jurisdictions must have an approved mitigation plan in place before receiving post-disaster HMGP funds. These mitigation plans must demonstrate that their proposed projects are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities.

Local governments have certain responsibilities for implementing Section 322, including:

- Preparing and submitting a local mitigation plan;
- Reviewing and updating the plan every five years; and
- Monitoring mitigation actions and projects.

To facilitate implementation of the DMA 2000, FEMA created an Interim Final Rule (the Rule), published in the Federal Register in February of 2002 at section 201 of 44 CFR. The Rule spells out the mitigation planning criteria for states and local communities. Specific requirements for local mitigation planning efforts are outlined in section §201.6 of the Rule.

In March 2013, FEMA released The Local Mitigation Planning Handbook (Handbook) as the official guide for local governments to develop, update and implement local mitigation plans. The Handbook complements and references the October 2011 FEMA Local Mitigation Plan Review Guide (Guide) to help "Federal and State officials assess Local Mitigation Plans in a fair and consistent manner." Local jurisdictions must demonstrate that proposed mitigation actions are based upon a sound planning process that accounts for the inherent risk and capabilities of the individual communities as stated in section §201.5 of the Rule. The Handbook and Guide were consulted to ensure thoroughness, diligence, and compliance with the DMA 2000 planning requirements.

DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. It encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network is intended to enable local and state governments to articulate accurate needs for mitigation, resulting in a faster allocation of funding and more effective risk reduction projects.

## 2.1. Promulgation Authority

This LHMP was reviewed and approved by the elected members of the Carpinteria Valley Water District Board of Directors:

Mr. Case Van Wingerden, Board President

Mr. Ken Stendell, Vice President

Ms. Polly Holcombe, Board President

Ms. Shirley L. Johnson, Director

Mr. Matthew Roberts, Director

Mr. Robert McDonald, P.E, MPA, General Manager

## 2.2. Adoption by Board of Directors

This Local Hazard Mitigation Plan (LHMP) was presented to the District's Strategic Water Committee and Board of Directors for review. The LHMP is being sent to CalOES and FEMA for approval. Revisions or changes by CalOES or FEMA to any section of the document will be sent back to the Board for formal approval. Upon final approval, Board meeting minutes will be included in the LHMP.

This LHMP was prepared as an annex to the County's MJHMP in compliance with DMA 2000 and applicable FEMA guidance. The following pages show the resolutions that adopt the District's 2022 LHMP.

[INSERT DISTRICT RESOLUTION(S) ADOPTING PLAN UPDATE]

## 3. Planning Process

The planning process implemented for updating the County's 2022 MJHMP Update, including CVWD's LHMP update, utilized two different planning teams to review progress, inform and guide the update, and directly review and prepare portions of the plan, including each jurisdictional annex. The first team is the Mitigation Advisory Committee (MAC) and the second is the Local Planning Team (LPT).

All eight incorporated cities and the six special districts joined the County as participating agencies in the preparation of the MJHMP update, including cities of Buellton, Carpinteria, Goleta, Guadalupe, Lompoc Santa Barbara, Santa Maria, and Solvang; and special districts Cachuma Operation and Maintenance Board (COMB), CVWD, Goleta Water District (GWD), Montecito Fire Protection District (MFPD), Montecito Water District (MWD), and Santa Maria Valley Water Conservation District (SMVWCD). Each of the participating agencies had representation on the MAC and was responsible for the administration of their own LPT. In addition, the MAC included representatives from other state and local agencies with an interest in hazard mitigation in Santa Barbara County, including local non-profit organizations, special districts, and state and federal agencies. This composition ensures diverse input from an array of voices representing all communities within Santa Barbara County.

Both the MAC and the Local Planning teams focused on these underlying philosophies, adopted from the FEMA Local Mitigation Plan Review Guide:

Focus on the mitigation strategy

The mitigation strategy is the plan's primary purpose. All other sections contribute to and inform the mitigation strategy and specific hazard mitigation actions.

Process is as important as the plan itself

In mitigation planning, as with most other planning efforts, the plan is only as good as the process and people involved in its development. The plan should also serve as the written record, or documentation, of the planning process.

This is the community's plan

To have value; the plan must represent the current needs and values of the community and be useful for local officials and stakeholders. Develop the mitigation plan in a way that best serves your community's purpose and people.

Intent is as important as Compliance

Plan reviews will focus on whether the mitigation plan meets the intent of the law and regulation; and ultimately that the plan will make the community safer from hazards.

As a result, the planning process for the County's MJHMP incorporated the following steps:

Plan Preparation

- Form/Validate planning team members
- Establishing common project goals
- Setting expectations and timelines

Plan Development

- Validate and revise the existing conditions/situation within the planning area
- Develop and review the risk to hazards (exposure and vulnerability) within the planning area
- Review and identify mitigation actions and projects within the planning area

Finalize the Plan

- Review and revise the plan
- Approve the plan locally and with state and federal reviewers
- Adopt and disseminate the plan

The MAC was guided through the planning process. As the material was shared and decisions were made, it was the MAC team's responsibility to bring these findings back to their LPT. A summary of the collaborative planning process of the MAC and LPT is provided in Sections 3.1 and 3.2 below.

Additionally, opportunities for public involvement were offered and encouraged throughout this process. Section 3.3 below provides a summary of the public outreach conducted to facilitate the preparation of the MJHMP and this LHMP.

### 3.1. Mitigation Advisory Committee (MAC)

The District participated as a MAC member to prepare this LHMP as an annex to the 2022 MJHMP. The District was represented by Maso Motlow, Management Analyst on the MAC.

The MAC meetings were designed to discuss each component of the MJHMP with MAC members and coordinate annex updates. Table 3-1 below provides a list and the main purpose and topics of each MAC meeting.

**Table 3-1. Mitigation Advisory Committee (MAC) Meetings Summary**

| Date | Purpose |
|---|---|
| March 2021 | **MAC Meeting #1 (virtual)**<br>Provided an overview of the project and why the plan is being revised<br>Reviewed FEMA guidance and processes<br>Discussed roles and responsibilities of the participating jurisdictions |
| September 2021 | **MAC Meeting #2 (virtual)**<br>Reviewed goals of the project, role of the MAC<br>Summarized public outreach results<br>Presented hazards assessment and displayed select draft hazard maps<br>Conducted interactive exercise to rank hazards |
| October 2021 | **MAC Meeting #3 (virtual)**<br>Provided results of hazard ranking methodology<br>Presented vulnerabilities assessment<br>Discussed mitigation goals, objectives, and strategies<br>Reviewed County goals from 2017 and compared them to new goals<br>Conducted interactive exercise on potential mitigation goals and strategies |
| October 2021 | **MAC Meeting #4 (virtual)**<br>Collected feedback on 2017 mitigation strategies |

| Date | Purpose |
|---|---|
| | Conducted interactive exercise on mitigation strategies for key hazards unaddressed in previous MJHMP<br>Discussed annex updates |
| January 2022 | **MAC Meeting #5 (virtual)**<br>Presented draft plan<br>Discussed key MAC/LPT review needs and key issues<br>Discussed annex updates to dovetail with plan update |
| TBD | **MAC Meeting #6 (virtual)**<br>Review and discuss public comments received on the draft plan<br>Recommend a revised draft plan to decision-makers |

### 3.2. Local Planning Team (LPT)

Table 3-2 lists the members of the CVWD LPT. These individuals collaborated to identify/validate the District's critical facilities, provide relevant plans, report on the progress of District mitigation actions, and provide suggestions for new mitigation actions.

**Table 3-2. CVWD Local Planning Team 2022**

| Name | Title |
|---|---|
| Robert McDonald | General Manager |
| Norma Rosales | Assistant General Manager |
| Brian King | District Engineer |
| Maso Motlow | Management Analyst |
| Greg Stanford | Operations and Maintenance Manager |

The District's LPT members worked directly with the Santa Barbara County Office of Emergency Management (OEM), the consultant team, and each other to provide data, recommended changes, and continually work on the MJHMP and LHMP updates throughout the planning process. The LPT met virtually as needed during the planning process to discuss data needs and organize data collection. Table 3-3 below outlines a timeline of the LPT's activities throughout the planning process.

**Table 3-3. Local Planning Team Activity Summary**

| Meeting Dates | Summary of Activity |
|---|---|
| February 2020 | LPT kickoff meeting to discuss stakeholder and public involvement and refine the scope of hazard analysis |
| April 2021 to January 2022 | Collated data to share with hazard mitigation planning team, including hazard identification, refreshed data layers for maps, and geographic settings.<br>Completed Plan Update Guides to directly inform hazard priorities and mitigation capabilities<br>Met with County OEM and consultant staff (12/8/21) to discuss LHMP priorities and mitigation approaches. |
| January and March 2022 | Reviewed new maps and local vulnerabilities. |

| Meeting Dates | Summary of Activity |
|---|---|
| | Provided input on the status of 2017 LHMP mitigation strategies.<br>Reviewed draft mitigation strategies and provide feedback.<br>Reviewed and finalized 2022 LHMP |

### 3.3. Public Involvement

As a participating agency in the 2022 MJHMP update, the District was directly involved in the outreach program undertaken by the County for the 2022 MJHMP update, which involved extensive outreach during 2021 and early 2022. The District's MAC and LPT members participated in public outreach efforts for the MJHMP and LHMP update planning process by distributing notices for the 6-month-long community hazards survey (refer to Section 3.4.1 of the 2022 MJHMP) and three public workshops (refer to Section 3.4.4 of the MJHMP). The Public Outreach Plan (POP) employed a diversity of tools to maximize notification and participation. The POP was responsive to limitations presented by the Coronavirus (COVID-19) pandemic and focused on direct bilingual outreach using a variety of digital tools, including a fact sheet, social media posts, emails, and press releases. Multiple platforms and tools were used to publicize opportunities to participate. All public and stakeholder meetings were hosted virtually through Microsoft Teams, and all outreach completed for the project was conducted via electronic communications. Many of the meetings used an interactive tool called Slido to collect feedback during meetings. Slido allows audience members to answer questions during presentations, helping the County collect direct detailed feedback and facilitate discussion. All written notices were made available in English and Spanish.

In April 2022, the LHMP draft was completed and made available for public review, concurrent with review by FEMA and CalOES. Hard copies of the document were available at the Carpinteria Valley District Office. The opportunity to review documents was announced through social media and the District's website. The community was welcome to submit written or verbal comments to the District. After review by FEMA and CalOES, the District Board of Directors reviewed and approved the final LHMP through monthly Board meetings in September and October.

## 4. Capability Assessment

The District (formerly known as the Carpinteria County Water District), incorporated on February 13, 1941, is an independent Special District within the State of California. The legal authority of this District is outlined in Division 12 of the Water Code, section 30000 et. seq. The District is governed by five elected members of the community as a Board of Directors (Board). The President and Vice-President of the Board are nominated by members of the Board. The Board appoints and employs a General Manager who oversees and administers the day-to-day operation of the District per the policies and procedures established by the Board. The General Manager employs an Assistant General Manager (Business Manager), District Engineer (Engineering Manager), and Operations Manager. There are an additional 15 full-time non-management employees employed by the General Manager.

### 4.1. Community Profile

The District is located on the coast of California 80 miles north of Los Angeles and 12 miles southeast of Santa Barbara (see Figure 4-1 for a vicinity map). The District's service area encompasses an area extending along the south coast of the County of Santa Barbara easterly from

the Toro Canyon area to the Ventura County line. The Foothills of the Santa Ynez Mountains lay to the north and the Pacific Ocean to the south of the valley. The District's service area is approximately 11,098 acres (17.3 square miles). See Figure 4-2 for a map of the District boundary.

The District is located on a narrow, moderately to gently sloping alluvial plain that extends from the base of the Santa Ynez Mountains southward to the Pacific Ocean. The natural drainage of the plain is provided by Rincon Creek, Gobernador Creek, Carpinteria Creek, Franklin Creek, Santa Monica Creek, and Arroyo Paradon. Headwaters of each of these creeks are located in the Santa Ynez Mountains.

The climate within the District's service area is Mediterranean-like. Summers are usually dry with generally mild temperatures and the winters are cool and have light to moderate quantities of precipitation (predominantly in the form of rainfall). Annual variation in climate conditions is minimal within the District. However, unique topographic conditions in the Gobernador Canyon area of the District can lead to frost conditions for approximately 5 days per year.

The average daily maximum air temperature varies between 64.9 and 77.1 degrees Fahrenheit with an average of 70.8.[1] Annual rainfall for the area is 18.83 inches. The annual average evapotranspiration (ETo) for the area is 43.7 inches.[2]

The District comprises the City of Carpinteria and the surrounding agricultural lands that extend into the lower foothills of the Santa Ynez Mountains. The economy of the City of Carpinteria (incorporated 1965) is based on travel and tourism, commercial and retail, and some light industry and research. Financially, the majority of the City's annual budget comes from hotel occupancy taxes, sales taxes, and residential property taxes.[3] The agricultural economy is dominated by avocado orchards, container nurseries, and covered nurseries growing orchids, cut flowers, vegetables, and cannabis.

Public schools within the District include two elementary schools[4] (grades K - 5), a middle school (grades 6 - 8), and a high school (grades 9 – 12), as well as a multi-year family school and a continuing education high school.[4] There are several private day schools in the Valley, as well as a preparatory boarding school.

According to the 2019 U.S. Census, the City of Carpinteria is home to 13,811 residents. The population is projected to increase by 5.7 percent by 2050 to reach 14,602 residents by 2050 (U.S. Census 2019; SBCAG 2018). Carpinteria has an average household size of 2.74 and a median income of $79,291. Approximately 49.0 percent of City of Carpinteria residents identify as White, 45.0 percent identify as Hispanic, and 6.1 percent identify as Asian, Black, Mixed, or Other.

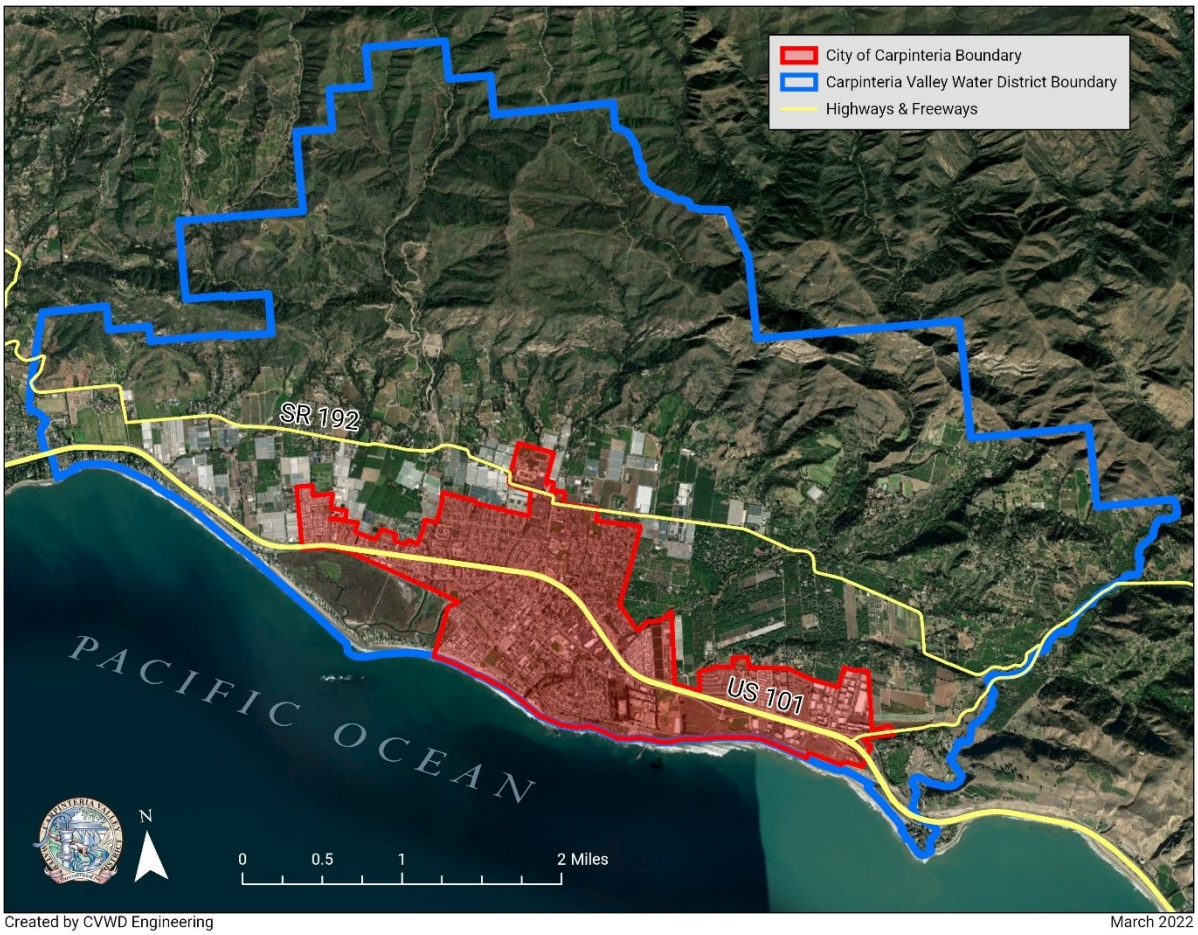
**Figure 4-1. Regional Location of Carpinteria Valley Water District**

[1] Western Region Climate Center, Santa Barbara, Station No. 047902
[2] California Department of Water Resources (CADWR), Santa Barbara CIMIS, Station No. 107
[3] City of Carpinteria, Comprehensive Annual Financial Report
[4] The Carpinteria Unified School District also serves the neighboring community of Summerland


The District's service area is approximately 11,098 acres, of which 1,660 acres are within the City of Carpinteria. The City contains approximately 530 acres of residential development. There are approximately 875 mobile coach homes within the District, principally located in five mobile coach parks. Several of these parks restrict children and young adults. There is a single large (70 unit) assisted living / memory-care facility in the community. Agricultural activities dominate the developed area outside the City boundary. In 2020, there were approximately 1,987 acres of avocado, 146 acres of lemons, 174 acres of cherimoyas, and another 36 acres of passion fruit, olives, and stone fruits. Covered nurseries comprised 344 acres of productive land, growing primarily cannabis. Open and 'hoop house' nurseries (204 acres) predominantly grow containerized ornamental landscape plants and cut flowers. The District also contains 213 acres of field and row crops growing a variety of produce and berries. Almost 43% (4,730 acres) of the District is undeveloped or native vegetation, including extensive oak and chaparral wooded areas as well as a large, protected saltwater estuary. The coastline forms a continuous southern boundary to the District. Figure 4-2 depicts the District's service area.

Although limited residential development occurs outside the City, much of the existing agricultural land is protected by County and State land use designations. The District has installed new water services in recent years, most notably Lavender Court (2006-08, 48 meters); Lagunitas (2012, 79 meters); Dahlia Court expansion (2013, 36 meters) and Casa De Las Flores (2013-15, 38 meters). All of these developments were within the City and were a result of land use change rather than greenfield development..

**Figure 4-2. Carpinteria Valley Water District Service Area**




## 4.2. Services and Infrastructure

The District provides potable water to 4,524 customers and provides fire service standby water for 129 customers. The majority of water services are residential (3,265 single-family and 350 multi-family residences). Agricultural customers (386) and commercial accounts (283) are the next largest classes. There are also 68 Public Authority accounts, 58 Industrial accounts, and 50 dedicated landscape accounts. Water service meters range from 3/4" to 6", while fire services range from 2" to 10". The District also maintains 435 fire hydrants in the community.

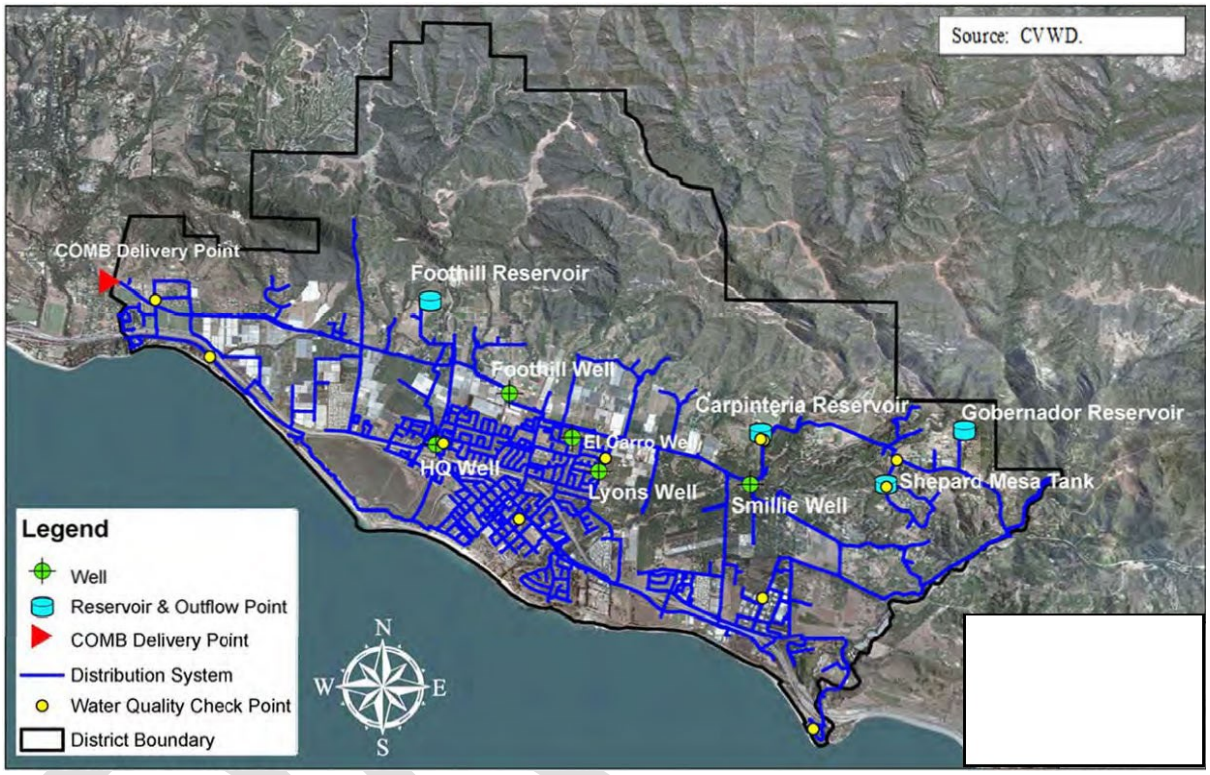
The District owns and operates five (5) municipal wells with a combined capacity to produce approximately 3.98 MGD. These wells are located central to the suburban section of Carpinteria. Figure 4-3 displays the CVWD facilities including general locations of wells. The District constructed a new well, Headquarters Well, and a replacement well for El Carro in the last 18 years. Both of these wells can extract and inject water. These wells will help meet the peak demands and provide some redundancy in the groundwater supply reliability.

The District owns and operates three (3) potable water reservoirs with a combined storage capacity of approximately 10.68 AF. These reservoirs include Shepard Mesa (0.15 AF), Foothill (9 AF), and Gobernador (1.53 AF). Figure 4-3 displays the CVWD facilities including the general locations of the

reservoirs. The United States Bureau of Reclamation (USBR) and Cachuma Operations and Maintenance Board (COMB) Respectively own and operate two additional potable water reservoirs in the area, namely Ortega Reservoir (60 AF) and Carpinteria Reservoir (44 AF).

The District owns and operates a total of 78.14 miles of distribution pipelines. These pipelines include concrete (51%), steel (36%), and other materials (13%). Figure 4-3 displays the general locations of the CVWD distribution facilities.

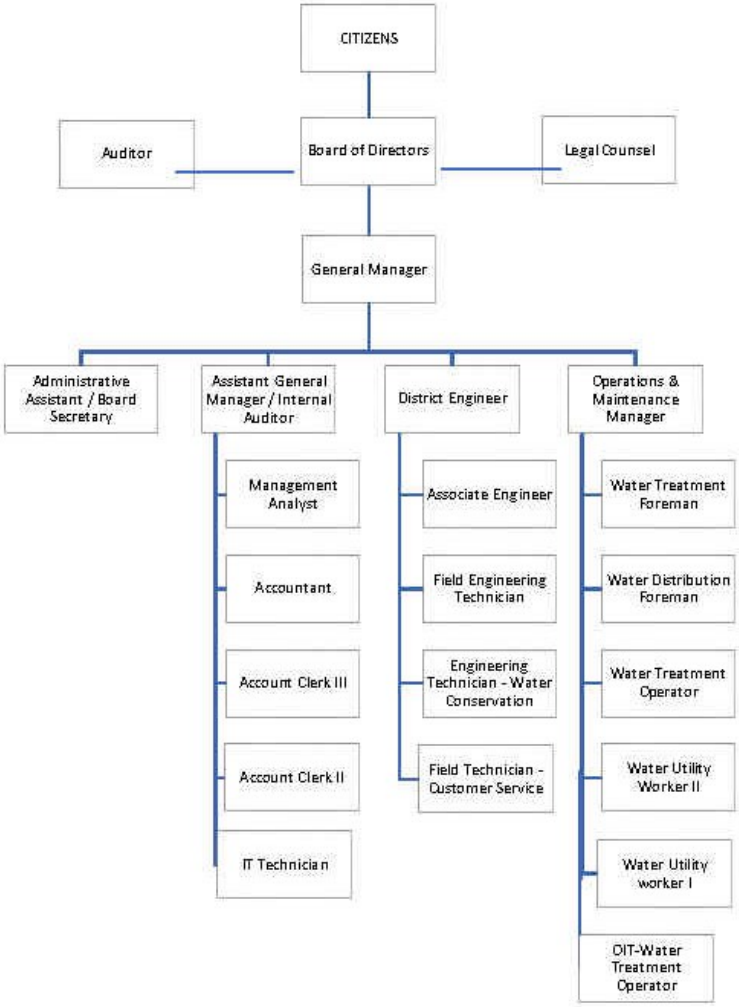
**Figure 4-3. CVWD Facilities**




## 4.3. Administrative and Technical Capabilities

The District was incorporated on February 13, 1941, is an independent Special District within the State of California. The legal authority of this District is outlined in Division 12 of the Water Code, section 30000 et. seq. The District is governed by five elected members of the community as a Board of Directors (Board). The District's organization chart is depicted below.

**Figure 4-4. Carpinteria Valley Water District Organization Chart (2022)**




In addition to the General Manager, the District employs 19 people. The General Manager, appointed by the Board of Directors, is the administrative head of the District, with the responsibility for planning, organizing, staffing, coordinating, budgeting, and directing all District operations. The General Manager is responsible for the implementation of policies established by the Board of Directors, as well as all day-to-day activities of the District.

The Assistant General Manager, at the direction of the General Manager, assists in the planning and implementation of District policies, programs, and projects. The Assistant General Manager also assists the General Manager in the administration of District operations and the supervision of District Staff. The Assistant General Manager ensures compliance with District policy, timely completion on a variety of projects, and facilitates the implementation of District goals and objectives as established by the Board of Directors and the General Manager. The Assistant General Manager represents the District as assigned before professional organizations, elected officials, and community groups.

The District Engineer, reporting to the General Manager, is responsible for engineering, designing, and implementing capital improvements within and for the District. This position requires a Professional Engineers certification. The position involves oversight of professional consultants as

well as detailed analysis and design for work performed by staff. The District Engineer also oversees water conservation programs and Bureau of Reclamation activities related to agriculture.

The Operations and Maintenance Manager, reporting to the General Manager, is responsible for overseeing operations, repair, and maintenance of the District's system of wells, pumps, reservoirs, pipelines, valves, and other facilities. The Operations and Maintenance Manager is also responsible for general inventory, maintenance of the District's fleet of vehicles, building and grounds maintenance, and serves as the District's Safety Officer. This position is also responsible for water quality monitoring and reporting and ensures appropriate levels of California Department of Health Services certification of District employees.

### 4.4. Legal and Regulatory Capabilities

The District recently developed a new Capital Facilities Plan. In addition, the District recently developed a 5-year Financial Plan to address infrastructure funding and debt restructuring. Water supply planning is undertaken annually and outlined in its Urban Water Management Plan (20202) and Agricultural Water Management Plan (2016). The District recently updated its Vulnerability Assessment as required by the Public Health Security and Bioterrorism Preparedness and Response Act (PL. 107-188 Section 1433(a)). The District also recently complete a Risk and Resilience Assessment and update of its Emergency Response Plan as required by America's Water Infrastructure Act (AWIA) Section 13. Finally, during the annual budget process, the Engineering and Operations Departments establish a list of critical annual and bi-annual projects for funding. Annually, the District spends between $800,000 and $1,100,000 on projects related to infrastructure and maintenance. This money is in addition to staff costs.

### 4.5. Fiscal Capabilities

**5. The District's current FY 2021annual budget is $14,303,096, an increase of ~ $143,696 over FY 2020. Annual debt obligations are $5,462,614, the majority of which are costs associated with financing the District's portion of the State Water Project, and projects associated with the District's recently completed Capital Improvement Program. The District reviews and adjust rates on an annual basis. Hazard Assessment**

The purpose of this section is to review, update, and/or validate the hazards identified for the 2022 CVWD LHMP. The intent is to confirm and update the description, location and extent, and history of hazards facing the District now and in the future. This assessment also considers the potential exacerbating effects of climate change. The importance of this review is to ensure that decisions and mitigating actions are based on the most up-to-date information available.

Another purpose of this section is to screen the hazards to determine their relative probability and severity to inform the risk posed to various communities and resources. This assessment will provide an understanding of the significance by ranking hazards by their priority in the City.

In 2021, the MAC reviewed and revised 1) the list of hazards by community or geographic area; 2) the information and material presented for each hazard; and 3) the prioritization of the hazards. The City refined the list of hazards applicable to the City and confirmed the hazard prioritization. The following sections provide the results of this effort.

The Hazard Assessment presented here reflects the CVWD's 2022 review and modifications to the updated risk assessment presented in Chapter 5.0, *Hazard Assessment*, and Chapter 6.0, *Vulnerability Assessment* of the 2022 MJHMP. Applicable hazard information from the CVWD's 2019 LHMP was incorporated during the development of this section. A comprehensive treatment of hazards and their descriptions may be found in Chapter 5.0 of the Santa Barbara County 2022 MJHMP.

## 5.1. Hazard Identification and Prioritization

The potential extent, probability, frequency, and magnitude of future occurrences were all used to identify and prioritize the list of hazards most relevant in the Carpinteria Valley. The CVWD LPT completed the Plan Update Guide to rank the hazards and identify key hazards to help inform this assessment (Appendix A). As summarized in Table 5-1, the local priority hazards are based on the screening of frequency/probability of occurrence, geographic extent, potential magnitude/severity of the hazard, and overall significance. Local experience, MAC/LPT input, and community feedback also informed the assessment of local priority hazards. After reviewing the localized hazard maps and exposure/loss assessment provided in the 2022 MJHMP, the following hazards were identified by the LPT as their top priorities (Appendix A). A brief rationale for each hazard is included below. This assessment of key hazards is provided in addition to the 2022 MJHMP's comprehensive assessment of regional hazards that may affect the CVWD.

**Table 5-1. CVWD Local Priority Hazards**

| Hazards Prioritization | Total Number of Points |
|---|---|
| Earthquake | 12 |
| Wildfire | 12 |
| Drought and Water Shortage | 11 |
| Energy Shortage | 11 |
| Landslide | 11 |
| Extreme Temperatures | 9 |
| Cyber Attack | 8 |
| Dam Failure | 8 |
| Sea Level Rise / Coastal Erosion | 8 |
| Flood / Debris Flow | 7 |

The Hazard Assessment presented here reflects the District's 2022 refinements and expansions to the updated risk assessment presented in Chapter 5.0, *Hazard Assessment* of the MJHMP. Applicable hazard information from the District's previous plans was incorporated during the development of this section. The District's LPT reviewed the hazard assessment and review the plan before acceptance.

## 5.2. Hazard Profiles

### 5.2.1. Earthquake

#### 5.2.1.1. Description of Hazard

An earthquake is the release of strain that occurs along margin boundaries of plates and faults within the Earth's crust. This action produces ground motion and shaking, surface cracking and ruptures, and collapse. Earthquakes are severe, short-lived episodes that can result in widespread damage.

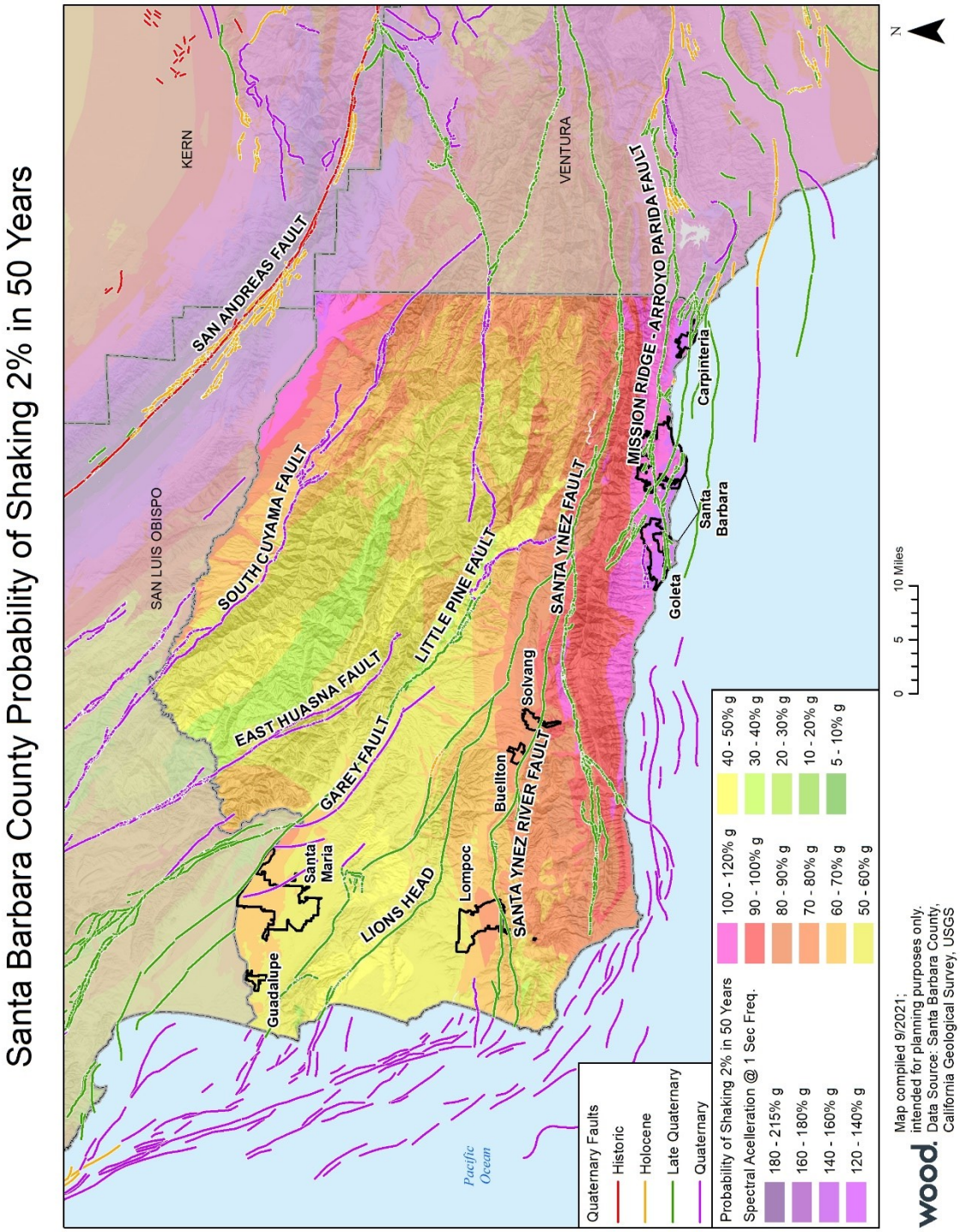
There are two general approaches to measuring the strength of an earthquake – the magnitude or size of the movement and the intensity of shaking or damage. The intensity of an

earthquake is measured at the surface, where most damage to built infrastructure will occur. In the United States, a common measure of intensity is the Modified Mercalli Intensity (MMI) Scale, which designates the magnitude of visible effect (or impact) using 12 increasing steps designated using Roman numerals. At step II few people will notice the earthquake, while at step V almost everyone will feel it and some objects – dishes and windows – might break. At step IX, extensive damage will have occurred – even to the most well-constructed buildings and facilities.

In measuring magnitude, a seismograph is used to determine the maximum motion. On common measure – local magnitude (ML) - is similar to the Richter scale, a logarithmic scale of measurement from 1 to 9. Roughly speaking an earthquake of magnitude 3.5 or below is not widely felt or noticed. The March 11, 2011, earthquake off the coast of Japan had a moment magnitude (Mw) of 9.0 – 9.1, resulting in widespread damage to bridges, roadways, and buildings, as well as a dangerous tsunami.

Peak ground acceleration (PGA) is a measure of the strength of ground shaking. Larger peak ground accelerations result in greater damage to structures. PGA is used to depict the risk of damage from future earthquakes by showing earthquake ground motions that have a specified probability (10, 5, or 2 percent) of being exceeded in 50 years return period. Figure 5-1 shows faultlines in the county and the probability of areas of the county experiencing 2 percent shaking within the next 50 years. These values are often used for reference in construction design, and in assessing relative hazards when making economic and safety decisions.

**Figure 5-1. Santa Barbara County Probability of Shaking 2% in 50 Years**



#### 5.2.1.2. Location and Extent of Hazard

Santa Barbara County – including the Carpinteria Valley – is an active earthquake area. There are numerous active faults associated with the San Andreas fault (located 7 miles northeast of the County). These faults can be seen in Figure 5-1.

The Santa Barbara County Comprehensive Plan Seismic Safety and Safety Element provide descriptions of all faults in Santa Barbara County, including historically active, active, potentially active, and inactive, as well as their location and fault length.

#### 5.2.1.3. History of Hazard

Santa Barbara County is located in a high seismic activity zone and as such has a long history of earthquakes. Although most seismic activity in California occurs within the San Andreas Fault system, most historic seismic events in the region have been centered offshore on an east-west trending fault between the county and the Channel Islands. Several smaller earthquakes have taken place in the past years, including two magnitude 2.0 earthquakes in March 2021 in the Santa Ynez Valley and a magnitude 2.3 earthquake in April 2021 near the City of Lompoc (Earthquake Track 2021). These approximate magnitude 2.0 earthquakes are fairly common in the county. More extensive discussion of previous earthquakes in Santa Barbara County is available in Chapter 5.0 of the 2022 MJHMP and the Seismic and Safety Element of the Santa Barbara County Comprehensive Plan, Figure 5-10 of the MJHMP displays historical epicenters of earthquakes located in Santa Barbara County since 1700.

#### 5.2.1.4. Probability of Occurrence

**Likely** – The USGS and their partners, as part of the latest Uniform California Earthquake Rupture Forecast Version 3 (USGS 2015), have estimated the chances of having large earthquakes throughout California over the next 30 years. Statewide, the rate of earthquakes around magnitude 6.7 (the size of the 1994 Northridge earthquake) has been estimated to be one per 6.3 years (more than 99 percent likelihood in the next 30 years); in southern California, the rate is one per 12 years (93 percent likelihood in the next 30 years). Southern California's detailed rates are provided in Table 5-10 of the MJHMP.

#### 5.2.1.5. Climate Change Considerations

While climate change is not expected to directly affect earthquake frequency or intensity; it could exacerbate indirect or secondary impacts of earthquakes. For example, climate change could increase the frequency and intensity of extreme precipitation events, which in turn increases the probability of landslides and liquefaction events during an earthquake if the earthquake coincided with a wet cycle (California Natural Resources Agency 2018). Additionally, earthquakes often precipitate structure fires that can spread to adjacent orchards and wildlands. Climate change may amplify any fire effects associated with earthquakes.

### 5.2.2. Wildfire

#### 5.2.2.1. Description of Hazard

The majority of wildfires are caused by humans or lightning; however, once burning, wildfire behavior is based on three primary factors: fuel, topography, and weather. Fuel will affect the potential size and behavior of a wildfire depending on the amount present, its burning qualities (e.g., level of moisture), and its horizontal and vertical continuity. Topography affects the movement of air, and thus the fire, over the ground surface. The terrain can also change the speed at which the fire travels, and the ability of firefighters to reach and extinguish the fire.

Although fires in nature have an ecologically restorative function, these become hazards to humans when people live in relative proximity to extensive native vegetation – in an area known as the wildland-urban interface (WUI). In the WUI the source of ignition is often human activity or accidents, but electrical power failure and lightning can cause wildfires. The fuel, initially, is small brush and grasses, which can quickly escalate to larger vegetation given driving winds and low humidity. The presence of housing and other structures in the WUI adds potential fuel to fires, helping to accelerate the fire. As the fire spreads, the ability of fire suppression systems becomes increasingly strained, resulting in further fire spread.

#### 5.2.2.2. Location and Extent of Hazard

The Carpinteria Valley is very conducive to wildfire. The District is bordered to the north by the steep, south-facing slopes of the Santa Ynez Mountains within the Los Padres National Forest. The hillslopes are covered in woody chaparral and grasses. Towards the southern edge of the Forest, numerous residences are scattered in areas of oak and eucalyptus in the foothills and on several large mesas within the WUI. Further south – on the Valley floor – there are numerous irrigated avocado orchards. Carpinteria has been designated by the Federal Government as a 'community at risk' to fire given its proximity to the forest (refer to Section 5.3.1 of the MJHMP for a discussion of communities at risk within the county.

Fire Hazard Severity Zones are areas of significant fire hazards based on fuels (vegetation), terrain, weather, and other relevant factors. These zones define the application of various mitigation strategies to reduce the risk associated with wildland fires. The most current Fire Hazard Severity Zone maps were created in 2007. Figure 5-2 shows the Wildfire Threat Zones located in Santa Barbara County.

#### 5.2.2.3. History of Hazard

Table 5-2 identifies major fires within Santa Barbara County since 1932. This list includes the 1985 Wheeler fire and 2017 Thomas fire – both of which burned areas within the current District boundaries.

**Figure 5-2. Wildfire Threat in Santa Barbara County**

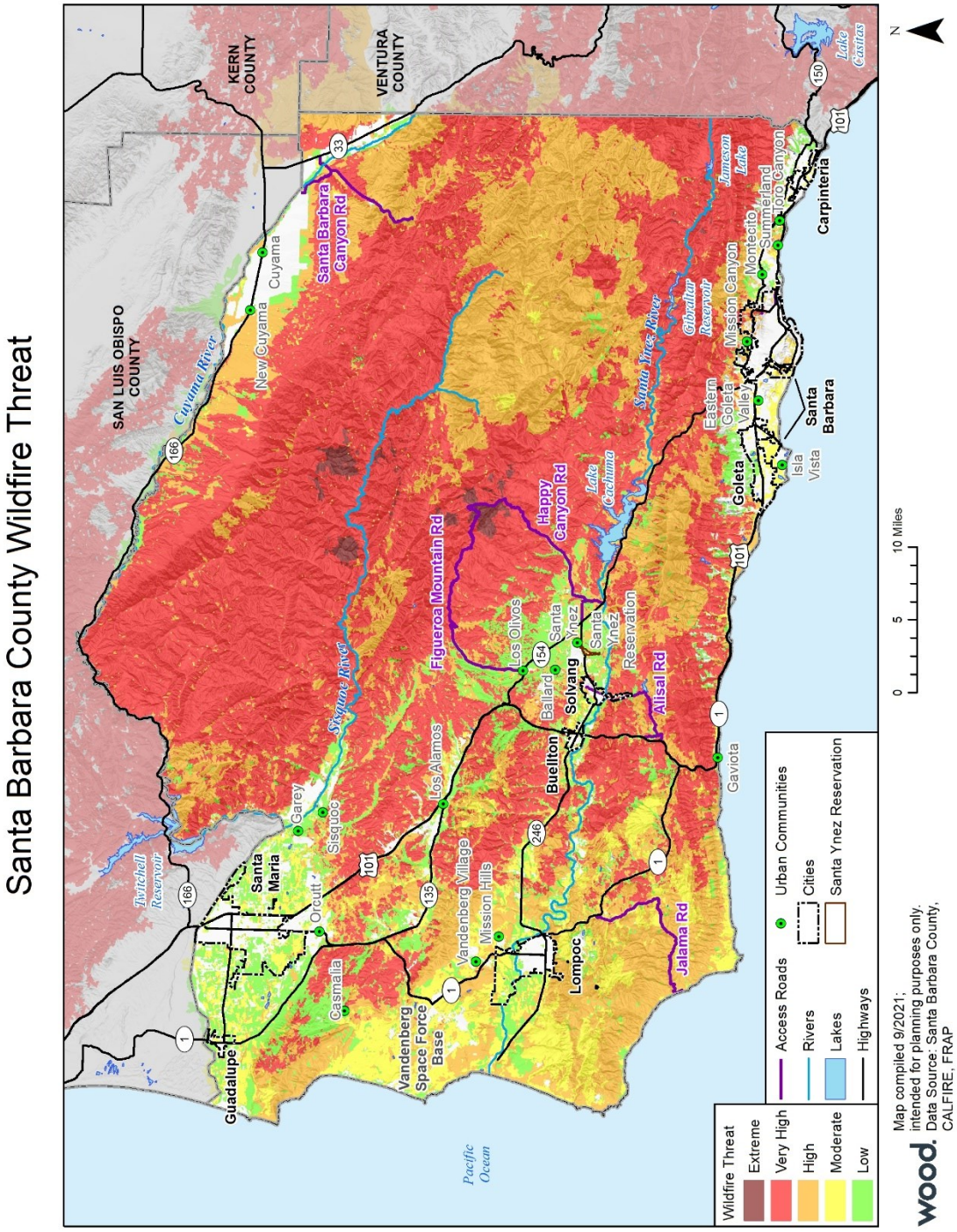


**Table 5-2. Major Wildfires in Santa Barbara County**

| Year | Fire Name | Acres Burned | | Year | Fire Name | Acres Burned |
|---|---|---|---|---|---|---|
| 1932 | North Shore | 7,576 | | 2002 | Sudden | 7,500 |
| 1971 | Cielo | 2,010 | | 2004 | Gaviota | 7,197 |
| 1971 | Romero | 14,538 | | 2004 | Cachuma | 1,115 |
| 1975 | -- | 1,527 | | 2006 | Bald Fire | 4,332 |
| 1977 | Cachuma | 2,250 | | 2006 | Perkins | 14,923 |
| 1977 | Hondo Canyon | 8,526 | | 2007 | Zaca | 240,807 |
| 1979 | Wasioja | 2,006 | | 2008 | Gap | 9,443 |
| 1981 | Rey | 1,638 | | 2008 | Tea | 1,940 |
| 1981 | Oak Mountain | 8,688 | | 2009 | Jesusita | 8,733 |
| 1984 | Minuteman | 1,187 | | 2009 | La Brea | 89,489 |
| 1985 | Wheeler | 122,687 | | 2010 | Bear Creek | 1,252 |
| 1989 | Cocheo | 1,233 | | 2013 | White | 1,984 |
| 1990 | Paint | 4,424 | | 2016 | Rey | 32,606 |
| 1993 | Marre | 43,864 | | 2016 | Sherpa | 7,474 |
| 1994 | Aliso | 3,244 | | 2017 | Alamo Fire | 28,834 |
| 1996 | Wasioja | 2,812 | | 2017 | Whittier Fire | 18,430 |
| 1996 | Cuyama | 1,400 | | 2017 | Thomas Fire | 281,893 |
| 1997 | Logan | 49,490 | | 2018 | Front Fire | 1,014 |
| 1997 | Azaela | 1,351 | | 2019 | Cave Fire | 3,126 |
| 1997 | Halloween | 1,129 | | 2020 | Scorpion Fire | 1,395 |
| 1998 | Ogilvy | 4,029 | | 2021 | Alisal Fire | 16,970 |
| 2000 | Harris | 8,684 | | | | |

**1985** – The Wheeler Fire broke out on July 1, 1985, when an arsonist ignited bushes in Wheeler Gorge, located about 15 miles northwest of Ojai. At the time it began, several other severe fires were burning throughout California, and resources were stretched thin. Although the fire is reported immediately, logistical and communication issues delayed response, and by the time firefighters arrived, the fire had already spread wildly out of control. On the fire's western front, strong winds were pushing the blaze through Matilija Canyon and up over the San Ynez Mountains. The Wheeler Fire burned 118,000 acres, 19 homes, 37 outbuildings, and destroyed or damaged $3 million in agricultural resources.

**2017** – Before even larger fires in recent years, the Thomas Fire in 2017 was the largest California wildfire in modern California history, engulfing more than 280,000 acres, destroying or damaging more than 1,000 structures, primarily within Ventura County, and resulting in two fatalities. The fire was ignited north of Santa Paula in Ventura County and burned into Santa Barbara County through the Santa Ynez Mountains and parts of the upper Santa Ynez River watershed. It was one of the first wildfires to burn from inland Ventura County into the Santa Barbara front country of the Santa Ynez Mountains. The fire was active for 40 days and at one time involved more than 8,500 firefighters, 800 fire engines, and dozens of aircraft (National Interagency Fire Center 2021; Santa Maria Times 2021).

The physical extent of fires within Santa Barbara County is depicted in Figure 5-4 of the MJHMP. Almost the entire forest has burned, much of it within the last two decades. Although most of the catastrophic fires occurred in the backcountry, there have been numerous fires within the WUI on the southern range of the Santa Ynez Mountains, including the 2008 Gap Fire, 2009 Tea and Jesusita Fires, and the 2017 Thomas Fire.

#### 5.2.2.4. Probability of Occurrence

**Highly Likely** – Vegetation and topography are significant elements in the identification of the fire threat zones, as well as areas subject to high winds such as sundowners. The Carpinteria Valley is set at the base of the Santa Ynez Mountains, which support chaparral vegetation, a shrubland habitat of dense and scrubby brush that has evolved to persist in a fire-prone habitat. Chamise, manzanita, and ceanothus are types of chaparral that grow well in the area. These plants evolved and adapted to wildfire regimes and as they age and die, they require fire to regenerate. This cycle of - fire – growth – death – fire – will continue within the Las Padres for the foreseeable future. This means that fire hazards will continue, although with changing probability depending on the stage of the cycle. Given the impact of the Thomas Fire, the District faces a lower probability of wildfire damage than it did in 2016. As the forest recovers, with grasses and smaller shrubs, local fires may threaten facilities in the WUI, but with lesser intensity and damage.

#### 5.2.2.5. Climate Change Considerations

Climate change will affect the probability and severity of wildfire in the Carpinteria area. Increased average temperature and a continued Mediterranean climate mean increased vegetation drying, thereby contributing to greater fuel volumes.

### 5.2.3. Drought and Water Shortage

#### 5.2.3.1. Description of Hazard

Drought in California is typically associated with abnormally low precipitation over a 2-to-3-year period. Depending on location and infrastructure, even 4 years of low precipitation may not trigger water shortages for human use but will very likely result in shortages to natural systems.

Longer-term droughts can impact surface water reservoir storage levels in major reservoirs, such as Lake Cachuma, which provides about 41 percent of CVWD's total water supplies (CVWD 2021a). Longer-term droughts can also impact water levels in major groundwater basins that are key to both urban and agricultural water supply. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline. In some instances, when large amounts of water are pumped, the subsoil compacts, thus reducing in size and number of the open pore spaces in the soil the previously held water. This can result in a permanent reduction in the total storage capacity of the aquifer system (USGS 2021a).

#### 5.2.3.2. Location and Extent of Hazard

In 2020, the CVWD water demand was approximately 4,105 acre-feet (AF) of water (CVWD 2021a). Additional water supplies are pumped from the Carpinteria Groundwater Basin by private well owners primarily for irrigation purposes. During a normal water year with long-term sustainability considerations, the total water supply is estimated at 4,586 AF for 2025 and 5,586 AF for the period 2030 to 2045. During periods of prolonged drought, the CVWD water supply would be reduced compared to that of normal water-years. For instance, water

supplies after four years of drought may be as low as 3,905 to 4,306 AFY for the period 2025 to 2045, or approximately 600 to 1,300 AFY less than during normal conditions.

CVWD has a balanced water supply portfolio with groundwater from the Carpinteria Groundwater Basin, surface water supplies from the Cachuma Project, and imported surface water from the State Water Project (SWP).

### Groundwater

Following the state declaring a drought emergency in January 2014, the Governor signed a three-bill package (i.e., California Senate Bills 1168 and 1319, and Assembly Bill 1739), known as the Sustainable Groundwater Management Act of 2014 (SGMA). The SGMA provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainability within the groundwater subbasins defined by the DWR.

The DWR prioritized all groundwater basins in the state designating High and Medium priority basins. High or Medium priority basins subject to critical conditions of overdraft are required to submit a Groundwater Sustainability Plan (GSP) by January 31, 2020, to ensure a sustainable yield of groundwater, without causing undesirable results. Failure to comply with that requirement could result in the state asserting its power to manage local groundwater resources. The state has identified five high and medium priority groundwater basins within Santa Barbara County, including the Carpinteria Groundwater Basin, which underlies the CVWD district boundaries (refer also to Table 4-7 and Figure 5-6 of the MJHMP).

CVWD overlays the Carpinteria Groundwater Basin (DWR Basin No. 3-018), a relatively large groundwater aquifer, that extends beyond the Ventura County line on the east, to Toro Canyon on the west, from the foothills of Santa Ynez Mountains to the north, and extending offshore to the southwest for over a mile. The Basin includes approximately 16.6 square miles of surface area and multiple water-bearing zones. Total storage in the aquifer is estimated to be approximately 700,000 AF (CVWD 1986), while usable storage for the Basin recharge area was estimated to be nearly 38,926 AF (Marks 2015). The estimated sustainable yield of the Basin Unit No. 1 is approximately 4,000 acre-feet per year (AFY). From Water Year 2015 to Water Year 2019, CVWD pumped an average of 1,953 AFY from the groundwater basin, which represents approximately 46 percent of CVWD's total supplies over that period (CVWD 2021a).

Groundwater rights in the Basin have not been adjudicated. CVWD adopted a Groundwater Management Plan in 1996 to establish its role as groundwater manager for the Carpinteria Groundwater Basin. The Groundwater Management Plan will ultimately be superseded by a GSP in 2024, which is currently under development (CVWD 2021a).

In years with little rainfall, higher levels of groundwater pumping can exacerbate ongoing overdrafts in the Carpinteria Groundwater Basin, accelerating groundwater drawdown and potential water quality problems. Since groundwater level fluctuations are cyclical and sensitive to overdraft, groundwater withdrawal is closely monitored (Santa Barbara County IRWM Cooperating Partners 2019).

### Surface Water

Surface water found in streams and reservoirs are an important part of the regional water supply for domestic use within the county. The development of reservoirs can reduce the threat of flooding and store stream runoff until it is needed, allowing society to use water from winter rains to meet our needs during the dry summer and fall months when streams cannot meet demand.

CVWD receives surface water supplies from the Cachuma Project and SWP. Over the period 2016 to 2020, CVWD has received an annual average of 2,448 AFY (62 percent of CVWD's water supplies) from these sources (CVWD 2021a).

The Cachuma Project includes Lake Cachuma, Bradbury Dam, Tecolote Tunnel, and South Coast Conduit (SCC) and related distribution systems, which were constructed in the early 1950s. Lake Cachuma, the county's largest reservoir, is located on the middle Santa Ynez River about 25 miles northwest of Santa Barbara. During the most recent drought, Lake Cachuma was down to approximately 6 percent of its overall water holding capacity and although it has recovered, it is now only at approximately 48.1 percent capacity. Moreover, over the past 11 years and through five large fires, the watershed areas surrounding Lake Cachuma have been denuded of extensive amounts of vegetation, which will result in abundant amounts of sediment and debris during stormflows, much of which will end up in Lake Cachuma. The resultant debris flows have introduced large amounts of organic material into surface waters, and possible impacts could include increased nutrient loading, dissolved organic carbon, major ions, firefighting compounds, turbidity, and general treatability challenges in the region's largest drinking water source (Santa Barbara County IRWM Cooperating Partners 2019). CVWD purchased an annual average of 1,594 AF from the Cachuma Project over the period 2016 to 2020. This amount represents 41 percent of CVWD's total water supplies (CVWD 2021a).

CVWD's water supply from the SWP is described below.

### Imported Water (State Water Project)

The SWP is the largest state-built, multi-purpose water project in the country. CVWD is an SWP participant in Santa Barbara County, with a maximum allocation set at 2,200 AFY in a normal year (including a 200 AF buffer) (CVWD 2021a). SWP water has helped reduce the use of groundwater in the Carpinteria Groundwater Basin. SWP water also has improved water quality in areas that directly receive SWP water and has increased the overall water supply in Santa Barbara County (County of Santa Barbara 2017b). Since State Water is used primarily as a supplemental supply, the amount received by CVWD will vary each year. Actual SWP water deliveries to CVWD in 2020 were 0 AF. For the period 2016-2020, SWP water provided approximately 854 AFY, or 22 percent, of CVWD's water supplies (CVWD 2021a).

### Recycled Water and Advanced Treatment

In addition to potable water supplies, several water purveyors in the county also use non-potable recycled wastewater to irrigate parks, schools, golf courses, and other large, landscaped areas. The CVWD is planning for future additional water supplies such as potable reuse via the Carpinteria Advanced Purification Project (CAPP). The CAPP will produce advanced treated recycled water that will be injected into the Carpinteria Groundwater Basin to be stored and later extracted to meet potable demands. The CAPP is expected to begin delivering water in 2026, and produce approximately 1,000 AFY of reliable, drought-proof local supply.

### Water Conservation

To use all available water supplies wisely and efficiently, CVWD implements numerous water conservation or water use efficiency measures, including conservation tips, surveys, conservation programs, and rebate programs for residents, commercial users, and agricultural users. These measures are directed at helping water users minimize unnecessary use of water during times of plentiful supply and help stretch limited water resources during water

shortages (see also Section 6.2.3, *Drought and Water Shortage*). The CVWD administers several demand management programs for municipal customers, including the following:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Water loss control
- Conservation program coordination and staffing
- Other demand management measures significantly impacting water use.

During declared water supply shortages, the CVWD uses a six-stage rationing plan that includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the shortage. The criteria for triggering the CVWD's water rationing stages and water usage reduction goals are summarized in Table 5-3 below.

**Table 5-3. Water Shortage Stages and Goals**

| Shortage Condition | Stage | Customer Reduction Goal | Type of Rationing Program |
|---|---|---|---|
| Less than 10 Percent | 1 | 10% | Voluntary |
| 10 to 20 Percent | 2 | 20% | Mandatory |
| 20 to 30 Percent | 3 | 30% | Mandatory |
| 30 to 40 Percent | 4 | 40% | Mandatory |
| 40 to 50 Percent | 5 | 50% | Mandatory |
| More than 50 Percent | 6 | >50% | Mandatory |

Source: CVWD 2021a.

#### 5.2.3.3. History of Hazard

California is no stranger to drought; it is a recurring feature of our climate. Three 20th century droughts were of particular importance from a water supply standpoint—the droughts of 1929–1934, 1976–1977, and 1987–1992. More recent multiyear droughts occurred in 2007–2009 and 2012–2017 (DWR 2021). California's most recent multi-year drought occurred from 2012-2017. In January 2014, Santa Barbara County joined the State of California in declaring a local drought emergency, which was the first local emergency declaration of drought in the county's history (County of Santa Barbara 2014). This was the first time the state-imposed mandatory urban water use reduction requirements on water suppliers, and all of California's 58 counties declared local emergencies. Refer to Section 5.3.2 of the MJHMP for a detailed discussion of multi-year droughts that were identified as having significant impacts on the county.

An iconic image of this drought was in 2017 when the temporary emergency pumping plant and pipeline at Lake Cachuma were used to move water for the Santa Barbara area across the lake's dry bottom to the distribution system intake that had been stranded by falling lake levels. Lake Cachuma, which supplies 41 percent of CVWD's total water supplies as previously mentioned, had water levels so low a special barge fitted with large pumps had to be employed to access remaining water. On April 7, 2017, the Governor lifted the statewide drought emergency; however, given ongoing low water levels in local reservoirs, the County kept the local drought emergency in place until 2019. Effects of this drought included wetland and stream drying, impacts to agricultural land, and tree mortality across the

Carpinteria Valley. Additionally, CVWD's water storage capacity and water quality were impacted at Lake Cachuma from increased sedimentation from the Thomas Fire in 2017 (Santa Maria Times 2019).

Since August 2020, the period between 2012 and 2016 was one of the documented driest consecutive water years in the county with 50.83 inches in cumulative rainfall (County of Santa Barbara 2021a). Effects of the drought have lowered water storage at Lake Cachuma, one of the county's largest surface water reservoirs, with water storage at 48.4 percent of capacity in late 2021 (County Flood Control District 2021). Although the statewide drought of 2012–2016 was ended by a wet Water Year in 2017, localized drought conditions persisted in the Central Coast region and were not ended until a wet Water Year in 2019 (DWR 2021).

#### 5.2.3.4. Probability of Occurrence

**Highly Likely** – Droughts are a regularly recurring feature of Santa Barbara County weather that can be affected by overall regional or worldwide climactic patterns. El Niño and La Niña events are natural climate patterns over the Pacific Ocean often with global effects, with influence over the weather of the U.S. southwest that on average occur every two to seven years. The state recently experienced the 5-year significant drought event of 2012-2017; other notable historical droughts included 2007-09, 1987-92, 1976-77, and off-and-on dry conditions spanning more than a decade in the 1920s and 1930s. In any given year, CVWD can be subject to drought conditions and water shortages. However, out of the last 10 years, the county has been under a locally declared drought emergency for five years; therefore, it is likely drought and associated water shortages will continue and may increase due to climate change considerations, as described further below.

#### 5.2.3.5. Climate Change Considerations

Climate change has the potential to make drought increasingly common along the west coast, including in the Carpinteria Valley. DWR projects climate change will result in more variable weather patterns in California that may lead to more severe, frequent, and extended droughts, which will impact the City's water supply (DWR 2021). Extreme heat creates conditions more conducive for evaporation of moisture from the ground, thereby increasing the severity of drought as well as wildfires.

As described in the County's Climate Change Vulnerability Assessment (CCVA; Santa Barbara County Planning and Development Department 2021), "Two distinct metrics measure precipitation: 1) annual average precipitation and 2) seasonality. Although there will likely be a slight increase in precipitation throughout the 21st century, the seasonality may change (i.e., timing during a given year). There will likely be more rain during periods of precipitation (e.g., storms with higher rainfall totals), fewer total days with precipitation, and an increase in year-to-year variability. This means that more rain may fall during fewer storms throughout the year." Based on these projections, there will be a gradual increase in average annual precipitation in the South Coast (refer to Table 5-7 of the MJHMP; Santa Barbara County Planning and Development Department 2021).

Due to these changes in precipitation patterns, although episodic severe storm events may increase in severity, droughts will likely last longer and happen more frequently because of more variability in precipitation extremes. Average base flows in rivers and creeks in the county's coastal and inland areas are projected to decline significantly in the South Coast subregion, in an early- and late-century (e.g., post-2050) extended drought scenario. This reduction in average base flows will affect two key local water supply sources (i.e., surface

water reservoirs and groundwater), impacting urban and agricultural uses and natural resources (Santa Barbara County Planning and Development Department 2021).

Snowpack is the amount of snow that accumulates during the winter and is a natural reservoir that stores water during the winter. As it slowly melts in the spring and summer, it feeds streams and rivers that provide water to regions hundreds of miles away along the Central Coast and Southern California. The Sierra Nevada snowpack is important in terms of providing water storage and ensuring adequate supply in the summer to the SWP when water is most needed. A warming planet could lead to earlier melting of winter snowpacks, leaving lower stream flows and drier conditions in the Sierra Nevada during late spring and summer. The southwest region of the U.S. relies on snowmelt to supply 50 to 80 percent of the lake, reservoir, river, and creek inflows for water supply. Snowpack levels dropped by 25 percent during the 2011 to 2016 drought, and the average springtime snowpack is expected to drop 64 percent by 2100. In 2021, the snowpack in the Northern Sierra was 70 percent of the average, but the rain was less than 50 percent of the annual average, making it the third driest year on record. Loss of snowpack will increase as temperatures increase because of less precipitation during droughts, more precipitation falling as rain, and snow melting earlier in the spring (Santa Barbara County Planning and Development Department 2021). Changing precipitation distribution and intensity is projected to lead to increased run-off rather than be captured and stored exacerbating the potential for drought. The result of these processes is an increased potential for more frequent, longer lasting, and more severe periods of drought (DWR 2021).

### 5.2.4. Energy Shortage

#### 5.2.4.1. Description of Hazard

Energy shortages (or disruptions) are considered a form of lifeline system failure. Disruptions can be the consequence of another hazard or can be a primary hazard. Most power blackouts are not human-caused but are the result of situations involving unintended events, such as an overwhelming need for power due to weather conditions, equipment failure, or accidents. They may also fail due to natural hazards such as earthquakes, floods, and landslides. These outages can last anywhere from a few minutes to several weeks.

Southern California Edison (SCE) provides power to the southern parts of the county, including the City. SCE is aware of the restrictions on its systems and is making planned systematic changes to address the shortcomings. SCE offers several programs to customers experiencing outages, such as hotel discounts, rebates for portable power devices, and providing customers who rely on medical equipment with portable backup batteries (SCE 2021). SCE also offers power outage alerts via phone and email to alert customers of outages.

Due to recent massive wildfires throughout California and their ignition originating from utility infrastructure and high winds, the electric utilities have initiated a program to conduct Public Safety Power Shutdowns to prevent wildfire ignitions. These are classified as intentional, unscheduled disruptions. The utilities are currently working with the County to minimize power delivery interruption while managing wildfire hazards.

#### 5.2.4.2. Location and Extent of Hazard

The entire county is subject to energy shortages, which can vary in size and area of disruption for electrical services from a large area to a small number of service connections. Electricity service is also highly vulnerable because it is highly dependent on electrical transmission lines and substations functioning properly.

#### 5.2.4.3. History of Hazard

Energy disruptions on a small scale have occurred regularly in Santa Barbara County. In the Carpinteria Valley, small-scale energy disruptions electrical outages are relatively frequent. One of the largest events affecting electric and natural gas services in the Carpinteria Valley in recent years was the 2017 Thomas Fire, during which the transmission system running from Ventura County to the City of Goleta was shut down, leaving more than 85,000 customers without power for an extended period during the emergency (SCE 2017). Similar service disruptions, though not quite as extensive, occur in areas affected by wildfires and other disasters or emergencies.

In fall 2018, SCE admitted that some of its equipment contributed to the December 2017 Thomas fire. This admission was accompanied by the announcement that the company would begin taking precautions against future liabilities by reducing or halting electrical service under certain environmental conditions including high winds and low humidity.

#### 5.2.4.4. Probability of Occurrence

**Likely** – In any given year, Santa Barbara County can be subject to energy shortages. A large disruption due to a power failure or rotating brown-out is highly likely. As described above, SCE announced that the company would be reducing or halting electrical service under certain environmental conditions including high winds and low humidity to take precautions against future liabilities.

#### 5.2.4.5. Climate Change Considerations

With increased changes in weather and climate, the energy demands will shift too. This shift in demand could have significant impacts on energy supply and demand.

### 5.2.5. Landslide

#### 5.2.5.1. Description of Hazard

Landslides are rapid down-slope movements of earth, rock, and other debris caused by soil saturation, earthquakes, chemical weathering, and fracturing. The size and resultant out-flow are dependent on the source material, slope, and nature of precipitating event. In most cases, there is an increase in gravitational stresses on slope material (over-steepening) that makes the upslope material unstable. Over-steepening can be caused by human activity (road cuts) and naturally, by downslope failure like erosion.

#### 5.2.5.2. Location and Extent of Hazard

Landslides and landslide-prone sedimentary formations are present throughout the coastal plain of western Santa Barbara County. Figure 5-18 of the MJHMP shows the location of soil types throughout the county. Generally, areas with soft soils are more prone to movement. Landslides also occur in the granitic mountains of East Santa Barbara County, although they are less prevalent. Many of these landslides are thought to have occurred under much wetter climatic conditions than at present. Recent landslides are those with fresh or sharp geomorphic expressions suggestive of active (ongoing) movement or movement within the past several decades. Reactivations of existing landslides can be triggered by disturbances such as heavy rainfall, seismic shaking, and/or grading. Many recent landslides are thought to be reactivations of ancient landslides.

Section 5.3.7 of the MJHMP lists the areas in Santa Barbara County where there are geologic formations that can lead to fairly severe landslides as identified by the Santa Barbara County Comprehensive Plan Seismic Safety and Safety Element (Santa Barbara County Planning and Development Department 2015). Within the Carpinteria Valley, the foothills to the north of

the City of Carpinteria are subject to occasional landslides and earth movements. Some areas of the Carpinteria Valley are prone to more frequent rain-induced landslides, resulting in disruption to transportation and damage to roadways. The most common areas of recent historic landslides are Gobernador Canyon and all roads that are underlain by the Rincon Shale Formation. Parts of Gobernador Canyon has experienced earth movements in 1995, 1998 and is currently considered a moving slope. Foothill road in the western parts of the District also experiences landslides, particularly during wet winters. See Figure 5-3 for a map of landslide susceptibility in Santa Barbara County.

#### 5.2.5.3. History of Hazard

Many previous landslide occurrences within the county were smaller and are not well documented. Locally, Gobernador Canyon Road in the Carpinteria Valley has experienced landslides that affected travel in 1995 and 1998. Three of the more significant recent landslides are discussed below:

**1995** – In the spring of 1995, La Conchita, located at the western border of Ventura County and adjacent to Santa Barbara County, experienced a landslide that destroyed several houses in its path.

**1998** – In 1998, a portion of the bank of the Cuyama River collapsed east of Santa Maria, affecting half a dozen cars and a tractor-trailer rig on Highway 166, which were caught in the slide. Two highway patrol officers were killed.

**2005** – In January 2005, a powerful Pacific storm brought heavy rain, snow, flash flooding, high winds, and landslides to Central and Southern California. With such copious rainfall, flash flooding was a serious problem across Santa Barbara, Ventura, and Los Angeles counties. In Santa Barbara County, flash flooding and mudslides closed Gibraltar Road at Mt. Calvary Road, stranding several vehicles, while mudslides inundated 3 homes in Lake Casitas. Across Ventura County, flash flooding and mudslides closed down Creek Road at Hermosa Road. In addition, the Ventura Beach RV Resort was flooded and Highways 1 and 126 were closed due to flooding. In La Conchita, a devastating mudslide killed 10 people, destroyed 15 homes, and damaged 12 other homes.

#### 5.2.5.4. Probability of Occurrence

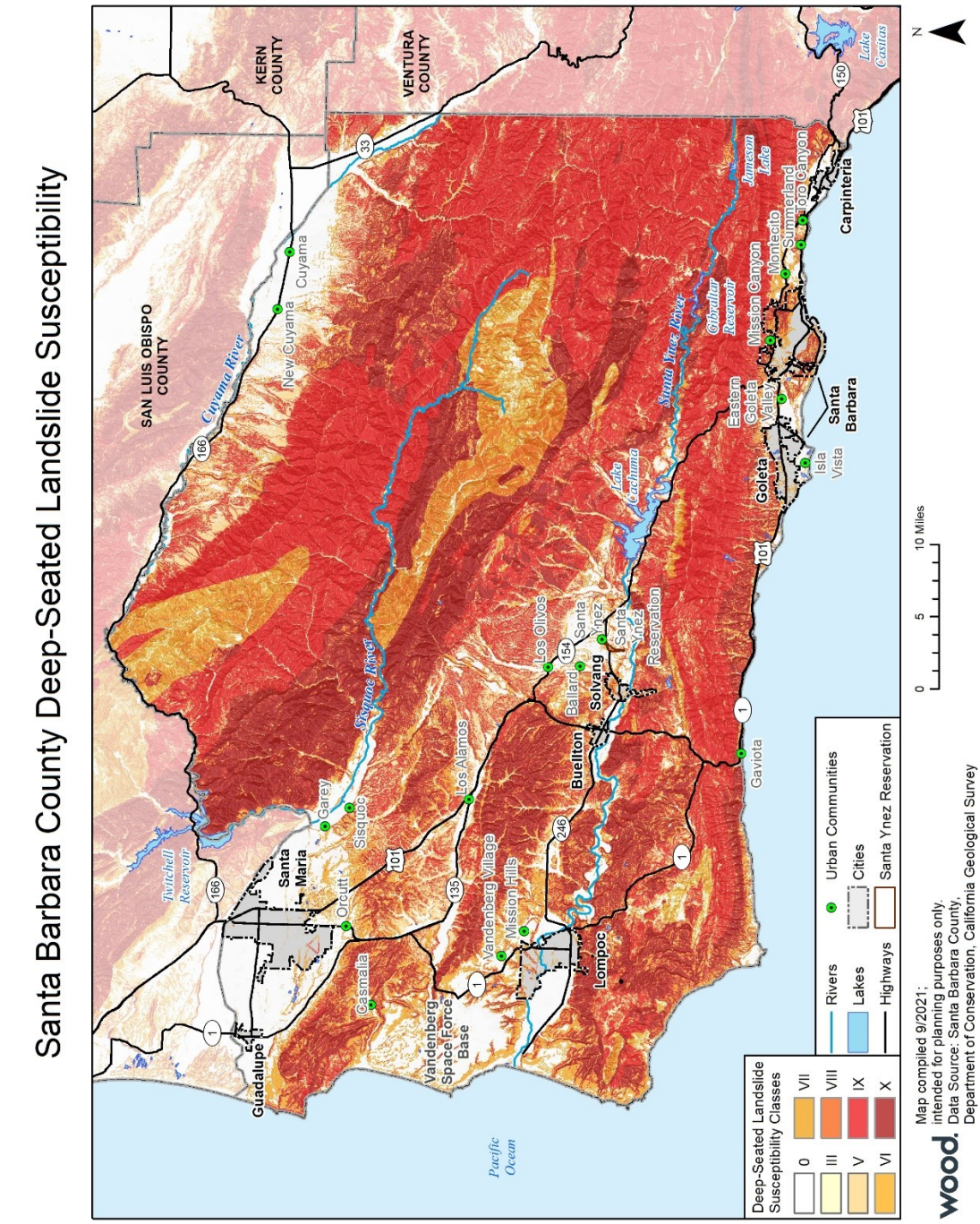
**Occasional** – Figure 5-3 shows the locations of deep-seated landslide susceptibility in the Carpinteria Valley. The areas shaded in darker red are considered to have a higher probability of landslide occurrence than the low landslide risk areas in the Carpinteria Valley. See Section 5.3.7, *Landslide* of the 2022 MJHMP for detailed information.

#### 5.2.5.5. Climate Change Considerations

Climate change is expected to intensify weather events, thereby increasing the potential for landslides. Wildfires make the landscape more susceptible to landslides when rainstorms pass through as the water liquefies unstable, dry soil and burned vegetation. Geologists routinely conduct landslide hazard assessments after wildfires occur, but there is often not enough time between a fire and a rainstorm to implement an effective emergency response plan (USGS 2021). Wildfire frequency, higher temperatures, and increased droughts projected to occur under climate change can reduce soil absorption capacity and kill vegetation that holds soil in place, making it unable to absorb as much water, further destabilizing slopes. The results also suggest more intense rainfall events could make landslides much more frequent. Slope failure is expected to become more frequent as more precipitation falls during fewer storm events (see Section 5.2.10, *Flood and Debris Flow*). Also, the increased heavy precipitation events

may cause instability in areas where landslides were not as likely before. Therefore, resulting landslides may be larger or more widespread.

**Figure 5-3. Landslide Susceptibility Zones in Santa Barbara County**



## 5.2.6. Extreme Heat

### 5.2.6.1. Description of Hazard

Extreme heat is defined by FEMA as temperatures that hover 10 degrees Fahrenheit (°F) or more above the regional average high temperature or over 100 °F in California and last for at least three days or even as long as several weeks (FEMA 2021). Extreme heat is a function of heat and relative humidity. A heat index describes how hot the heat-humidity combination makes the air feel. As relative humidity increases, the air seems warmer than it is because the body is less capable of cooling itself or regulating heat via evaporation of perspiration. As the heat index rises, so do health risks such as heat exhaustion, sunstroke, and heatstroke.

While the effects of extreme heat on human health can be severe, so too can its effects be on natural ecosystems, services, infrastructure, and various economic sectors (e.g., agricultural sector). During periods of extreme heat, transportation, gas, power, and other services may be disrupted, and critical infrastructure may be destroyed or damaged (FEMA 2021). The National Institute for Occupational Safety and Health (NIOSH), alongside OSHA, provides a Heat Safety Tool App that offers occupational safety and health recommendations based on the heat index (OSHA 2021). Each extreme heat day or heat wave can present additional risk of other hazards present within the County but is primarily a direct contributor to wildfire hazards and risks (refer to Section 5.2.2, *Wildfire*). As heat increases, the need for additional cooling systems to avoid mechanical failure increases as well. This can increase costs to consumers and may contribute to climate change if fossil fuels are used to generate the electricity needed to operate cooling systems.

### 5.2.6.2. Location and Extent of Hazard

All of Santa Barbara County can experience extreme heat. Coastal communities on average have lower temperatures compared to communities in the inland areas of the county and could be less at risk to extreme temperatures although potentially less acclimatized to high temperatures if they occur.

### 5.2.6.3. History of Hazard

Santa Barbara County has experienced several extreme heat events in the past; however, they are not well documented. One documented event reported as “simoon”, occurred on June 17, 1859, where a record temperature of 133 °F was taken during an extreme heat and wind event that struck Santa Barbara in the early afternoon (Noozhawk 2020). This event set the world record for the hottest temperature ever recorded on Earth, which was held for 75 years until the record was broken by one degree in Death Valley on July 10, 1913 (Guinness World Records 2021). More recently, according to the NOAA Storm Events Database, a combination of high pressure and high humidity caused temperatures to spike to between 100 °F and 119 °F on July 22, 2006, throughout southern California, including the county (NOAA 2021). In 2020, heatwaves in the Santa Ynez Valley with temperatures reaching 118 °F caused early grape harvests at wineries (Jervis 2020).

### 5.2.6.4. Probability of Occurrence

**Highly Likely** – In any given year, Santa Barbara County, including the Carpinteria Valley, can be subject to extreme heat conditions.

### 5.2.6.5. Climate Change Considerations

As temperatures rise due to climate change, residents, employees, and visitors in the Carpinteria Valley will face a greater risk of death from dehydration, heatstroke/exhaustion,

heart attack, stroke, and respiratory distress caused by extreme heat. By mid-century, extreme heat events in urban centers could cause two to three times more heat-related deaths than occurring today. Freezing spells are likely to become less frequent as climate temperatures increase (Climate Central 2019).

Historically, Santa Barbara County has experienced an average of four extreme heat days a year, however, this is expected to increase to 12 extreme heat events per year by 2030, 19 extreme heat events per year by 2060, and 34 extreme heat events per year by 2100 (Santa Barbara County Planning and Development Department 2021). Due to the rising temperatures, heat waves are likely to become more frequent, which will have direct impacts on human health in terms of heat-related illness. The Carpinteria Valley's large farming and viticulture production which employs hundreds of outdoor laborers will be vulnerable to the rising temperatures and most at risk for heat-related illnesses. Residents will also be vulnerable to rising temperatures, as many of the homes on the coast do not have air conditioning units, as there was less of a need in the past, and therefore may be less prepared compared to the inland region of the county to adapt to extreme heat events.

Cascading impacts include increased stress on water quantity and quality, degraded air quality, and increased potential for more severe or catastrophic natural events such as heavy rain, droughts, and wildfire. Another cascading impact includes increased duration and intensity of wildfires with warmer temperatures.

Extreme heat has also been shown to accelerate wear and tear on the natural gas system and electrical infrastructure. Projected increases in summer demand associated with rising temperatures may increase risks to energy infrastructure and may exceed the capacity of existing substations and distribution line infrastructure and systems.

### 5.2.7. Cyber Attack

#### 5.2.7.1. Description of Hazard

The 2018 California State Hazard Mitigation Plan defines cyber-attacks as "attempts by cyber criminals to attack a government, organization, or private party by damaging or disrupting a computer or computer network, or by or stealing data from a computer or computer network for malicious use." Cyber-attacks use malicious code to alter computer operations or data. The vulnerability of computer systems to attacks is a growing concern as people and institutions become more dependent upon networked technologies. The Federal Bureau of Investigation (FBI) reports that "cyber intrusions are becoming more commonplace, more dangerous, and more sophisticated," with implications for private- and public-sector networks (refer to Section 5.5.2 of the MJHMP for a discussion of the types of cyberattacks).

In a recent attempt to combat this threat, the State of California adopted Senate Bill 327 in September of 2018. This bill seeks to improve information privacy, specifically on connected devices. Existing laws in California require businesses to take all reasonable steps to dispose of customer records within their custody containing personal information and also require businesses that own, license, or maintain personal information about a California resident to implement and maintain reasonable security procedures. Senate Bill 327, which went into effect January 1, 2020, further requires the manufacturer of connected devices to equip the device with a reasonable security feature to protect user information.

#### 5.2.7.2. Location and Extent of Hazard

Cyber-attacks can and have occurred in every location regardless of geography, demographics, and security posture. Incidents may involve a single location or multiple

geographic areas. A disruption can have far-reaching effects beyond the location of the targeted system; disruptions that occur far outside the state can still impact people, businesses, and institutions within the county. The Santa Barbara County Grand Jury determined in 2020 that cyberattacks and related threats are an ongoing security issue for all public entities within the county, which requires prompt and aggressive actions to prevent significant disruption (Santa Barbara County Grand Jury 2020). This hazard can occur anywhere within the Carpinteria Valley; however, cyber threats are generally targeted towards larger corporations or the government.

#### 5.2.7.3. History of Hazard

Between 2012 and 2015, 50 million records of Californians were breached, and the majority of these breaches resulted from security failures, with malware and hacking; physical breaches constituted three-quarters of all events. As the use of digital information expands, Californians will increasingly become more vulnerable to the slow-moving, potential technological hazard of cyber damage (Cal OES 2018).

The District was the victim of a CryptoWall cyber attack in September 2015. The attacker demanded payment through bitcoin before providing the key to decrypt CVWD's files. While most files were backed up and were able to be restored to a version prior to the attack's encryption, key imagery files were not able to be restored and so the ransom was paid.

#### 5.2.7.4. Probability of Occurrence

**Likely** – As described above, cyber threats are on the rise globally, nationally, and locally. The probability of occurrence of cyber threats is rapidly increasing, especially with increased reliance on the Internet and cloud-based computing. Small-scale cyber-attacks occur daily, but most have negligible impacts at the local or regional level. Data breaches are also extremely common, but again most have only minor impacts on government services. Perhaps of greatest concern to the District are ransomware attacks, which are becoming increasingly common. It is difficult to predict the odds of the District being hit with a successful ransomware attack in any given year, but it is safe to say it is likely to be attacked in the coming years. The possibility of a larger disruption affecting systems within the District is a constant threat, but it is difficult to quantify the exact probability due to such highly variable factors as the type of attack and intent of the attacker. Major attacks specifically targeting CVWD systems or infrastructure cannot be ruled out.

#### 5.2.7.5. Climate Change Considerations

While there is no evidence to link climate change to an increase in occurrences of cyber threats, the target could be related to issues with individuals or companies perceived to affect the climate (i.e., GHG producers).

### 5.2.8. Dam Failure

#### 5.2.8.1. Description of Hazard

A dam is a barrier that obstructs or directs the flow of water creating a lake or reservoir. The barrier may be made of earth, concrete, wood, or other material. A dam may fail for a variety of reasons including poor construction techniques, poor maintenance, age, earthquakes and landslides, extreme water inflow, and overtopping and sabotage. The resulting failure of the dam may result in rapid reservoir de-watering and downstream flooding with the potential for loss of life and property.

#### 5.2.8.2. Location and Extent of Hazard

In the context of the Carpinteria Valley Water District, 'dam failure' has two distinct meanings. The first is the failure of Bradbury Dam in the Santa Ynez Valley and Lauro Dam in Santa Barbara. Lake Cachuma is impounded by Bradbury Dam and is a major source of water to the District, while Lauro Dam provides a balancing reservoir for the City of Santa Barbara and the Montecito and Carpinteria communities. The second meaning is the failure of the structural integrity of the Districts reservoirs, which have earthen and concrete embankments that facilitate water storage. The District has three in-ground reservoirs that could be considered to have a dam – Carpinteria, Gobernador, and Foothill.

#### 5.2.8.3. History of Hazard

While dam failures have occurred in many parts of the world, there is only one significant incident in Santa Barbara County. Built in 1917, the Sheffield Dam in Santa Barbara failed catastrophically during the 1925 earthquake. It was built on sandy soil which liquefied during the event. The center 300-feet of the 720-feet long dam broke off and was carried away on the liquefied soil, spilling 30 million gallons of water.

#### 5.2.8.4. Probability of Occurrence

**Unlikely** – The complete failure of Bradbury or Lauro Dams is very remote. Both facilities are subject to the Dam Safety Program administered by the State of California and the federal government, and both dams have recently undergone extensive seismic retrofits to prevent possible failure associated with earthquakes. The District's reservoirs are periodically drained and inspected for cracks. Carpinteria reservoir was recently refurbished when the roof structure was installed in 2006. The Ortega reservoir in Montecito offers a cautionary lesson regarding maintenance and refurbishing, however. The concrete base of the reservoir was improperly sealed during reconstruction in the late 2000s and now has a persistent leak problem that threatens to undermine the foundation. The reservoir now operates at less than designed capacity to reduce the threat to failure.

#### 5.2.8.5. Climate Change Considerations

The potential for climate change to affect the likelihood of dam failure is not fully understood at this point. There is potential for increased precipitation events as a result of climate change conditions to present a future increased risk of dam failure if large inflows to reservoirs occur. However, this could be offset by generally lower reservoir levels if storage water resources become more limited or stretched in the future due to climate change, drought, and/or population growth.

### 5.2.9.Sea Level Rise and Coastal Erosion

#### 5.2.9.1. Description of Hazard

Sea level rise is defined as the rising of the mean sea level (MSL) as a result of the so-called greenhouse effect or global warming. Three processes contribute to sea level rise, the first of which is thermal expansion. Increases in atmospheric carbon dioxide increase air temperature which eventually will lead to increased water temperature. As water warms, it expands, and in a confined space this will lead to an increase in surface elevation. The second process is eustasy, which involves an increase in the volume of water residing in the ocean. This can be increased or decreased depending on the volume of water stored as ice on land. The third process is isostasy, which involves the relative gravitational equilibrium between the earth's crust and the mantle. Locally, forced uplift by plate tectonics can result in changes to MSL, as can rapid sedimentation. As sea level rise occurs, areas of land that were once outside the tidal inundation zone may be subjected to wave erosion and decay.

#### 5.2.9.2. Location and Extent of Hazard

Given other factors associated with climate change including storm intensity, the potential for coastal hazards, such as sea level rise and coastal erosion, to occur along the approximately 7 miles of the coast within the District planning area is very possible. The South Coast has a long history of exposure to coastal hazards from bluff retreat to coastal erosion and flooding. Low-lying areas such as those within the Beach Neighborhood of Carpinteria have experienced coastal flooding due to storms surges and wave attacks. Bluff erosion is another serious local hazard with annual bluff erosion rates generally varying from 6 inches to one foot per year, depending upon location.

Coastal hazards modeling efforts show that the coastal dunes and bluffs in Carpinteria are vulnerable to coastal erosion caused by exposure to waves, weathering, and runoff (County of Santa Barbara 2017). In such areas, erosive processes slowly eat away at the beach and foundations of the bluffs, reducing beach widths, eroding dunes, and creating risk for bluff collapse. Bluff collapses threaten bluff-top property and create a safety risk to people visiting the lower beaches.

Shoreline changes (coastal erosion and accretion) result from a change in sediment supply, coastal processes including large storms, and human activities. When sediment supply exceeds the gross longshore sediment transport rates then the coast will accrete seaward; when more sediment is removed than supplied, the coast will erode. Long-term changes in the shoreline are caused by sediment supply and sea level rise, whereas short-term or event-based erosion is caused by large storm events (City of Carpinteria 2019). Sandy beach widths on Carpinteria City beach range between 65 and 200 feet, although width varies seasonally and along the coast. Carpinteria beaches experience seasonal cycles in which winter storms move significant amounts of sand offshore, creating steep, narrow beaches.

In response to coastal hazards, private property owners and local governments have erected rock revetments and seawalls to attempt to protect public and private improvements from coastal hazard damage. The UPRR has also installed both concrete seawalls and rock revetments to protect the railroad tracks along the South Coast from Carpinteria to Gaviota. The long-term effects of such coastal protection structures are subject to debate, as well as their secondary impacts on natural coastal processes and sand supply.

In addition, higher MSL may result in seawater intrusion into local aquifers. Sea level rise can result in hazards along the coast through several mechanisms. The first is tidal inundation. Tidal induration can result in periodic nuisance flooding to severe property damage. Secondly, the combination of sea level rise with storm surges can make storm-related flooding worse, although along the west coast of the U.S. this is less of a problem. And finally, coastal erosion related to sea level rise can result in damage to public infrastructure and private property.

#### 5.2.9.3. History of Hazard

Typically, coastal hazards increase during periods of major storms that can coincide with high tides, causing coastal flooding, coastal bluff erosion, and landslides such as those that were experienced during the 1983, 1998, and 2015/2016 El Niño storms. Segments of the South Coast have been subject to significant damage from coastal hazards. Historic coastal flooding has occurred along the county's South Coast, particularly in the City of Carpinteria, since the mid-1800s. Significant wave events in 1938, 1943, 1958, 1982–83, 1988, 1997–1998, 2002, 2007, and 2015-2016 demonstrate the dynamic and hazardous coastal environment. Homes along Sandyland Cove and Pardaro Lane in the City of Carpinteria

suffered substantial damage during the 1983 and 2015/2016 El Niño events in particular. While many of these storm events and creek flooding hazards are associated with El Niño, other causes can threaten the environment including storm events post-wildfire. In such situations, due to an absence of vegetation and resultant soil erosion, large fluxes of sediment can be rapidly transported to the coast. For example, the January 2018 storms caused severe mudflows and debris flow in Montecito and Carpinteria (see Section 5.2.10, *Flood and Debris Flow*).

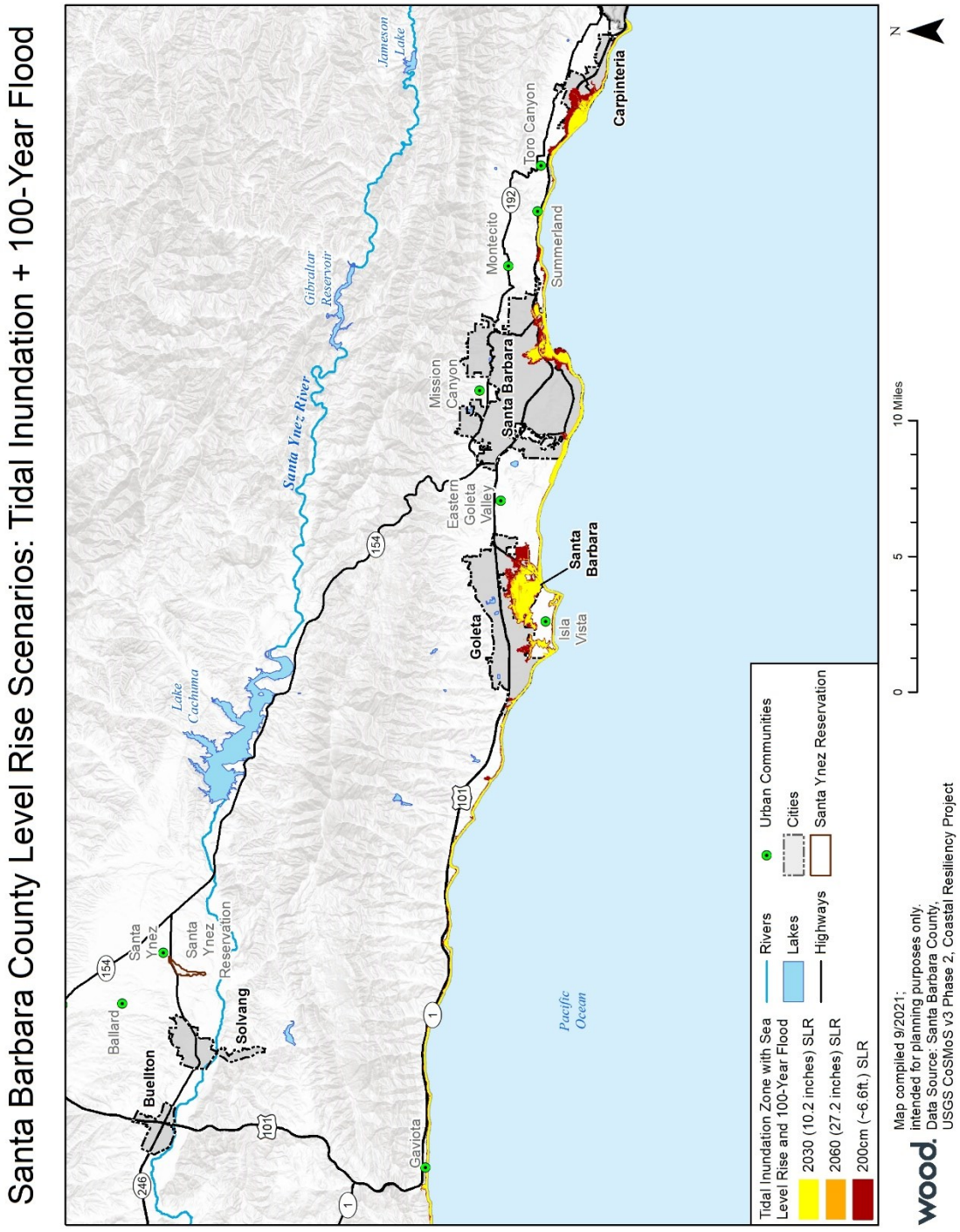
#### 5.2.9.4. Probability of Occurrence

**Highly Likely** – Coastal flooding from tidal inundation and wave attack and associated erosion of coastal bluffs and beaches occurs during many winters but is most pronounced during past major El Niño events, which have return intervals of 2 to 7 years. Sea level rise is projected to incrementally increase the inland extent that is vulnerable to coastal hazards through 2100 (Figure 5-4). Although many private coastal properties and public facilities have been protected by rock revetments or seawalls, coastal flooding, beach, and bluff erosion continue in Carpinteria. While the existing probability of occurrence is typically confined to El Niño seasons or major storm events, as discussed below, climate change and sea level rise are projected to increase in frequency and severity of occurrence.

#### 5.2.9.5. Climate Change Considerations

Sea level rise is fundamentally tied to climate change and occurs with known atmospheric and oceanic drivers such as carbon dioxide emissions. Given the build-out of properties at sea level within the District, it is unlikely that the District will need to relocate more than a few dozen services given the average projected sea level rise increases.

**Figure 5-4. Santa Barbara County Sea Level Rise Tidal Inundation + 100-year Flood Conditions**



## 5.2.10. Flood and Debris flow

### 5.2.10.1. Description of Hazard

Flooding is a temporary condition whereby land that is typically dry is partially or completely inundated. The severity of a flood is predicated on rainfall intensity and duration, soil saturation, soil type, permeability, slope, and watershed characteristics. The failure of stream banks, levees, dams, and under-sizing of storm-water facilities road culverts can all contribute to flooding. Under certain conditions of heavy precipitation, debris such as rocks and vegetation within a watershed can be mobilized. If this occurs a destructive debris flow may occur. During debris flow, anything within the path of the debris can be destroyed. This type of event can occur with little forewarning.

### 5.2.10.2. Location and Extent of Hazard

Floods usually occur during the rainy season, with the highest precipitation during December through March during heavy rainfall. Streamflow throughout the Carpinteria Valley is highly variable and directly impacted by rainfall with little snowmelt or base flow from headwaters. Watercourses can experience dramatic peak flows during high rainfall events. High amounts of sedimentation during wet years and high amounts of vegetative growth during dry and moderate years can affect stream or river channel capacity to carry floodwaters.

### 5.2.10.3. History of Hazard

Flooding has been a major problem for communities and regions along rivers, creeks, and the shoreline throughout Santa Barbara County's history. Santa Barbara County has several hydrologic basins that have different types of flooding problems, including over bank riverine flooding, flash floods, tidal flooding/tsunamis, and dam failure. The most common flooding in Santa Barbara is due to riverine flooding and flash flood events.

Between 1906 and 2018, Santa Barbara County experienced 22 significant inland flood and debris flow events. Eight of these floods received Presidential Disaster Declarations. These historical flood events and years as well as information concerning the nature of the flooding/debris flows and the extent of the damages are described in Section 5.3.4 and Section 5.3.5, respectively, of the MJHMP.

The most recent flood and debris flow that occurred in the Carpinteria Valley were in 2018. Following the October 2017 Thomas Fire, heavy rains unleashed destructive rivers of water, mud, and debris in Santa Barbara County, particularly Montecito and Carpinteria, leaving at least 23 people dead, destroying over 100 homes, and damaging over 300 homes (approximately $400 million in damages). Rain from the storm fell on hillsides and mountains stripped of trees and vegetation by the Thomas Fire. The National Weather Service, Los Angeles reported that 0.54 inches of rain had fallen in 5 minutes at Montecito and 0.86 inches in 15 minutes in the City of Carpinteria (FloodList 2021).

These flood flows triggered a chain of events in the City of Carpinteria due to flooding in Carpinteria Creek. The surge of water and debris that came down Carpinteria Creek undermined and destabilized the concrete rock wall embankment that borders the southeast side of the Wastewater Treatment Plant. At the time of the storm, Caltrans was in the process of building a new bridge over Carpinteria Creek. The intense storm dropped too much water too quickly and caused a massive debris flow, which built up enormous head pressure at this new bridge before breaking free. The velocity of the debris flow moved so quickly and with such force that boulders could be heard rolling down the creek from 5 blocks away. After the floodwaters in the creek receded, the creek bed was scoured to a historical depth not

previously seen and the wall embankment was noticeably impacted. Floodwaters surcharged the municipal storm drain system. The road to the Wastewater Treatment Plant, its administration office, a preschool, and employee housing for California State Park employees was impassable due to the flooding. Highway 101 was also cut off to the northwest of the City for 3 weeks and to the southeast to Ventura for about a week, leaving the Carpinteria Valley isolated for an extended amount of time. Both the supply chain (e.g., food, fuel) and staffing levels at the Treatment Plant as well as countless other businesses and offices in Carpinteria were compromised. Food from local grocery stores disappeared also immediately (California Water Environment Association 2022). Water, sewer, gas, and internet services were also temporarily disrupted in the Carpinteria Valley.

#### 5.2.10.4. Probability of Occurrence

**Highly Likely** – The 100-year flood is a flood that has a one percent chance in any given year of being equaled or exceeded. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. Figure 5-5 shows the location of the 100-year flood hazard zones in the Carpinteria Valley as mapped by FEMA's Flood Insurance Rate Maps (FIRM). The floodplains shown delineate areas with potential exposure to flooding for 100-year storm flows.

Based on historical data and given the likelihood of wildfires and intense rainfall events, as well as steep slopes in the Carpinteria Valley, mudflow and debris flow hazards are likely to continue on an annual basis, with damaging mudflow and debris flow occurring less frequently. Mudflows and debris flows are usually a cascading effect of severe weather. The probability for more severe and damaging landslides increases during El Niño years or severe winter storms. The potential for debris flows dramatically increases following a wildfire (refer also to Section 5.2.2, *Wildfire* and Section 5.2.5, *Landslide*).

In response to the debris flow disaster in Montecito on January 9, 2018, the Santa Barbara County Office of Emergency Management has published a map showing high and extreme risk areas for debris flow. Figure 5-6 illustrates the areas at most risk for flooding and debris flows, including Carpinteria and Montecito.

#### 5.2.10.5. Climate Change Considerations

As described in the County's CCVA, although climate change will increase the frequency and intensity of droughts (refer to Section 5.2.3, *Drought and Water Shortage*), scientists also project that it will increase the frequency and intensity of heavy rainstorms that cause inland flooding (Santa County Barbara Planning and Development Department 2021). Climate change is projected to amplify existing flood hazards through increased frequency and strength of El Niño events and rainfall intensity. Extreme weather events have become more frequent over the past 40 to 50 years and this trend is projected to continue. Up to half of California's precipitation comes from a relatively small number of intense winter storms, which are expected to become more intense with climate change. For example, what is currently a 200-year storm, or one that has a 1 in 200 chance of occurring in a given year, by 2100 would increase in frequency by 40 to 50 years (to a 1 in 150/160 chance in a given year). This means that the 100-year and 500-year floodplains may expand, and the current floodplains may become 40- to 50-year floodplains (Santa County Barbara Planning and Development Department 2021). The frequency and intensity of heavy rainstorms are projected to increase, causing fluvial flooding along creeks, although overall annual precipitation levels are expected to increase only slightly. For discussion regarding the impacts of climate change on coastal flooding and sea level rise, refer to Section 5.2.9, *Sea Level Rise and Coastal Erosion*.

The effects of climate change have the potential to impact wildfire behavior, the frequency of ignitions, fire management, and fuel loads. Increasing temperatures may intensify wildfire threat and susceptibility to more frequent wildfires in the county (USDA and USGS 2009).

Research dating back to the 1930s and 1940s shows an association between debris-flow occurrence and recent wildfires in mountain watersheds, commonly referred to as the "fire and flood cycle." Much of the burned areas within and above the Carpinteria Valley are on steep, brush-covered slopes drained by equally steep, short channels which facilitate debris flow occurrence. As previously described, the increased potential of wildfire occurrence also escalates the risk of mudflows and debris flows in the period following a fire, when slopes lack vegetation to stabilize soils and burned soil surfaces create more rainfall runoff. Therefore, greater wildfire frequencies result in an increased likelihood of precipitation-induced debris-flow events in recently burned areas (USDA and USGS 2009).

**Figure 5-5. Santa Barbara County FEMA Flood Hazard Areas**

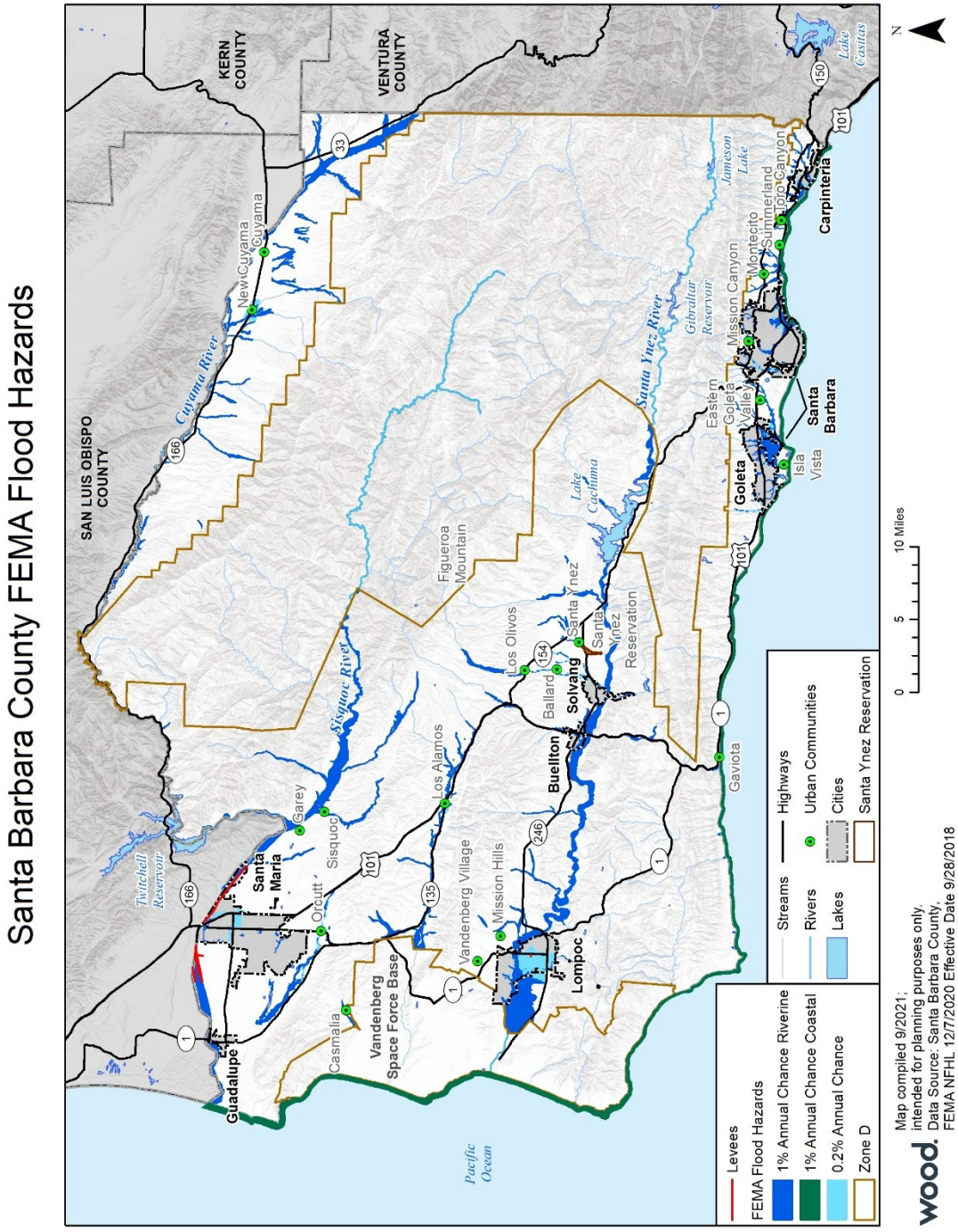
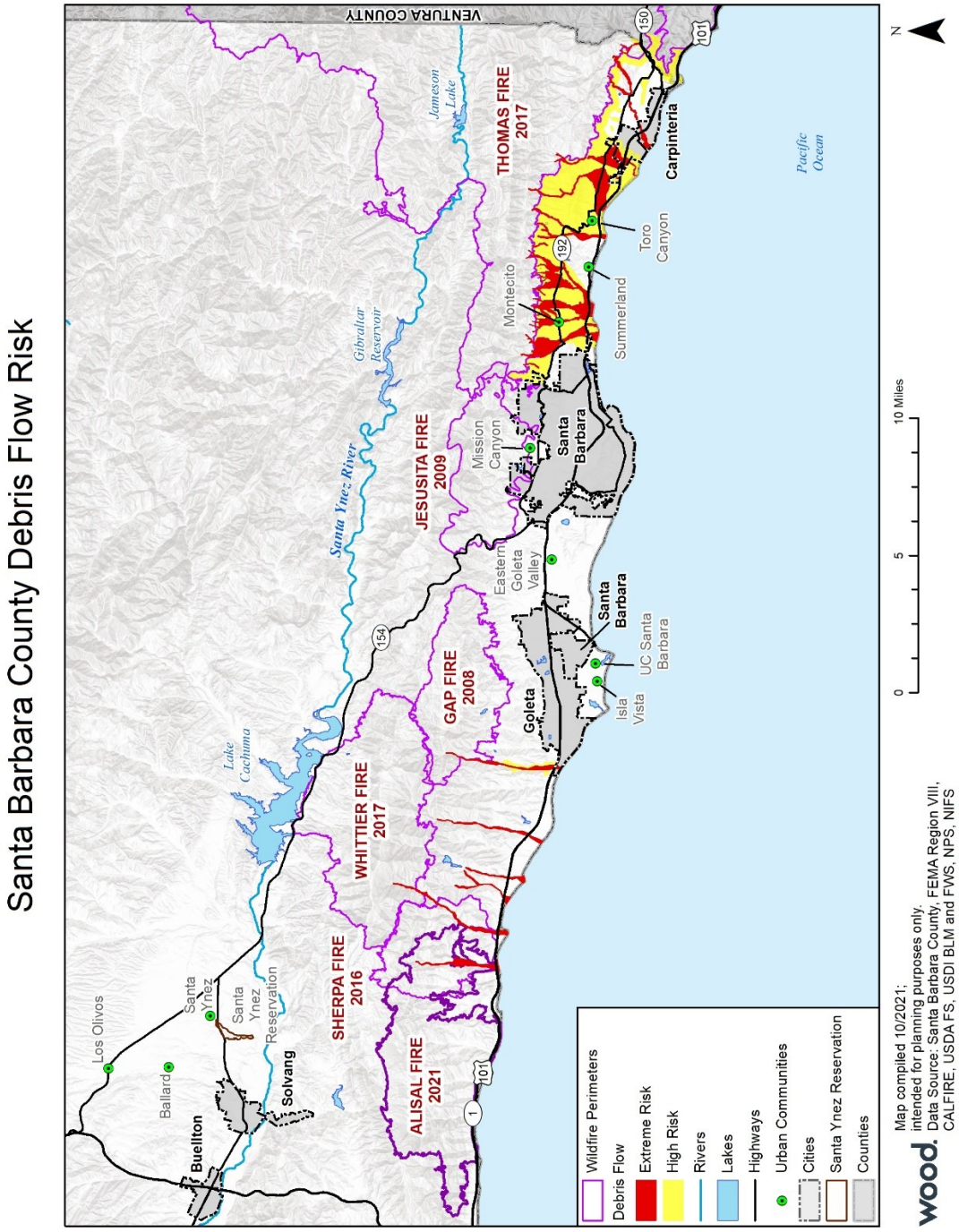


**Figure 5-6. Santa Barbara County Known Debris Flow Hazard Areas**



# 6. Vulnerability Assessment

The vulnerability assessment builds on the hazard assessment provided in Section 5, *Hazard Assessment* to estimate losses where data is available and consider a specific list of critical facilities identified by CVWD.

## 6.1. District Assets / Critical Facilities

The District operates a network of storage facilities, transmission and distribution lines, and several wells to provide water to its customers. In addition, there are several key facilities operated by the Cachuma Operations and Maintenance Board (COMB) that convey water from a regional water Source (Lake Cachuma) and State-wide water supplies (via California Department of Water Resources and the Central Coast Water Authority). This assessment only includes facilities with vital components owned by the District, or facilities that the District owns outright. The District identified 14 critical facilities to be included in the Vulnerability Assessment portion of the LHMP. Of the available data, it was shown that these facilities are worth approximately $174,900,000 (Table 6-1).

The LPT has identified the following key assets/facilities within the District:

**Table 6-1. CVWD Facilities and Costs**

| Facility | Year | Construction Cost* | Replacement Cost** |
|---|---|---|---|
| Shepard Mesa Tank | 1970 / 2006 | 244,867 | ~$1,000,000 |
| Gobernador Reservoir | 1954 / 2002 | 140,760 | ~$2,500,000 |
| Carpinteria Reservoir | 1954 / 2006 | 6,427,421 | ~$21,000,000 |
| Foothill Reservoir | 2008 | 11,810,936 | ~$15,000,000 |
| Headquarters Well | 2004 | 3,203,533 | ~$4,000,000 |
| El Carro Well | 1992 / 2013 | 3,795,778 | ~$4,000,000 |
| Smillie Well | 1976 / 2016 | 720,208 | ~$4,000,000 |
| Lyons Well | 1977 / 2007 | 595,922 | ~$4,000,000 |
| Shepard Mesa Pump station | 2013 | 85,672 | ~$500,000 |
| Lateral 30 Pump station | 1954 / 2007 | 32,220 | ~$1,000,000 |
| District Office / Yard | 1972 / 1988 | 529,802 | ~6,000,000 |
| Distribution system | various | 7,389,805 | ~81,000,000 |
| Meters / AMI infrastructure | 2017-22 | | |
| Water Supply | various | Varies | ~$2000/AF |
| TOTAL | | | $174,900,000 |

* Constructed and improvement costs as shown on District records
** Replacement cost estimates

This plan does not address NFIP insured structures within the District's jurisdiction that have been repetitively damaged by floods. Please see Section 4.2.3 of the 2022 MJHMP.

## 6.2. Description of District Vulnerabilities by Hazard

### 6.2.1. Earthquake

**Population Served:** 100% ~ 15,500 people

**Critical Facilities:** 100%

A large earthquake occurring in the Carpinteria area would leave most of the District's physical assets in jeopardy and could severely limit the District's ability to provide water for fire suppression and municipal needs. Repairs and restoration of water to all residents could take between 6 and 24 months, depending on earthquake severity. In addition to the loss of infrastructure, the District would lose significant revenue due to a lack of water sales, thereby restricting the District's ability to service debt, pay employees and conduct routine repairs.

### 6.2.2. Wildfire

**Population Served:** 3-5% ~ 500 to 800 people

**Critical Facilities:** Gobernador Reservoir; Shepard Mesa Tank; Shepard Mesa Pump Station; Foothill Reservoir (control building); Carpinteria Reservoir; Lateral 30 and 10 pump stations; meters and AMI equipment within the WUI.

The Thomas fire destroyed the electrical facilities at Gobernador Reservoir in December 2017. The roof of the reservoir is an asphalt shingle / wooden truss, making it vulnerable to fire. The Shepard Mesa pump station is located in an area of oaks and other mature trees. Shepard Mesa Tank – while elevated – could experience damage to control facilities at ground level and sustain damage to the metal supports. The control facility at Foothill Reservoir is located against a grassy slope but could experience heat damage to communications equipment and the backup diesel tank. The Carpinteria Reservoir was not damaged in the Thomas fire, however, there are structures and equipment that, given the right conditions, could have been burned. The District lost 2 new digital meters to the Thomas fire – at a cost of $1190.00.

### 6.2.3. Drought and Water Storage

**Population served:** 100% ~ 15,500 people

**Critical Facilities:** source of supply; HQ, Smillie, El Carro, and Lyons well.

During droughts conditions, the District relies on different mixes of available water than it would during normal operations. In the current drought, water available from the Cachuma project has been reduced and the District has relied heavily on groundwater extraction. This has contributed to a lowering of the water table throughout the Valley. If the drought persists, the District will reduce pumping capacity to avoid excessive drawdown and pump cavitation and begin relying on imported water through the Coastal Branch of the State Water Project.

### 6.2.4. Energy Shortage

**Population Served:** 100% ~ 15,500 people

Critical Infrastructure: System-wide

Presently, not all of the District's critical facilities have on-site backup generators to run wells and pumping equipment. The District has one portable generator that can be quickly pulled to the desired facility, most typically HQ well, however not all pumping facilities have required connectors or transfer switched.

### 6.2.5. Landslide

**Population Served:** 3-5% ~ 500 to 800 people

**Critical Facilities:** Shepard Mesa Tank; Carpinteria Reservoir; Foothill Reservoir; Lateral 10 pump-station; distribution system; meters and AMI infrastructure.

As noted above, the District has lost infrastructure due to landslides. With the Thomas Fire removing soil stabilizing vegetation in the foothills of the Valley, the District may expect to see additional landslide events, particularly during wet months.

### 6.2.6. Extreme Heat

**Population Served:** 100% ~ 15,500 people

**Critical Facilities:** water supply; HQ, Smillie, El Carro, and Lyons wells; Pumping Facilities; and communication infrastructure

During the summer months, the District already experiences days of very warm/hot temperatures. This leads to increased water use, primarily agricultural customers, and, in turn, can lead to decreases in stored water and the need to pump more groundwater or import water from the Cachuma project. More frequent extreme heat events will exacerbate this condition. In addition, the District currently does not use air conditioners to cool equipment at its well sites. The District currently has a heat issue at the El Carro well site, where a combination of enclosed space, southern exposure, and warm ambient air temperatures results in well motor temperatures and electrical equipment coming close to failure thresholds.

### 6.2.7. Cyber Attack

**Population Served:** 100% ~ 15,500 people

**Critical Facilities:** All

A cyberattack on District IT systems could have several adverse effects. Damage to computer systems could cause some facilities to malfunction, including District monitoring capabilities for critical facilities. Data stored for employees and customers could be breached and stolen. Additionally, remote access to the District's SCADA systems could result in manipulation of chemical levels at specific facilities. The District's financial security could also be damaged.

### 6.2.8. Dam Failure

**Population Served:** Bradbury Dam failure – 100% 15,500 people; Local reservoir failure – unknown

**Critical Facilities:** Carpinteria, Gobernador, and Foothill reservoirs

A failure at a local dam or debris basin could cause localized flooding that would occur with potentially little to no warning. Regional failures such as Bradbury or Lauro Dams could have the added impact of water supply loss for District customers.

### 6.2.9. Sea Level Rise and Coastal Erosion

**Population Served:** 1% - 3% ~150 – 500 people

**Critical Facilities:** distribution system; meters and AMI infrastructure, Local Groundwater Basin

In Carpinteria, development at sea level is located to the west of Linden Avenue. The District services numerous residences along Sandyland Road, Avenue Del Mar, Sand Point Road, and Padaro Lane. Many of these residences are vacation rentals. Sea level rise, along with storm

surges could inundate meter boxes and damage infrastructure in the short term. In the long term, the District may have to alter the distribution system should seawater intrusion become an issue.

#### 6.2.10. Flood and Debris Flow

**Population Served:** 30 - 40% 4,500 – 6,200 people

**Critical Facilities:** Gobernador Reservoir; Headquarters well; Smillie well; Lateral 10 pump-station; District Office and yard; distribution system; meters and AMI infrastructure

The District office and yard and HQ well border Santa Monica creek which passes beneath Via Real and Highway 101 via a channelized culvert. Debris blocking this culvert may back water up sufficiently to overflow the creek channel flooding the District yard and potentially disabling the HQ well. Smillie well is located adjacent to Carpinteria creek and the site could experience wash-out in a heavy rain event. The District has experienced one repetitive loss on a critical facility. The Lateral 10 pipeline extends over Arroyo Paradon and has been subject to two failures due to flooding. The most recent replacement cost the District $50,000.

## 7. Mitigations Strategies

In preparation for the 2022 LHMP update, the LPT made no revisions to the countywide goals and objectives because they continue to reflect the needs of the District; see also, Chapter 7.0, *Mitigation Plan* of the 2022 MJHMP. This section contains the CVWD's updated and most current mitigation strategy as of 2022.

### 7.1. Goals and Objectives

The City's LPT accepted and agreed to the following goals and objectives for the 2022 update. These goals and objectives represent a vision of long-term hazard reduction or enhancement of capabilities.

The updated goals and objectives of this plan are:

**Goal 1: Ensure future development is resilient to known hazards.**

**Objective 1.A:** Ensure development in known hazardous areas is limited or incorporates hazard-resistant design based on applicable plans, development standards, regulations, and programs.

**Objective 1.B:** Educate developers and decision-makers on design and construction techniques to minimize damage from hazards.

**Goal 2: Protect people and community assets from hazards, including critical facilities, infrastructure, water, and public facilities.**

**Objective 2.A:** Enhance the ability of community assets, particularly critical facilities, to withstand hazards.

**Objective 2.B:** Use the best available science and technology to better protect life and property.

**Objective 2.C:** Upgrade and replace aging critical facilities and infrastructure.

**Objective 2.D:** Ensure mitigation actions encompass vulnerable and disadvantaged communities to promote social equity.

**Goal 3: Actively promote understanding, support, and funding for hazard mitigation by participating agencies and the public.**

**Objective 3.A:** Engage, inform, and educate the public on tools and resources to improve community resilience to hazards, reduce vulnerability, and increase awareness and support of hazard mitigation activities.

**Objective 3.B:** Ensure effective outreach and communications to vulnerable and disadvantaged communities.

**Objective 3.C:** Increase awareness and encourage the incorporation of hazard mitigation principles and practice among public, private, and nonprofit sectors, including all participating agencies.

**Objective 3.D:** Ensure interagency coordination and joint partnerships with the County, cities, state, tribal, and federal governments.

**Objective 3.E:** Continuously improve the County's capability and efficiency at administering pre- and post-disaster mitigation programs, including providing technical support to cities and special districts and providing support for implementing local mitigation plans.

**Objective 3.F:** Monitor and publicize the effectiveness of mitigation actions implemented countywide.

**Objective 3.G:** Position the County and participating agencies to apply for and receive grant funding from FEMA and other sources.

**Goal 4: Minimize the risks to life and property associated with urban and human-caused hazards.**

**Objective 4.A:** Minimize risks from biological hazards, including disease, invasive species, and agricultural pests.

**Objective 4.B:** Be prepared and respond to urban hazards, including terrorism, cyber threats, and civil disturbance.

**Objective 4.C:** Minimize risks from energy production, including hazardous oil and gas activities.

**Goal 5: Prepare for, adapt to, and recover from, the impacts of climate change and ensure regional resiliency.**

**Objective 5.A:** Use the best available climate science to implement hazard mitigation strategies in response to climate change.

**Objective 5.B:** Identify, assess, and prepare for impacts of climate change.

**Objective 5.C:** Coordinate with the public, private, and nonprofit sectors to implement strategies to address regional hazards exacerbated by climate change.

**Objective 5.D:** Ensure climate change hazard mitigation addresses vulnerable and disadvantaged communities.

### 7.2. Status of Previous Mitigation Actions

The former LHMP was adopted in 2019. The following projects from the 2019 LHMP Mitigation Implementation Plan are not started, in progress, or complete.

Not started

- El Carro Well Generator Installation
- Headquarters Well Generator Installation
- Smillie Well Generator Installation
- Gobernador Reservoir Generator Installation

- Gobernador Reservoir Wood Roof Fireproofing
- Shepard Mesa Pump Station Fireproof Control Building
- Emergency UHF Radio Communication System
- Critical Inventory for pumping equipment (pump motors, valves, electrical controls)
- Wood Meter Box Replacement

In progress

- Gobernador Reservoir Control Structure Fireproof Building
    - CVWD developed plans for this project but there was no further action.
- Ventura/ Santa Barbara Counties Intertie Project
    - Project development is in initial stages.
- Recycled Water Indirect Potable Reuse Project
    - Project is in design and permitting phase
- Fire Hydrant Modification
    - CVWD applied for a grant to complete this project but the grant was denied. There was no further action on this project.

Complete

- Sentry Well Project
  Prolonged drought leading to depletion of the groundwater basin will lead to seawater intrusion. Once seawater advances into the basin, water can no longer be used or stored in that section of the basin. This project constructed monitoring wells along the coast to map seawater intrusion.
- Shepard Mesa Tank Generator or Solar Power System Installation
  Shepard Mesa Tank provides potable water for firefighting, property protection, and consumption for ~300 customers in the remote area of the Shepherd Mesa. During the December 2017 Thomas Fire the District experienced major long term power loss to water production and distribution facilities restricting its ability to provide water for firefighting and protection. A solar power system would provide a reliable emergency backup power source for this critical water storage and distribution facility. This will reduce the risk of power outages during emergencies.

### 7.3. Prioritization Process

A simplified Benefit-Cost Review was applied to prioritize the mitigation recommendations for implementation. The priority for implementing mitigation recommendations depends upon the overall cost-effectiveness of the recommendation when considering monetary and non-monetary costs and benefits associated with each action. Additionally, the following questions were considered when developing the Benefit-Cost Review:

- How many people will benefit from the action?
- How large an area is impacted?
- How critical are the facilities that benefit from the action?
- Environmentally, does it make sense to do this project for the overall community?

Table 7-1 provides a detailed benefit-cost review for each mitigation recommendation, as well as a relative priority rank (High, Medium, and Low) based upon the judgment of the Planning Team. The general category guidelines are listed below:

- High – Benefits are perceived to exceed costs without further study or evaluation
- Medium – Benefits are perceived to exceed costs but may require further study or evaluation

before implementation

- Low – Benefits and costs evaluation requires additional evaluation before implementation

**Table 7-1. Benefit-Cost Review Summary**

| Mitigation Activity | Benefits (Pros) | Costs (Cons) | Priority |
|---|---|---|---|
| 2022-1 - El Carro Well Generator Installation | Backup power source for emergencies; provides water for consumption and firefighting | $230,000 | High |
| 2022-2 - HQ Well Generator Installation | Backup power source for emergencies; provides water for consumption and firefighting | $180,000 | High |
| 2022-3 – Smillie Well Generator Installation | Backup power source for emergencies; provides water for consumption and firefighting | $50,000 | High |
| 2022-4 - Gobernador Reservoir Generator Installation | Backup power source for emergencies; provides water for consumption and firefighting | $50,000 | Medium |
| 2022-5 – Gobernador Reservoir Wood Roof Fireproofing | Protects water supply during wildfire | $900,000 | Medium |
| 2022-6 – Gobernador Reservoir Control Structure Fireproof Building | Protects water supply during wildfire | $60,000 | Medium |
| 2022-7 - Shepard Mesa Pump Station Fireproof Control building | Protects water supply during wildfire | $155,000 | Medium |
| 2022-8 - Emergency UHF radio communication system | Enables staff to maintain communication and control of remote facilities during emergency | $25,000 | Medium |
| 2022-9 - Critical Inventory for pumping equipment (e.g., pumps Motors, valves, electrical controls) | Enables staff to maintain equipment functionality during emergencies by avoiding supply chain issues and procurement delays | $171,000 | Low |

| Mitigation Activity | Benefits (Pros) | Costs (Cons) | Priority |
|---|---|---|---|
| 2022-10 - Ventura/Santa Barbara Counties Intertie Project | Increase water supply reliability despite increasing prolonged drought by creating a new physical water supply connection | $15,000,000 | High |
| 2022-11 - Carpinteria Advanced Purification Project (CAPP) | Increase groundwater water supply reliability despite increasing prolonged drought by reclaiming and injecting water | $32,000,000 | High |
| 2022-13 - Wood Meter Box Replacement | Protect customer meters from wildfire | $300,000 | Low |
| 2022-14 - AVAR project | Protect physical water connection to main source of surface water supply | $1,500,000 ($1M funded, $500k needed) | Medium |

### 7.4. Implementation Strategy

The following projects have been identified by District staff as being critical to meeting hazard mitigation goals in the near term. District staff, including the Operations Manager, District Engineer, Assistant General Manager, and General Manager will prioritize the implementation of these projects based on needs assessments and a determination of financial resources. Financing will come from a mix of grants, financial-market lending, and rates and charges.

In addition, the District will work to coordinate the implementation of these projects with other local agencies, including the Cachuma Operations and Maintenance Board, Montecito Water District, Carpinteria Sanitary District, City of Carpinteria, and County of Santa Barbara where appropriate. The District regularly participates in planning and development processes with these various agencies and will continue to do so in the future to ensure compliance and implementation goals. The District is already participating in the County's Integrated Regional Water Management Program (IRWMP) to secure partnerships in implementing some projects.

## 2022-1. El Carro Well Generator Installation

During the December 2017 Thomas Fire, the CVWD experienced major long-term (5 days) power loss to this critical water production and treatment facility restricting the district's ability to provide water for firefighting, property protection, and consumption. El Carro well produces 45% of the district's groundwater production and serves ~6000 customers.

This project would provide a means to procure and install a 200kw emergency backup generator for the El Carro Well & Treatment Plant. Funding of this project will cover the costs associated with all permitting, engineering, procurement, and installation of a 200kw emergency backup power generator and automatic

transfer switch. The district has received preliminary pricing quotes and is in the beginning stages of the permitting process with the Santa Barbara County Air Pollution Control District. Because of the proximity to a school special noise reduction and exhaust particulate filtration systems are required for this facility.

| Mitigation Priority and Performance | |
|---|---|
| Priority | High |
| Hazards Mitigated | Wildfire, Energy Shortage |
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $230,000/ FEMA & General Funds |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 1 included as part of the 2018 LHMP. |

## 2022-2. HQ Well Generator Installation

During the December 2017 Thomas Fire, the CVWD experienced major long-term (5 days) power loss to this critical water production and treatment facility restricting the district's ability to provide water for firefighting, property protection, and consumption. Headquarters well produces 55% of the district's groundwater and serves ~8500 customers.

This project would provide a means to procure and install a 300kw emergency backup generator for the Headquarters Well & Treatment Plant. Funding of this project will cover the costs associated with all permitting, engineering, procurement, and installation of a 300kw emergency backup power generator and automatic transfer switch. The district has received preliminary pricing quotes and is in the beginning stages of the permitting process with the Santa Barbara County Air Pollution Control District.

| Mitigation Priority and Performance | |
|---|---|
| Priority | High |
| Hazards Mitigated | Wildfire, Energy Shortage |
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $180,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 2 included as part of the 2018 LHMP. |

## 2022-3. Smillie Well Generator Installation

During the December 2017 Thomas Fire, CVWD experienced major long-term power loss (about 5 days) to this critical water production and treatment facility restricting the district's ability to provide water for firefighting, property protection, and consumption. Smillie well produces 55% of the district's groundwater production and serves ~1500 customers.

This project would provide a means to procure and install a 100kw emergency backup generator for the Smillie Well & Treatment Plant. Funding of this project will cover the costs associated with all permitting, engineering, procurement, and installation of a 100kw emergency backup power generator and automatic transfer switch. The district has received preliminary pricing quotes and is in the beginning stages of the permitting process with the Santa Barbara County Air Pollution Control District.

| Mitigation Priority and Performance | |
|---|---|
| Priority | High |
| Hazards Mitigated | Wildfire, Energy Shortage |
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $50,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 3 included as part of the 2018 LHMP. |

## 2022-4. Gobernador Reservoir Generator Installation

During the December 2017 Thomas Fire, CVWD experienced major long-term power loss to Gobernador production and distribution facilities restricting the district's ability to provide water for firefighting and property protection. Gobernador reservoir is potable water storage and distribution facility which is the only source of storage for the remote area of Gobernador Canyon. This facility has a storage capacity of 500,000 gallons for firefighting, property protection, and consumption to 300 customers.

This project would reduce or eliminate power outages during wildfire and provide reliable emergency backup power for this critical water storage and distribution facility.

This project would provide fund procurement and installation of an emergency backup generator for this water production and treatment facility. Funding of this project will cover the costs associated with all permitting, engineering, procurement, and installation costs of an emergency backup power generator and automatic transfer switch. The District has received preliminary pricing quotes and is in the beginning stages of the permitting process with the Santa Barbara County Air Pollution Control District.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Wildfire, Energy Shortage |

| Mitigation Priority and Performance | |
|---|---|
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $50,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 4 included as part of the 2018 LHMP. |

## 2022-5. Gobernador Reservoir Wood Roof Fireproofing

During the December 2017 Thomas Fire the Carpinteria Valley Water District experienced fire damage to Gobernador Reservoir which is instrumental for fire protection and daily water supply to Gobernador Canyon. Gobernador reservoir is 500,000-gallon water storage and distribution facility serving ~500 customers. The fire melted all controls and communications to the reservoir. As a result, CVWD was unable to operate the reservoir.

This project would fund all necessary permits along with the necessary engineering and design procurement and installation of a fireproof roof for this reservoir to protect water quality and maintain a supply of water for firefighting needs.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Wildfire |
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $900,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 6 included as part of the 2018 LHMP. |

## 2022-6. Gobernador Reservoir Control Structure Fireproof Building

During the December 2017 Thomas Fire the Carpinteria Valley Water District experienced fire damage to Gobernador Reservoir which is instrumental for fire protection and daily water supply to Gobernador Canyon. Gobernador reservoir is 500,000-gallon water storage and distribution facility serving ~500

customers. The fire melted all controls and communications to the reservoir. As a result, CVWD was unable to operate the reservoir.

This project would protect the communications and control equipment at Gobernador Reservoir from wildfire. This project would provide funding for all engineering, design, and installation costs for the construction of a fireproof cement block building to prevent repeated wildfire damage to the control system and water quality monitoring equipment located at this facility. Construction would consist of relocation of the main electrical service and relocation to a newly constructed cement block building which would house the main electrical panel, PLC and controls, SCADA communication equipment, and chlorine residual monitoring equipment. It would also protect a proposed new emergency backup generator.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Wildfire |
| Estimated Timeline | 12 months |
| Estimated Cost/Funding Source | $60,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 7 included as part of the 2018 LHMP. |

## 2022-7. Shepard Mesa Pump Station Fireproof Control building

During the December 2017 Thomas Fire, CVWD experienced fire damage around the Shepard Mesa Pump Station. This pump station supplies water to a 50,000-gallon reservoir that provides fire protection and potable water for consumption to ~300 customers.

This project would protect this critical water supply from wildfire damage. This project would provide funding for all permitting fees, engineering & design requirements, and construction costs for the construction of a fireproof building to protect the pumping, controls, and emergency generator from wildfire damage.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Wildfire |
| Estimated Timeline | 18 months |
| Estimated Cost/Funding Source | $155,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards. |

| Mitigation Priority and Performance | |
|---|---|
| | Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 8 included as part of the 2018 LHMP. |

## 2022-8. Emergency UHF radio communication system

During disaster events like earthquakes, the cellular communication towers become overloaded and communication to CVWD field staff is lost because cell phones are their primary form of communication.

This project would provide funding for the procurement and installation of a UHF radio communication system for field communications during a natural disaster. This would create a redundant method of communication (between CVWD staff and with emergency services) during an emergency.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Wildfire, Earthquake, Flood |
| Estimated Timeline | 6 months |
| Estimated Cost/Funding Source | $25,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards<br>Objective 2.C: Use best available science and technology to better protect life and property |
| Comments | This project was adapted from 2018-CVWD 9 included as part of the 2018 LHMP. |

## 2022-9. Critical Inventory for pumping equipment (e.g., pumps Motors, valves, electrical controls)

When equipment fails and CVWD does not have replacement parts readily available, CVWD can experience extended equipment downtime which impacts CVWD's ability to serve customers. This is especially problematic during disasters.

This project proposes creating an inventory of critical spare parts for CVWD's wells, pump stations, and reservoirs. For some parts with limited warranties or other restrictions, CVWD will develop relationships with vendors to keep parts on hand so CVWD can quickly procure parts when necessary. These systems would enable rapid repair of critical infrastructure (during a disaster or otherwise) by creating quick access to necessary parts and avoiding long lead time and supply chain issues that delay the repair.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Low |
| Hazards Mitigated | Wildfire, Earthquake, Flood |
| Estimated Timeline | 12 months |
| Estimated Cost/Funding Source | $171,000/ FEMA funding and General funding |

| Mitigation Priority and Performance | |
|---|---|
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 5: Prepare to adapt and recover from the impacts of climate change and ensure regional resiliency.<br>Objective 5.B: Identify, assess, and prepare for impacts of climate change. |
| Comments | This project was adapted from 2018-CVWD 10 included as part of the 2018 LHMP. |

## 2022-10. Ventura/Santa Barbara Counties Intertie Project

The South Coast Conduit (SCC) transports all surface water supplies for the South Coast of SB County. If the SCC were damaged by wildfire, flood, debris flow etc., CVWD would lose access to all imported water supplies. CVWD would only have access to limited groundwater supplies.

This project would connect two completely independent water conveyance systems through a two-mile-long 16-inch diameter intertie pipeline with a pump station and some minor water treatment. This would allow water to be moved into Santa Barbara County from the east if the South Coast Conduit were down and would allow water to move west into Ventura County if there were a water shortage there.

The Casitas Water District, Carpinteria Water District, Central Coast Water Authority, Cachuma Member units are working together on this project.

Preliminary design and CEQA are complete. The final design will be complete in 2022.

| Mitigation Priority and Performance | |
|---|---|
| Priority | High |
| Hazards Mitigated | Wildfire, earthquake, flood, landslide |
| Estimated Timeline | 24 months |
| Estimated Cost/Funding Source | $15 million from ASADRA and FEMA funds |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 11 included as part of the 2018 LHMP. |

## 2022-11. Carpinteria Advanced Purification Project (CAPP)

Prolonged drought leads to water shortages and potentially supply interruptions causing widespread water shortages in Southern Santa Barbra County. Existing documents like the GWR (Recycled Water) Facility study and the Hazard Mitigation Plan provide additional detail about this hazard.

CVWD proposes to construct an Advanced Water Treatment Plant to create a local, drought-resistant water supply that can be used during prolonged droughts and water supply shortages. This project will provide a means to reclaim water that is being discharged to the ocean clean it to an ultra-pure level and store it in

the local groundwater basin for use during extended dry periods or to replenish the groundwater basin, as necessary.

The Advanced Water Treatment Plant with (MFRO) would be located at the existing Carpinteria wastewater treatment plant and include 1.5 miles of 12-inch pipeline with 2 Injection well sites. The preliminary design is complete including facilities and feasibility studies, injection site analysis, CEQA report, and preliminary engineering.

| Mitigation Priority and Performance | |
|---|---|
| Priority | High |
| Hazards Mitigated | Drought, Earthquake |
| Estimated Timeline | 24 – 36 months |
| Estimated Cost/Funding Source | $32 Million from Clean Water SRF loans, Title 16, USBR grants, as well as other State grants and general funds |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 5: Prepare to adapt and recover from the impacts of climate change and ensure regional resiliency.<br>Objective 5.A: Use the latest climate science to implement hazard mitigation strategies in response to climate change. |
| Comments | This project was adapted from 2018-CVWD 12 included as part of the 2018 LHMP, formerly called the Recycled Water Indirect Potable Reuse Project |

## 2022-12. Wood Meter Box Replacement

During the Thomas Fire, CVWD lost several meters due to wood meter boxes catching fire.

CVWD will replace existing wood meter boxes with fire-retardant boxes. This will protect meters from fire by preventing the meter box from igniting.

CVWD will identify the number and size of meter boxes to replace.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Low |
| Hazards Mitigated | Wildfire |
| Estimated Timeline | 8 months |
| Estimated Cost/Funding Source | $300,000/ FEMA funding and General funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | This project was adapted from 2018-CVWD 14 included as part of the 2018 LHMP |

## 2022-13. AVAR Project

The South Coast Conduit (SCC) transports all surface water supplies for the South Coast of SB County. If the SCC were damaged by wildfire, flood, debris flow, etc., CVWD would lose access to all imported water supplies. CVWD would only have access to limited groundwater supplies.

This project would retrofit CVWD's connection to the SCC and its distribution system. This would enable CVWD to maintain service if the SCC failed by isolating parts of the distribution system.

| Mitigation Priority and Performance | |
|---|---|
| Priority | Medium |
| Hazards Mitigated | Flood |
| Estimated Timeline | 24 months |
| Estimated Cost/Funding Source | $1.5 million/ $1 million is funded. $500k is needed via FEMA funding |
| Responsible Agency/Department | CVWD |
| Relevant Objectives | Goal 2: Protect people and existing community assets (e.g., critical facilities, infrastructure, water, and public facilities) from hazards.<br>Objective 2.B: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.<br>Objective 2.D: Upgrade and replace aging critical facilities and infrastructure. |
| Comments | |

# 8. Plan Maintenance

## 8.1. Progress

The CVWD and its departments have been continually implementing mitigation actions and monitoring their effectiveness since the last update of the LHMP in 2019. Some projects from 2019 were completed successfully, while others are ongoing or still pending. This section sets forth the intended process for monitoring and maintaining the 2022 LHMP.

## 8.2. Plan Review, Maintenance, and Updates

The District's LHMP will be reviewed by District staff annually. This plan will be re-evaluated whenever a significant hazard-related event occurs within the District's service area or should critical facilities operated by partnering agencies be affected by hazards. In addition, the plan and projects identified will be incorporated into annual budgeting and capital expenditures planning.

LHMP updates will be undertaken in the following manner:

- Analysis and risk assessment of hazards;
- Review and revise plan goals and objectives;
- Review and revise mitigation strategies;
- Prepare and disseminate draft plan to the update committee and Board of Directors;
- Submit the plan to Cal OES / FEMA and local agencies for review and comment;
- Submit revised draft plan for review by the Board of Directors;
- Submit the final HMP to FEMA for approval.

The final approved LHMP will be posted on the District's website along with contact information. As part of the budget process, the District will take the opportunity to advance its preferred implementation strategies and invite public comment.

### 8.3. Point of Contact

Comments or suggestions regarding this plan may be submitted at any time to Maso Motlow, Management Analyst using the following information:

Maso Motlow, Management Analyst
Carpinteria Valley Water District
1301 Santa Ynez Avenue
Carpinteria, CA 93013
Maso@cvwd.net
805-684-2816 Ext. 108

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# Temporary Policy: Water Intensification Fee for Land Use Changes

## Context

Water Years 2020 and 2021 were California's fifth and second driest years, respectively based on statewide runoff. As a result, the State issued drought proclamations for Santa Barbara County in July of 2021. This two-year dry period continues the theme of aridity California has been experiencing in the 21st century, including the droughts of 2007-2009, 2012-2016, and 2018. Water Year 2017 was California's second wettest in terms of statewide precipitation Water Year 2019 was modestly above normal. California's hydrologic conditions are increasingly resembling those that have been experienced in the Colorado River Basin this century, where predominantly dry conditions are interspersed with an occasional wet year.[1]

As a result of the persistent drought conditions, the District's allocation of water from Lake Cachuma and the State Water Project has repeatedly been cutback with some years where water supply from these projects were nearly zero. To compensate, the District's Groundwater has been depleted to historically low levels. Additionally, historic demand for water in Carpinteria Valley may increase in the future for several reasons: 1) the new Accessory Dwelling Unity law and new Regional Housing Needs Allocations set forth by the State, 2) the Sustainable Groundwater Management, and 3) persistent dry conditions.

To manage supply and demand in the face of severe drought, the District's Board of Directors approved Ordinance 21-1 declaring a Stage 2 Drought Condition on October 13, 2021. The Stage 2 declaration is in response to California and County of Santa Barbara drought emergency declarations issued in July 2021. The Stage 2 Conditions require customers to reduce water usage by 20% or pay for steeper water bills. It is questionable to bring on new water demand without a plan to offset it during drought conditions.

## Water Use Intensification Fee Policy

The purpose of the Water Use Intensification Fee is to cover the cost of supplemental water the District will need to purchase to meet the additional water demand resulting from a change in land use on a parcel or parcels within the District. In drought years, especially periods of extended drought, the District may ask existing customers to cut back their water use, and it may need to purchase supplemental supplies to ensure sufficient supply is available to serve customers, depending on the severity of the shortages. Land use changes including new development, changes in agriculture, and similar actions that intensify the water use of an existing parcel will increase the amount of

[1] Water Year 2021: An Extreme Year, California Department of Water resources. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Publications-And-Reports/091521-Water-Year-2021-broch_v2.pdf

supplemental water the district must purchase to meet its customer's water needs and ensure supply reliability in drought conditions. This policy describes the District's methodology for calculating the Intensification fee.

## *Temporary policy for water intensification*

The District is currently developing a Water Allocation Program. When complete, the Allocation Program will provide a water budget for each parcel within the District. These budgets will inform the District's demand management efforts, its analysis of supply reliability and therefore, its ability to approve Intent to Serve letters for land use changes that intensify existing water use. Until the Allocation Program is complete, the District will use this Temporary Intensification Fee Policy to respond to requests for Intent to Serve letters within the District. When the allocation program is completed this policy may be incorporated or replaced by a new policy with in the allocation program.

## *Request for water service (updated process)*

**Actions within the District's service area that require a development permit or conditional use permit must obtain a Letter of Intent to Serve from the District** before the County of Santa Barbara or City of Carpinteria (Land Use Agency) will approve their permit application. The Letter of Intent to Serve is confirmation that the District has sufficient water to accommodate the change in land use. Due to existing drought conditions, it is not a given that the District will have sufficient water for new uses. The District must make this determination on a case by case basis.

To obtain a letter of Intent to Serve, the applicant must provide all required documentation.

Applicants for **minor changes** like tenant improvements to residential parcels, changes in type of commercial business, and single accessory dwelling unit additions must submit the Letter of Intent to Serve Form to the District (available on the District's website)[2]. These minor changes are unlikely to incur the Intensification Fee. Applicants may see "no comment" from the District on the Letter of Intent to Serve.

Applicants for **significant changes** like housing developments, changes in commercial agricultural operations, and any request for new meters or increases in meter size must do the following.

1) Submit the Letter of Intent to Serve Form to the District and
2) complete the supplemental worksheets described in the Form. For example, the Form states that proposed housing developments must complete the Sample Water Efficient Landscape Worksheet.[3] In the worksheet, the applicant must describe **both** landscaping for individual units and common area landscaping, if applicable. The required documentation will vary by proposed land use as stated in the Intent to Serve Form.

The District will respond to the applicant's request within one month of receiving all required information. The response will include the District's determination of whether it can issue the intent to

[2] CVWD website with information on Letter of Intent to Serve https://cvwd.net/about/engage/doing-business/engineering/

[3] Santa Barbara County Water Efficient Landscape Ordinance. Appendix B. https://www.countyofsb.org/uploadedFiles/plndev/Content/Permitting/Water%20Efficient%20Landscape%20Ordinance%20Supplement%20Landscape%20Documentation.pdf

serve letter, whether the application will intensify water use on the existing parcel, quantification of the intensification in acre-feet per year, and the resulting Intensification Fee. Once the applicant pays the Intensification fee, the District may issue the Intent to Serve letter.

## *Fee calculation methodology*

Until the Allocation Program is complete and the District calculates an allocation for each parcel, under this Water Intensification Fee policy, each parcel requesting service or intent to serve will undergo an individual analysis. This analysis will determine whether the application will intensify water use on the existing parcel, quantification of the intensification in acre-feet per year, and the resulting Intensification Fee. This analysis is based on three components.

1. The intensification in water use (acre-feet/year) resulting from the change in land use, request for additional meters, or increase in meter size.
2. The number of drought years CVWD needs to purchase supplemental water.
3. The cost of supplemental water ($/ acre-foot).

The fee is equal to the water use intensification times the number of shortage years times the average cost per acre foot of supplemental water.

$$Fee\ (\$) = Water\ use\ intensification\ \left(\frac{AF}{Yr}\right) x\ Shortage\ years\ (Yrs)$$
$$x\ Average\ cost\ of\ supplemental\ water\ \left(\frac{\$}{AF}\right)$$

## *Intensification of water use*

When an applicant proposes changing the characteristics of a parcel served by the District this change may intensify the water use of the parcel. The District follows several steps to determine whether a proposed land use change will intensify the water use of a parcel, and by how much.

### Water demand of existing land use

First, the District determines the existing water demand and a reasonable allocation for the parcel. This is based on the greater of two factors, 1) the average annual historical water consumption over the last 5 years and 2) the expected water demand of the parcel based on the existing land use, number of meters, and meter size. Average annual consumption is based on the District's historical billing data and estimates of well pumping. Expected water demand is determined using either a reference parcel within the District's service area, or land use factors.

The District considers both methods because it is important to determine the parcel's potential water use, not just its historical use. If the parcel is agricultural, but the land is fallowed for several years, the potential water use of the parcel will be greater than its current water use. The potential water use is based on the amount of water the parcel would use if it were not fallow given the existing meters on the parcel. For another example, a residential property may have been vacant for the last year while the property was sold. Therefore, the water use over the last year will not reflect the reasonable potential water use of the property.

If the District has a reference account that matches the characteristics of the existing property, then the District can use this reference account to determine the potential water use of the property. However, if no appropriate reference property exists then, the District can calculate

the potential water use of the property using known crop factors and industry standard indoor and outdoor water use calculation techniques.

### Water demand of proposed land use

Next, the District determines the potential water demand of the proposed land use. The District employs two methods which indicate a range of potential demand. The first method is to use land use factors and industry standard formulas for determining indoor and outdoor water use. The second method is to use a reference account that matches the characteristics of the proposed land use.

### Compare change in water demand

The District compares the water demand of the existing land use to the water demand of the proposed land use to determine the change in demand (i.e. intensification). The District will take the average of the minimum and maximum values. If this value is positive, the District will conclude the change in land use results in an intensification in water use and proceed with the fee assessment. However, if this value is less than or equal to zero, the District will conclude that the proposed change in land use does not increase the water demand of the site.

## *Supplemental water purchases*

The District is likely to ask existing customers cut back water use and purchase supplemental water in drought years. Drought years are defined as years where the volume of storage in Lake Cachuma falls below 100,000 acre-feet. The Cachuma member agencies' have typically taken reductions in deliveries when the lake falls below this level. Therefore, this is a commonly accepted method of defining shortage (i.e., drought) conditions. The District has data on the actual monitored level of Lake Cachuma between 1999 and present from the Cachuma Operation and Maintenance Board (COMB). Prior to 1999, the District uses modeled data on Cachuma lake levels produced by the Santa Ynez River Model that is commonly used for assessments of Lake Cachuma.

The District uses these data to determine the number of drought years in the most recent 20 year period. This is a common timeframe for water management purposes. The District's Urban Water Management Plan projects supply and demand through 2045 (18 years). Additionally, the Sustainable Groundwater Management Act uses a 20-year timeframe for achieving groundwater sustainability. There have been 11 years between 2001 and 2021 where Lake Cachuma levels were below 100,000 AF of storage on October 1. This means that 11 out of the last 20 years cutbacks were warranted and purchases of supplemental water were triggered. This means in 11 of the next 20 years the increase in demand of a project (intensification) will incrementally add to the shortage during those years.

## *Cost of supplemental water*

The cost per acre-foot of supplemental water varies based on the source of supplemental water, drought conditions, and competition in the market. This analysis uses an average cost per acre foot based on the highest and lowest cost options typically available to the District. Desalinated water is typically the most expensive source available and purchase of State Water Project Water from other agencies is typically the least expensive source. These costs have ranged from $1000 to $3000 per acre foot.

# AGENDA
# RATE AND BUDGET COMMITTEE

**April 11, 2022 at 12:15 p.m.**

**Tele-Meeting**



**Join Zoom Meeting**

**https://us06web.zoom.us/j/85423488963?pwd=YndRQit4cjhMYjFacU44aERwR0JKdz09**

**Meeting ID: 854 2348 8963**
**Passcode: 276319**

**THE CARPINTERIA VALLEY WATER DISTRICT HAS DETERMINED THIS MEETING TO BE AN ESSENTIAL PUBLIC MEETING THAT WILL BE CONDUCTED PURSUANT TO THE PROVISIONS OF THE GOVERNOR'S EXECUTIVE ORDERS N-29-20 AND N-33-20 AND AB361 AND SANTA BARBARA COUNTY HEALTH OFFICER'S ORDER**

In response to the spread of the COVID-19 virus, Governor Newsom has temporarily suspended the requirement for local agencies to provide a physical location from which members of the public can observe and offer public comment and has ordered all Californians to stay home except as needed to maintain continuity of operations of certain critical infrastructure.

**To minimize the potential spread of the COVID-19 virus, the Carpinteria Valley Water District is not permitting public access to the City Council Chamber and Boardroom for this meeting**. Instead, you are strongly encouraged provide the Board with public comment in one of the following ways:

1. Submitting a Written Comment. If you wish to submit a written comment, please email your comment to the Board Secretary at Public_Comment@cvwd.net **by 11:00 A.M. on the day of the meeting**. Please limit your comments to 250 words. Every effort will be made to read your comment into the record, but some comments may not be read due to time limitations.

2. Providing Verbal Comment Telephonically. If you wish to make either a general public comment or to comment on a specific agenda item as it is being heard please send an email to the Board Secretary at Public_Comment@cvwd.net **by 11:00 A.M. on the day of the meeting** and include the following information in your email: (a) meeting date, (b) agenda item number, (c) subject or title of the item, (d) your full name, (e) your call back number including area code. During public comment on the agenda item specified in your email, District staff will make every effort to contact you via your provided telephone number so that you can provide public comment to the Board electronically.

Please note the President has the discretion to limit the speaker's time for any meeting or agenda matter. Since this is an evolving COVID-19 situation, CVWD will provide updates to any changes to this policy as soon as possible. The public is referred to the website at www.cvwd.net. Thank you in advance for taking all precautions to prevent spreading the COVID-19 virus.

**I. CALL TO ORDER**

**II. PUBLIC FORUM** (Any person may address the Rate & Budget Committee on any matter within its jurisdiction which is not on the agenda)

**III. OLD BUSINESS** -none

**IV. NEW BUSINESS.**

**A. Fiscal Year 22/23 Water Rates Presentation by Raftelis.**

**B. Review Proposed Fiscal Year 22/23 Operating & Capital Expenditures.**

**V. ADJOURNMENT**.

Robert McDonald, Board Secretary

Note: The above Agenda was posted at Carpinteria Valley Water District Administrative Office in view of the public no later than 12:15 p.m., April 8, 2022. The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied benefits of, the District's programs, services, or activities because of any disability. If you need special assistance to participate in this meeting, please contact the District Office at (805) 684-2816. Notification at least twenty-four (24) hours prior to the meeting will enable the District to make appropriate arrangements.

Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the Carpinteria Valley Water district offices located at 1301 Santa Ynez Avenue, Carpinteria during normal business hours, from 8 am to 5 pm.

**Indicates attachment of document to agenda packet.