



AGENDA

Regular City Council Meeting

and Successor Agency to the Former
Redevelopment Agency

Tuesday, January 19, 2021, 6:00 p.m.

Via Zoom Webinar

www.cityofwasco.org

IMPORTANT NOTICE REGARDING JANUARY 19, 2021 COUNCIL MEETING

This meeting is being conducted utilizing teleconferencing, and electronic means consistent with Executive Order N-29-20, Issued by Governor Gavin Newsom on March 17, 2020, and, to the extent applicable, Government Code Section 54953(b) in-person participation by the public will not be permitted. No physical location from which the public may observe the meeting will be available. Remote public participation is allowed in the following ways via Zoom Webinar; please see the instruction below:

Listen to the meeting live via zoom

Member of the public may participate in the meeting by joining the Zoom Webinar via PC, Mac, iPad, iPhone, or Android device using the URL:

<https://us02web.zoom.us/j/88592541890>

Listen to the meeting live via telephone

The public may participate via phone only (without a computer/ smart device) by dialing the below numbers:

Dial Number: 1-669-900-9128

Meeting ID: 885 9254 1890

ALL PARTICIPANTS WILL BE MUTED AUTOMATICALLY UPON ENTERING THE MEETING. THE CITY CLERK WILL UNMUTE THOSE WHO WISH TO SPEAK AT APPROPRIATE TIME. PLEASE KEEP YOURSELF ON MUTE WHEN NOT SPEAKING. SPEAKERS ARE LIMITED TO TWO (2) MINUTES.

Verbal Participation using Zoom

Please use the "Raise Hand" button to request to speak. Raised hands will only be acknowledged during the Public Hearing and Public Comment sections of the agenda and when the Meeting's presiding officer requests public comments.

Verbal Participation over the phone

Please dial *9 to "raise your hand" to request to speak. Raised hands will only be acknowledged during the Public Hearing and Public Comment sections of the agenda and when the Meeting's presiding officer requests public comments. Please be advised you will be called on by the phone number you are calling from.

Submitting written comments:

You can also submit your comments via email to cityclerk@cityofwasco.org; such email comments must be identified by adding the Agenda Item Number in the email's subject line. Every effort will be made to read your comment into the record; however, they are limited to two (2) minutes. If a comment is received after the agenda item is heard but before the meeting is adjourned, the comment will still be included as a part of the record of the meeting but will not be read into the record.

American Disability Act Accommodations:

Meetings are accessible to people with disabilities. Requests in advance of the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting and its materials. Individuals who need special assistance or a disability-related modification or accommodation to participate in this meeting or who have a disability and wish to request an alternative format for the meeting materials should contact the City Clerk at cityclerk@cityofwasco.org or call 661-758-7203. Every attempt will be made to swiftly address each request. (28 CFR 35.102–35.104 ADA Title II)

Submitting written comments:

You can also submit your comments via email to cityclerk@cityofwasco.org; such email comments must be identified by adding the Agenda Item Number in the email's subject line. Every effort will be made to read your comment into the record; however, they are limited to two (2) minutes. If a comment is received after the agenda item is heard but before the meeting is adjourned, the comment will still be included as a part of the record of the meeting but will not be read into the record.

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REGULAR MEETING – 6:00 p.m.

- 1) **CALL TO ORDER:** Mayor
- 2) **FLAG SALUTE:** Mayor
- 3) **INVOCATION:**
- 4) **ROLL CALL:** Mayor Garcia, Mayor Pro Tem Reyna, Council Member Cortez, Martinez, Pallares
- 5) **PRESENTATIONS:**
 - a. Pedro Ramirez-Recognition for the Years of Service and Dedication to the Community as a Planning Commissioner.
 - b. Vickie Hight- Recognition for the Years of Service and Dedication to the Community as the Wasco Parks and Recreation District Manager.
- 6) **PUBLIC COMMENTS: (PLEASE REFER TO THE INSTRUCTION PAGE FOR MORE INFORMATION)**

This portion of the meeting is reserved for persons desiring to address the Council and including the Council acting as the Governing Board for the Successor Agency on any matter not on this agenda and over which the Council and Successor Agency has jurisdiction. Speakers are limited to two (2) minutes. Please state your name for the record before making your presentation.

The City Council is very interested in your comments; however, no action may be taken at this meeting due to Brown Act requirements. Should your comments require further consideration by the City Council or the Successor Agency, the item will be agendized for a report and discussed at a future City Council meeting.
- 7) **SUCCESSOR AGENCY BUSINESS: None**
- 8) **WASCO PUBLIC FINANCE AUTHORITY BUSINESS: None**

CITY COUNCIL BUSINESS:

- 9) **CONSENT CALENDAR:**

The Consent Calendar consists of items that, in staff's opinion, are routine and non-controversial. These items are approved in one motion unless a Council Member or member of the public requests removal of a particular item.

 - a. Approval of Minutes for December 15, 2020, Special Meeting, and December 15, 2020, Regular Meeting.
 - b. Receive and file department payments totaling \$ 987,384.41
 - c. Receive and File the Investment Report for the month ended December 31, 2020
 - d. Adopt a Resolution of the City Council Adopting Volume 1 of the Kern County Multi-Jurisdictional Hazard Mitigation Plan and the City of Wasco's Annex Hazard Mitigation Plan.

- e. Approval of the Acceptance of the Finance and Planning Annex Shade Structure Project and Authorization for the City Clerk to file the Notice of Completion.
- f. Adopt a Resolution to Authorize the City Manager to enter into a three-year Agreement with Adams Ashby Group Inc., to perform all annual monitoring tasks as required by HOME for an amount not to exceed \$9,000
- g. Approve a Resolution authorizing a transfer of \$7 million of cash currently held in Wells Fargo Bank and Mission Bank money market accounts to the State of California Local Agency Investment Fund (LAIF).
- h. Adopt a Resolution authorizing the City Manager to enter into an Agreement with William C. Statler for financial management services.
- i. Adopt a Resolution Authorizing the City Manager to Negotiate and Enter into Agreement with California Central Power in The Amount Of \$48,962.59 to Perform Engine and Suspension Repair for Commercial Refuse Truck #18 And To transfer \$50,000 from the Sanitation Enterprise Fund to Replenish the Disposal Fleet Maintenance Funds.
- j. Adopt a Resolution Authorizing the City Manager to Negotiate and Enter into an Agreement with DXP Enterprise, Inc. to Repair Fairbanks Trickling Filter Pump at the Wastewater Treatment Plant in the amount, not to exceed \$15,055.00.
- k. Adopt a Resolution Approving the Side Letter to Memorandum of Understanding Between SEIU Local 521 and the City of Wasco Effective December 16, 2020.

10) PUBLIC HEARINGS:

- a. Introduction and Waive first reading of an ordinance of the City of Wasco Amending Title 8 "Health and Safety" of the City of Wasco Municipal Code, Chapter 8.12, "Solid Waste." (Bishop)

11) DEFERRED BUSINESS: NONE

12) NEW BUSINESS:

- a. Adopt a Resolution Authorizing the City Manager to Negotiate and Execute a Purchase Agreement with Flock Safety to Purchase Automated License Plate Reader (ALPR) Cameras for the Kern County Sheriff Wasco Substation for Use Throughout the City of Wasco. (Ortiz Hernandez)
- b. Adopt a Resolution creating the Neighborhood Camera Rebate Program. (Ortiz Hernandez)
- c. Information Regarding Kern County's Plan to Raise Land Use Fee. **No Action Needed** (Bishop)

- d. Appointment of two full-term seats in the Planning Commission. (Martinez and Pallares)
- e. Appointment of one full term seat in the Kern Mosquito Vector Board. (Martinez and Pallares)
- f. Update on City Operations due to Covid-19 (Ortiz-Hernandez)

13) REPORTS FROM COMMISSION AND COMMITTEES:

- a. Kern Economic Development Corporation (Cortez)
- b. Kern Council of Government (Garcia)

14) REPORTS FROM SHERIFF:

15) REPORTS FROM CITY MANAGER:

16) REPORTS FROM CITY COUNCIL:

17) CLOSED SESSION: None

18) CLOSED SESSION ACTION: None

19) ADJOURNMENT:

This is to certify that this agenda was posted at Wasco City Hall on January 15, 2020. The agenda is also available on the City website at www.cityofwasco.org

Maria O. Martinez, City Clerk

*All agenda item supporting documentation is available for public review in the city website www.cityofwasco.org and the office of the City Clerk of the City of Wasco, 746 8th Street, Wasco, CA 93280 during regular business hours, 7:30 a.m. – 5:00 p.m. Monday through Thursday and 8-5 p.m. Friday (closed alternate Friday's), following the posting of the agenda. Any supporting documentation related to an agenda item for an open session of any regular meeting that is distributed after the agenda is posted and prior to the meeting will also be available for review at the same location and available at the meeting. **Please remember to turn off all cell phones, pagers, or electronic devices during Council meetings.***

The City of Wasco does not discriminate on the basis of disability in the access to, provision of, or employment in its programs and activities pursuant to 29 United States Code Section 12132 and California Civil Code Section 54. Information regarding the rights provided under the Americans with Disabilities Act (ADA) may be obtained from the City Clerk's Office.

If you need special assistance to participate in this meeting, please contact the City Clerk's Office at (661) 758-7215 to make reasonable arrangements to ensure accessibility to this meeting. Telephone (661) 758-7215 Requests for assistance should be made at least two (2) days in advance whenever possible.

MINUTES
WASCO CITY COUNCIL
and Successor Agency to the
Former Redevelopment Agency
Meeting of December 15, 2020
Regular Meeting – 6:00 pm.
Via Zoom Webinar

REGULAR MEETING – 6:00 pm.

1) CALL TO ORDER:

This meeting was called to order by Mayor Garcia at 6:12 p.m and announced the meeting was being held pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020. All members are joining this meeting remotely via Zoom Webinar.

2) FLAG SALUTE: led by Mayor Garcia

3) INVOCATION: Moment of silence

4) ROLL CALL:

Present: Mayor Garcia, Mayor Pro Tem Reyna Council Members: Cortez, Martinez and Pallares

5) PRESENTATIONS: None

6) PUBLIC COMMENTS: None

7) SUCCESSOR AGENCY BUSINESS:

- a. Nomination and Appointment for Chairman and Vice-Chairman

Motion by Council Member Cortez, **seconded** by Mayor Pro Tem Reyna, to appoint Mayor Garcia as Chairman by the following roll call vote:

| | |
|----------|---|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

Motion by Mayor Gacia, **seconded** by Council Member Cortez, to appoint Mayor Pro Tem Reyna as Vice-Chairman by the following roll call vote:

| | |
|----------|--|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINE, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

8) WASCO PUBLIC FINANCE AUTHORITY BUSINESS:

- a. Nomination and Appointment for Chairman and Vice-Chairman.

Motion by Council Member Cortez, **seconded** by Mayor Pro Tem Reyna, to appoint Mayor Garcia as Chairman by the following roll call vote:

| | |
|----------|---|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

Motion by Mayor Gacia, **seconded** by Council Member Cortez, to appoint Mayor Pro Tem Reyna as Vice-Chairman by the following roll call vote:

| | |
|----------|--|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINE, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

CITY COUNCIL BUSINESS:

9) CONSENT CALENDAR:

The Consent Calendar consists of items that, in staff's opinion, are routine and non-controversial. These items are approved in one motion unless a Council Member or member of the public requests removal of a particular item.

- a. Approval of Minutes for December 1, 2020, Regular Meeting
- b. Receive and file department payments totaling \$211,858.84.
- c. Adopt a Resolution Approving the Calendar dates for Regular Meetings of the City Council and Identify Observed Holidays, and the Friday's City offices will be Closed and Regular Meetings of the Planning Commission for January through December 2021.

Reso#2020-3565

Mayor Pro Tem Reyna requested to amend the minutes on item 9a, reflecting congratulating the newly elected Council Member not thanking.

Council Member Pallares removed item 9c for separate consideration

Motion by Council Member Cortez, **seconded** by Mayor Pro Tem Reyna, to approve the Consent Calendar with amending item 9a as stated and separate consideration on item 9c by the following roll call vote:

| | |
|----------|---|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

9c. Adopt a Resolution Approving the Calendar dates for Regular Meetings of the City Council and Identify Observed Holidays, and the Friday's City offices will be Closed and Regular Meetings of the Planning Commission for January through December 2021

Council Member Pallares questioned the December 30th and 31st holiday may conflict with the scheduled Friday off, and correction may be needed.

The City Manager stated no corrections are needed.

Motion by Council Member Pallares, **seconded** by Mayor Pro Tem Reyna, to approve item 9c by the following roll call vote:

| | |
|----------|---|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

10) PUBLIC HEARINGS: NONE

11) DEFERRED BUSINESS: NONE

12) NEW BUSINESS:

- a. Receive and file the City of Wasco Financial Statements for the Year Ended June 30, 2020, and the City of Wasco Measure X Financial Statements for the Year Ended June 30, 2020.

Presentation by Finance Director Perez-Hernandez and Mark Albert from Albert & Associates, LLP.

No public comments.

Motion by Mayor Pro Tem Reyna, **seconded** by Council Member Cortez, to receive and file item 12a by the following roll call vote:

| | |
|----------|---|
| AYES: | GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

City Attorney Schroeter recused himself from item 12b; he has a conflict because he is the City Attorney for McFarland, and Attorney Mark Bateman will be in his place.

- b. Discussion on City of McFarland Proposed Sphere of Influence Amendment to their General Plan, Potential Annexation Plans, and City of Wasco's growth Scenarios.

Presentation by City Manager Ortiz Hernandez and Community Development Director Cobb.

No Public Comments.

Discussion item only no action was taken.

City Attorney Schroeter returns to the meeting.

- c. Discussion by the City Council to Staff on Guidance for Tenants requesting to start Utility Services.

Presentation by Council Member Cortez

Public Comments:

Tobb Malore resident requests a deposit fee to be waived for transfer utility services if the account is in good standing.

The City Council's direction was to agendaize this item to consider options for transfer utility service deposit.

- d. Discussion and Possible Minute Action Regarding Capital Improvement Project: Street Lighting Program - Citywide.

Presentation by City Manager Ortiz Hernandez

No Public Comments

Mayor Garcia created an ad-hoc committee to help develop a policy for City's street light standards Council Member Cortez and Mayor Pro tem Reyna were appointed to the committee.

- e. Adopt a Resolution Authorizing the City Manager to Sign and Execute Award of Agreement with Andersen Integrated Services, Incorporated in the amount of \$44,444.00 and allowing the City Manager to execute Contract Change Orders in an Amount not to Exceed an Aggregate of \$5,000.00 for the Labor Camp Asbestos Testing Project.

Reso# 2020-3566

Agmt#2020-067

Presentation by Public Works Director Bishop and Finance Director Perez-Hernandez

No Public Comments

Motion by Mayor Pro Tem Reyna, **seconded** by Council Member Cortez, to approve item 12e by the following roll call vote:

AYES: GARCIA, REYNA, CORTEZ, MARTINEZ, PALLARES
NOES: NONE

ABSTAIN: NONE

ABSENT: NONE

- f. Adopt a Resolution Authorizing the City Manager to Sign and Execute Award of Agreement with Rudnick Fence Co. in the amount of \$146,250.00 and allow the City Manager to execute Contract Change Orders an amount not to exceed an aggregate of \$15,000 for the Labor Camp Fencing Project.

Reso#2020- 3567

Agmt#2020-068

Council Member Cortez logged off of the meeting at 8:45 p.m.

No public comments

Motion by Council Member Martinez, **seconded** by Council Member Pallares, to approve item 12f and the amended amount to the Contract Change Orders not to exceed an aggregate amount of \$25,000.00 by the following roll call vote:

AYES: GARCIA, REYNA, MARTINEZ, PALLARES

NOES: NONE

ABSTAIN: NONE

ABSENT: CORTEZ

- g. Nomination and Appointment of a Representative and Alternate Representative of the San Joaquin Valley Air Pollution Control District Special City Selection Committee.

Presentation by City Manager Ortiz Hernandez

Motion by Council Member Martinez, **seconded** by Council Member Pallares, to appoint Mayor Garcia as the Representative and Mayor Pro Tem Reyna as the Alternate Representative by the following roll call vote:

AYES: GARCIA, REYNA, MARTINEZ, PALLARES

NOES: NONE

ABSTAIN: NONE

ABSENT: CORTEZ

13) REPORTS FROM COMMISSION AND COMMITTEES:

- a. Kern Economic Development Corporation: No reports
- b. Kern Council of Government: No reports

14) REPORTS FROM SHERIFF:

Sgt. Martinez report on the department's activities.

15) REPORTS FROM CITY MANAGER:

City Manager reported on the following items

- Free mobile Covid-19 testing December 19, 2020, at the VFW.
- On Tuesday, December 29, 2020, Hosted by the Latino Caucus, free mobile Covid-19 testing at the Fiesta Market on Poso drive. Staff will be attending, handing free face mask.

16) REPORTS FROM CITY COUNCIL:

Mayor Pro Tem Reyna mentioned that Caltrans is working on Becan located on Poplar and Hwy 46 and scheduled to be completed December 16, 2020.

Council Member Pallares expressed his condolence to Mariana Sobolewski and her family for their loss. He also wished everyone a Merry Christmas.

Council Member Martinez congratulated the two employees of the year Mayra Medina and Monica Flores.

Mayor Garcia thanked the staff.

17) CLOSED SESSION: None

18) CLOSED SESSION ACTION: None

19) ADJOURNMENT:

Mayor Garcia adjourned the meeting at 9:04 p.m.

MINUTES
WASCO CITY COUNCIL
and Successor Agency to the
Former Redevelopment Agency
Meeting of December 15, 2020
Special Meeting – 5:30 pm.
Via Zoom Webinar

SPECIAL MEETING – 5:30 p.m.

1) CALL TO ORDER:

This meeting was called to order by Mayor Cortez at 5:30 p.m and announced the meeting was being held pursuant to Section 3 of Executive Order N-29-20, issued by Governor Newsom on March 17, 2020. All members are joining this meeting remotely via Zoom Webinar.

2) FLAG SALUTE: led by Mayor Cortez

3) INVOCATION: by Westside Fellowship Church, Matt Maldonado

4) ROLL CALL:

Present: Mayor Cortez, Mayor Pro Tem Espitia, Council Members: Garcia, Pallares, Reyna

5) Adopt A Resolution reciting the facts of the General Municipal Election held on November 3, 2020, declaring the results and such other matters provided by law.

Presentation by City Manager Ortiz Hernandez

No public comments

Motion by Council Member Reyna, **seconded** by Council Member Garcia, to adopt the Resolution by the following roll call vote:

| | |
|----------|--|
| AYES: | CORTEZ, ESPITIA, GARCIA, PALLARES, REYNA |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

6) Council Member Statement

Council Member Pallares thanked Danny Espitia for his services.

Council Member Garcia thanked Danny Espitia for his services and thanked Mayor Cortez for his services as Mayor.

Council Member Reyna thanked Danny Espitia for his services to the community as a Council Member. He also congratulated the winner of the election, Mayor Cortez, Member Garcia, and Vincent Martinez.

Mayor Cortez thanked Danny Espitia for his services as a Council Member.

Council Member Espitia thanked his constituents and staff members.

7) Presentation of Plaques

Mayor Cortez presented the plaque to outgoing Councilmember Espitia.

Outgoing Council Member Espitia presented the plaque to the outgoing Mayor Cortez

Mr. Lopez, representative of the State Senate District 14 Melissa Hurtado, and Ms. Taylor, a representative for Assemblyman Rudy Salas, presented a proclamation for Danny Espitia.

8) Oath of Office/Certification of Election

Deputy City Clerk Mariana Sobolewski administered the oath of office for Alexandro Garcia for District 5, Teofilo Cortez District 4, and Vincent Martinez for District 2.

9) New Council Member Statements

Newly elected Council Member Martinez thanked outgoing Council Member Espitia and the Council Member.

10) Nomination and Appointment of Mayor and Mayor Pro- Tempore

Mayor Cortez nominated Council Member Garcia for Mayor and Council Member Reyna for Mayor Pro Tem.

Council Member Garcia and Council Member Reyna accepted the nomination.

Motion by Mayor Cortez, **seconded** by Council Member Reyna, to appoint Council Member Garcia as Mayor by the following roll call vote:

| | |
|----------|---|
| AYES: | CORTEZ, GARCIA, MARTINEZ, PALLARES, REYNA |
| NOES: | NONE |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

Motion by Council Member Cortez, **seconded** by Mayor Garcia, to appoint Council Member Reyna as Mayor Pro Tem by the following roll call vote:

| | |
|----------|---------------------------------|
| AYES: | CORTEZ, GARCIA, MARTINEZ, REYNA |
| NOES: | PALLARES |
| ABSTAIN: | NONE |
| ABSENT: | NONE |

Mayor Garcia thanked his Colleagues for his appointment.

Mayor Pro Tem Reyna thanked his Colleagues for his appointment and thanked Council Member Pallares for speaking his desires.

11) ADJOURNMENT:

Mayor Garcia adjourned the meeting at 6:05 p.m.



Bill Pay List

Council Meeting: Tuesday, January 19, 2021

| WarrantNo | Amount |
|--------------------|----------------------|
| A120320 | 114,343.00 |
| G110720 | 26,290.26 |
| G120520 | 54,868.07 |
| W120120 | 612.43 |
| UAL1231 | 64,756.33 |
| A120420 | 53,479.43 |
| G010121 | 14,456.82 |
| G091620 | 2,528.50 |
| G101020 | 4,649.17 |
| G110820 | 466,708.00 |
| G120620 | 124,010.89 |
| G120720 | 22,897.99 |
| G120820 | 19,545.71 |
| A010121 | 260.71 |
| G091720 | 2,563.14 |
| G101120 | 240.00 |
| G110920 | 7,937.96 |
| G121020 | 7,236.00 |
| Grand Total | \$ 987,384.41 |

Verified by:
Finance Director

Isarel Perez-
Hernandez

Digitally signed by: Isarel Perez-
Hernandez
DN: CN = Isarel Perez-Hernandez
email = isperez@cityofwasco.org C =
US O = City of Wasco
Date: 2021.01.14 16:29:13 -08'00'

| A | B | C | D | E | F | G | H | I | |
|-----------|---------|----------------------------------|--------|-------|----------------------|------|-------------|---|------------|
| WarrantNo | Vendor | VendNo | ProjNo | InvNo | DIR # | CkNo | Description | Amounts | |
| 1 | A120320 | CSJVRMA | 78 | | RMA2021-0240 | - | 5004 | 20/21 3RD QTR DEP LIABILITY & WORKER'S COMP | 114,343.00 |
| 2 | | A120320 Total | | | | | | \$ 114,343.00 | |
| 3 | G110720 | BAKERSFIELD WELL & PUMP CO. | 2504 | | JOB#20559 BILLING #2 | - | 20322 | AG WELL REPAIRS: PROGRESS BILLING #2 | 15,865.00 |
| 4 | G110720 | DEE JASPAR AND ASSOCIATES, INC | 378 | 20220 | 20-11039 | - | 20323 | REPLACEMENT IRR WELL TASK ORDER #9 | 671.32 |
| 5 | G110720 | DEE JASPAR AND ASSOCIATES, INC | 378 | | 20-11038 | - | 20323 | PUMP & WTR SYSTEM EVALUATION TASK ORDER #6 | 154.00 |
| 6 | G110720 | JEFFRIES BROS., INC | 140 | | 79559CT | - | 20324 | FUEL FOR NOV 20 | 8,772.96 |
| 7 | G110720 | VERIZON WIRELESS SERVICE LLC | 4237 | | 9867841088 | - | 20325 | CELL PHONES & IPAD 10/26/20-11/25/20 | 826.98 |
| 8 | | G110720 Total | | | | | | \$ 26,290.26 | |
| 9 | G120520 | ACCOUNTEMPS | 268 | | 56844156 | - | 20326 | TEMP M.SOLORIO WE 12/18/20 | 440.64 |
| 10 | G120520 | ADVANTAGE ANSWERING PLUS | 2564 | | 000019-279-461 | - | 20327 | ANSWERING SRVCS NOV 20 | 329.83 |
| 11 | G120520 | ALTA PLANNING & DESIGN | 3693 | 21041 | 00-2020-063-7 | - | 20328 | CA SRTS UPDATE SRVCS NOV 20 | 3,838.70 |
| 12 | G120520 | BC LABORATORIES, INC. | 63 | | B399878 | - | 20329 | WW TEST SAMPLE 11-25-20 INFLUENT MONITORING | 70.00 |
| 13 | G120520 | BC LABORATORIES, INC. | 63 | | B400260 | - | 20329 | WW TEST SAMPLE 11-10-20 INFLUENT MONITORING | 153.00 |
| 14 | G120520 | BC LABORATORIES, INC. | 63 | | B400426 | - | 20329 | WW TEST SAMPLE 12-1-20 INFLUENT MONITORING | 70.00 |
| 15 | G120520 | BC LABORATORIES, INC. | 63 | | B400486 | - | 20329 | WW TEST SAMPLE 12-3-20 INFLUENT MONITORING | 70.00 |
| 16 | G120520 | BC LABORATORIES, INC. | 63 | | B400521 | - | 20329 | WW TEST SAMPLE 11-19-20 INFLUENT/BIOSOLIDS | 390.00 |
| 17 | G120520 | BC LABORATORIES, INC. | 63 | | B400676 | - | 20329 | WTR TEST SAMPLE 12-3-20 WELL #11/12 | 28.00 |
| 18 | G120520 | BC LABORATORIES, INC. | 63 | | B400757 | - | 20329 | WW TEST SAMPLE 11-23-20 INFLUENT MONITORING | 153.00 |
| 19 | G120520 | CINTAS CORPORATION NO. 3 | 4480 | | 4069909756 | - | 20330 | UNIFORM SRVCS 12/11/20 | 252.34 |
| 20 | G120520 | CINTAS CORPORATION NO. 3 | 4480 | | 4070584743 | - | 20330 | UNIFORM SRVCS 12/18/20 | 276.07 |
| 21 | G120520 | CLARK PEST CONTROL | 117 | | 27353478 | - | 20331 | PEST CONTROL 5410 7TH ST DEC 20 | 49.00 |
| 22 | G120520 | CUMMINS INC | 376 | | Y8-1761 | - | 20332 | DISPOSAL #13:FUEL PUMP | 3,158.39 |
| 23 | G120520 | CUMMINS INC | 376 | | Y8-99634 | - | 20332 | RETURN/CREDIT REF:Y8-98627 & Y8-99048 | (1,082.50) |
| 24 | G120520 | FED EX | 123 | | 7-217-43031 | - | 20333 | FEDEX SRVCS DEC 20 | 502.21 |
| 25 | G120520 | GRANITE FINANCIAL SOLUTIONS, INC | 5082 | 20217 | IN65810-1 | - | 20334 | 8 NEW LAPTOPS FOR PW,CODE & BUILDING DEPT | 33,170.94 |
| 26 | G120520 | HALL LETTER SHOP, INC | 1160 | 20217 | 21345 | - | 20335 | TENT USE DURING THE COVID-19 P | 3,003.54 |
| 27 | G120520 | INFOMART, INC. | 4345 | | 903886 | - | 20336 | BACKGROUND CHECK 12/08/20 | 44.45 |
| 28 | G120520 | KERN MACHINERY | 4011 | | 101-824579 | - | 20337 | STREETS #107: BELT AND LIGHT | 178.53 |



Bill Pay List

| A | B | C | D | E | F | G | H | I |
|-----------|---------------|-----------------------------------|--------|-----------------------|-------|-------|---|--------------|
| WarrantNo | Vendor | VendNo | ProjNo | InvNo | DIR # | CkNo | Description | Amounts |
| 29 | G120520 | MARTIN, ARMANDO JR | 5195 | 690 | - | 20344 | ANIMAL DISPOSAL & REMOVAL SRVC 11/03/20 | 750.00 |
| 30 | G120520 | NEW YORK LIFE INSURANCE COMPANY | 4733 | 510763000 DEC 20 | - | 20338 | INS. PREMIUM DEC 20 | 408.00 |
| 31 | G120520 | OFFICE DEPOT, INC | 33 | 1.40583E+11 | - | 20339 | OFFICE SUPPLIES: DESK AND WALL CALENDARS | 165.77 |
| 32 | G120520 | PG & E COMPANY | 85 | 0007972213-8 | - | 20340 | NW NE SE 9 27 24 SOLAR PLANT-ANIMAL CONTROL NOV 2 | 121.59 |
| 33 | G120520 | PG & E COMPANY | 85 | 20533184923 12/11/20 | - | 20340 | SW SE SE 11 27 24 N/S POSO .25 W/O PALM 12/11/20 | 6,747.84 |
| 34 | G120520 | PG & E COMPANY | 85 | 21147131763 12/15/20 | - | 20340 | STREET LIGHT TRACT 7311-4 ON FILLBURN 12/15/20 | 18.18 |
| 35 | G120520 | PG & E COMPANY | 85 | 27677027560 12/16/20 | - | 20340 | 603 PALM AVE 12/16/20 | 19.94 |
| 36 | G120520 | PG & E COMPANY | 85 | 29915249253 12/14/20 | - | 20340 | 810 8TH ST 12/14/20 | 30.46 |
| 37 | G120520 | PG & E COMPANY | 85 | 34334121893 12/14/20 | - | 20340 | 25' N/O FILBURN ON BECKES 12/14/20 | 10.18 |
| 38 | G120520 | PG & E COMPANY | 85 | 83658717562 12/15/20 | - | 20340 | ANNEX PARKING LIGHT 12/15/20 | 9.41 |
| 39 | G120520 | PHOENIX GROUP INFORMATION SYSTEMS | 4913 | 112020239 | - | 20341 | CITATIONS FEES & SRVCS NOV 20 | 366.83 |
| 40 | G120520 | READYREFRESH BY NESTLE | 4027 | 10L1008613430 | - | 20342 | DRINKING WTR 5710 7TH ST 11/15/20-12/14/20 | 123.73 |
| 41 | G120520 | SCHILLING, JOSEPH | 5266 | 21003 NOV 20 650 H ST | - | 20343 | NOV 20 EXPERT OPINION LETTER RE:FARMWORKER HOUSE | 1,000.00 |
| 42 | G120520 Total | | | | | | | \$ 54,868.07 |
| 43 | W120120 | NBS GOVERNMENT FINANCE GROUP | 2458 | 1120000402 | - | 2370 | DISTRICT 91-2B,93-1,PROFESSIONAL SRVCS DEC 20 | 612.43 |
| 44 | W120120 Total | | | | | | | \$ 612.43 |
| 45 | UAL1231 | PUBLIC EMPLOYEE'S RETIREMENT | 200 | 68893 | - | 5005 | PR PLN WARRANT UAL1231 | 64,756.33 |
| 46 | UAL1231 Total | | | | | | | \$ 64,756.33 |
| 47 | A120420 | ADMINISTRATIVE SOLUTIONS-FRESNO | 2208 | 44194 | - | 5007 | MEDICAL CHECK RUN 12/29/20 | 4,871.70 |
| 48 | A120420 | BLUE SHIELD OF CALIFORNIA | 3591 | W00869251000 | - | 5008 | INS. PREMIUM JAN 21 | 48,607.73 |
| 49 | A120420 Total | | | | | | | \$ 53,479.43 |
| 50 | G010121 | BR FROST COMPANY | 2655 | 1225 | - | 20405 | CENTRIFUGE CONVEYER LINER REPAIR | 6,435.00 |
| 51 | G010121 | CITY OF WASCO/PUBLIC TRANSIT | 1683 | 9618 | - | 20406 | CNG FUEL DEC 20-SANITATION | 3,996.47 |
| 52 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 570997 | - | 20391 | 11/15-12/15/20 810 8TH ST | 56.44 |
| 53 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571288 | - | 20391 | 11/15-12/15/20 00 BLK OF CENTRAL | 91.52 |
| 54 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571291 | - | 20391 | 11/15-12/15/20 1100 CENTRAL AVE | 91.52 |
| 55 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571293 | - | 20391 | 11/15-12/15/20 1500 BLK OF CENTRAL | 91.52 |
| 56 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571408 | - | 20392 | 11/15-12/15/20 764 E ST | 121.56 |
| 57 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571461 | - | 20392 | 11/15-12/15/20 847 F ST | 121.56 |
| 58 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571493 | - | 20391 | 11/15-12/15/20 13001 BK OF FILBURN | 91.52 |
| 59 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571845 | - | 20391 | 11/15-12/15/20 NW MAPLE/MARGALO | 91.52 |
| 60 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571846 | - | 20391 | 11/15-12/15/20 MAPLE/GROMER | 91.52 |
| 61 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571887 | - | 20391 | 11/15-12/15/20 2700 BLK OF MONDAVI | 91.52 |
| 62 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571941 | - | 20391 | 11/15-12/15/20 1500 BLOCK OF PALM | 91.52 |
| 63 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571948 | - | 20391 | 11/15-12/15/20 2100 BLK OF PALM | 91.52 |
| 64 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571950 | - | 20392 | 11/15-12/15/20 400 N BLK OF PALM | 91.52 |
| 65 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571952 | - | 20391 | 11/15-12/15/20 1700 BLK OF PALM #A | 91.52 |
| 66 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571971 | - | 20391 | 11/15-12/15/20 1200 BLK OF PECAN ST | 91.52 |
| 67 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 571974 | - | 20391 | 11/15-12/15/20 PENELOPE | 91.52 |
| 68 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572025 | - | 20391 | 11/15-12/15/20 1700 BLK OF POPLAR | 91.52 |
| 69 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572026 | - | 20391 | 11/15-12/15/20 1700 BLK OF POPLAR | 91.52 |
| 70 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572064 | - | 20391 | 11/15-12/15/20 2500 BLK OF POSO DR | 91.52 |
| 71 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572068 | - | 20391 | 11/15-12/15/20 2700 BLK OF POSO AVE | 91.52 |
| 72 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572094 | - | 20391 | 11/15-12/15/20 PALM N. PROSPERITY | 91.52 |
| 73 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572199 | - | 20392 | 11/15-12/15/20 1700 BLK OF MARGALO | 91.52 |
| 74 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 572382 | - | 20392 | 11/15-12/15/20 1300 BLK OF WILLOW | 91.52 |
| 75 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 576054 | - | 20391 | 01/01-01/31/21 810 8TH ST | 15.80 |
| 76 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 576094 | - | 20392 | 01/01-01/31/21 764 E ST | 182.21 |
| 77 | G010121 | CITY OF WASCO-UB PAYMENTS | 1875 | 1571028 | - | 20391 | 11/15-12/15/20 1445 12TH ST | 46.32 |
| 78 | G010121 | M & S SECURITY SERVICES | 4445 | 59585 | - | 20394 | ALARM MONITOR-ANIMAL SHELTER JAN 21 | 165.00 |
| 79 | G010121 | M & S SECURITY SERVICES | 4445 | 59586 | - | 20394 | ALARM MONITOR-WASTE WATER PLANT JAN 21 | 330.00 |
| 80 | G010121 | M & S SECURITY SERVICES | 4445 | 59587 | - | 20394 | ALARM MONITOR-WASCO COURT HOUSE JAN 21 | 165.00 |
| 81 | G010121 | M & S SECURITY SERVICES | 4445 | 59588 | - | 20394 | ALARM MONITOR-CITY HALL JAN 21 | 135.00 |



Bill Pay List

| A | B | C | D | E | F | G | H | I | |
|-----|-----------|-------------------------------------|--------|--------|-----------------|-------|-------|---|---------------|
| | WarrantNo | Vendor | VendNo | ProjNo | InvNo | DIR # | CkNo | Description | Amounts |
| 82 | G010121 | M & S SECURITY SERVICES | 4445 | | 59589 | - | 20394 | ALARM MONITOR-FINANCE & PLANNING JAN 21 | 135.00 |
| 83 | G010121 | M & S SECURITY SERVICES | 4445 | | 59590 | - | 20394 | ALARM MONITOR-PUBLIC WORKS JAN 21 | 135.00 |
| 84 | G010121 | M & S SECURITY SERVICES | 4445 | | 59656 | - | 20394 | ALARM MONITOR-PIONEER BUILDING JAN 21 | 135.00 |
| 85 | G010121 | M & S SECURITY SERVICES | 4445 | | 59657 | - | 20394 | ALARM MONITOR-PIONEER BUILDING JAN 21 | 135.00 |
| 86 | G010121 | TRADICIONES MARKETS, INC | 5259 | | 367 DEC 20 | - | 20393 | DEC 2020 367 UB PAYMENTS TRANSACTIONS | 66.06 |
| 87 | G010121 | VILLANO, SARA L | 5269 | | 1422302 | - | 20395 | RFD WTR METER AGREEMENT DEP RE | 250.00 |
| 88 | | G010121 Total | | | | | | | \$ 14,456.82 |
| 89 | G091620 | AC ELECTRIC COMPANY | 184 | 20217 | BL1713-1 | - | 20350 | MOTION SENSORS ELECTRICAL REPAIR:COVID PT.2 | 2,528.50 |
| 90 | | G091620 Total | | | | | | | \$ 2,528.50 |
| 91 | G101020 | AC ELECTRIC COMPANY | 184 | 20217 | BL1713-2 | - | 20351 | MOTION SENSOR ELECTRICAL REPAIRS:COVID | 2,528.50 |
| 92 | G101020 | COLEMAN FROST LLP | 4860 | | 11883 | - | 20352 | LEGAL SRVCS OCT 20 | 1,823.67 |
| 93 | G101020 | COLEMAN FROST LLP | 4860 | | 11884 | - | 20352 | LEGAL SRVCS OCT 20 | 297.00 |
| 94 | | G101020 Total | | | | | | | \$ 4,649.17 |
| 95 | G110820 | ACCOUNTEMPS | 268 | | 56692520 | - | 20353 | TEMP M.SOLORIO WE 11/20/20 | 832.32 |
| 96 | G110820 | AMAZON CAPITAL SERVICES, INC | 4968 | 20217 | 11JV-MJTJ-QD1R | - | 20354 | 38 HEPA UV LIGHT AIR PURIFIERS WHOLE DEPT | 7,767.84 |
| 97 | G110820 | AMAZON CAPITAL SERVICES, INC | 4968 | 20217 | 1CJF-PYP4-GLWN | - | 20354 | 10 DESKTOP WEB CAM STANDS | 561.73 |
| 98 | G110820 | AMAZON CAPITAL SERVICES, INC | 4968 | 20217 | IPPW-LD7F-RJ4V | - | 20354 | 200 PCS PREMIUM FACE SHIELD COV1D-19 CITY MANAGER | 210.01 |
| 99 | G110820 | BHT ENGINEERING, INC | 5134 | 21015 | 20-0392 | ##### | 20355 | PEDESTRIAN SAFETY IMPROVEMENTS NOV 20 | 11,180.00 |
| 100 | G110820 | BHT ENGINEERING, INC | 5134 | | 20-0390 | ##### | 20396 | GENERAL ENGINEERING 11/01-11/30/20 | 1,850.00 |
| 101 | G110820 | BHT ENGINEERING, INC | 5134 | | 20-0391 | ##### | 20396 | TTM 7373 11-1-20 TO 11-30-20 | 1,520.00 |
| 102 | G110820 | BSK & ASSOCIATES, INC. | 1052 | 19121 | 93277 | - | 20356 | 7TH STREET RECONSTRUCTION SERV NOV 20 | 7,530.00 |
| 103 | G110820 | DEE JASPAR AND ASSOCIATES, INC | 378 | 20196 | 20-11038-A | - | 20357 | WASCO WELL #14 SRVCS NOV 20 | 3,628.52 |
| 104 | G110820 | DEE JASPAR AND ASSOCIATES, INC | 378 | 21024 | 20-11041 | - | 20357 | WELL #16 PROJECT | 1,182.98 |
| 105 | G110820 | DEE JASPAR AND ASSOCIATES, INC | 378 | 21027 | 20-11040 | - | 20357 | WELL #15 PROJECT | 8,610.79 |
| 106 | G110820 | LeBeau THELEN LLP | 3218 | | 1985.010 NOV 20 | - | 20358 | LEGAL SRVCS NOV 20 | 50.00 |
| 107 | G110820 | MEYER CIVIL ENGINEERING, INC | 5110 | | 9063 | - | 20397 | PLAN CHECK: POSO ST, WTR WELL 13 & MCCOMB | 432.00 |
| 108 | G110820 | NAGLE EARTHWORKS | 5002 | 19121 | 3204 | ##### | 20359 | 7TH STREET RECONSTRUCTION | 409,034.32 |
| 109 | G110820 | PROMOTIONAL DESIGN CONCEPTS INC | 5245 | 20217 | 40655A | - | 20390 | LARGE TENT LOCAL ECONOMIC SUPPORT COVID-19 | 11,247.94 |
| 110 | G110820 | SILVER & WRIGHT LLP | 4804 | 20191 | 27135 | - | 20361 | NUISANE ABATEMENT OCT 20 | 584.20 |
| 111 | G110820 | THE LAW OFFICES OF YOUNG WOOLDRIGE | 4965 | | 71740 | - | 20362 | LEGAL SRVCS NOV 20 | 110.35 |
| 112 | G110820 | THE SHAFTER PRESS/ WASCO TRIBUNE | 4787 | | 1928 | - | 20360 | RESIDENTIAL BLUE CART RECYCLING | 375.00 |
| 113 | | G110820 Total | | | | | | | \$ 466,708.00 |
| 114 | G120620 | ACC BUSINESS | 4766 | | 203503330 | - | 20363 | FIBER NETWORK SRVCS DEC 20 | 812.44 |
| 115 | G120620 | ACCOUNTEMPS | 268 | | 56883232 | - | 20364 | TEMP M.SOLORIO WE 12/25/20 | 281.52 |
| 116 | G120620 | ALBERT & ASSOCIATES, LLP | 446 | | 21867 | - | 20365 | FY 19/20 AUDIT SRVCS THROUGH 11/24/20 | 56,371.12 |
| 117 | G120620 | ALEXANDER'S CONTRACT SERVICES, INC. | 3828 | | 2.02012E+11 | - | 20366 | METER READING DATE 12/04-12/17/20 | 5,393.17 |
| 118 | G120620 | AMAZON CAPITAL SERVICES, INC | 4968 | | 1LV3-JXL9-Q7DF | - | 20367 | CAMELOT KEYPAD ENTRY W/FLEX-LOCK &ACCENT LEVERS | 99.09 |
| 119 | G120620 | AMAZON CAPITAL SERVICES, INC | 4968 | | 1W1P-1DY3-LRYF | - | 20367 | TELEPHONE EXTENSION LINE CORD-FINANCE | 5.93 |
| 120 | G120620 | AMAZON CAPITAL SERVICES, INC | 4968 | | 1Y3M-7J9P-W14L | - | 20367 | SCREEN PROTECTOR-NEW CITY COUNTY COUNCIL | 22.71 |
| 121 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792565 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 27.28 |
| 122 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792566 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 44.27 |
| 123 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792567 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 124 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792568 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 330.40 |
| 125 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792569 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 24.07 |
| 126 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792570 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 65.58 |
| 127 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792571 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 23.02 |
| 128 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792572 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 44.67 |
| 129 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792573 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 130 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792574 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 131 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792575 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 398.34 |
| 132 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792576 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 133 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792577 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 27.28 |
| 134 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792578 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 42.60 |



Bill Pay List

| | A | B | C | D | E | F | G | H | I |
|-----|-----------|---|--------|--------|----------------------|-------|-------|--|---------------|
| | WarrantNo | Vendor | VendNo | ProjNo | InvNo | DIR # | CkNo | Description | Amounts |
| 135 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792579 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 136 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792580 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 137 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792581 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 138 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792582 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 22.98 |
| 139 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15792583 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 65.60 |
| 140 | G120620 | ATT - PAYMENT CENTER | 1488 | | 15794107 | - | 20368 | PHONE SRVCS 11/24/20-12/23/20 | 85.97 |
| 141 | G120620 | BANK UP CORPORATION | 4259 | | 4384 | - | 20369 | LOCKBOX PROCESSING DEC 2020 | 728.78 |
| 142 | G120620 | BC LABORATORIES, INC. | 63 | | B401070 | - | 20398 | WW TEST SAMPLE 12-10-20 INFLUENT MONITORING | 70.00 |
| 143 | G120620 | BC LABORATORIES, INC. | 63 | | B401167 | - | 20398 | WTR TEST SAMPLE 12-8-20 BACTERIOLOGICAL | 70.00 |
| 144 | G120620 | BC LABORATORIES, INC. | 63 | | B401418 | - | 20398 | WW TEST SAMPLE 10-21-20 GW MONITORING QTRLY | 320.00 |
| 145 | G120620 | BC LABORATORIES, INC. | 63 | | B401524 | - | 20398 | WW TEST SAMPLE 12-15-20 WTR SAMPLES | 100.00 |
| 146 | G120620 | BC LABORATORIES, INC. | 63 | | B401869 | - | 20398 | WW TEST SAMPLE 12-17-20 INFLUENT MONITORING | 70.00 |
| 147 | G120620 | BOOT BARN #26 | 1063 | | INV00081445 | - | 20370 | FY 20-21: MARCO S. BOOT ALLOWANCE | 180.23 |
| 148 | G120620 | BOOT BARN #26 | 1063 | | INV00081446 | - | 20370 | FY 20-21: FRANK M. BOOT ALLOWANCE | 173.19 |
| 149 | G120620 | BOOT BARN #26 | 1063 | | INV00081447 | - | 20370 | FY 20-21: JESUS C. BOOT ALLOWANCE | 200.00 |
| 150 | G120620 | BOOT BARN #26 | 1063 | | INV00083042 | - | 20399 | FY 20-21: CESAR M. BOOT ALLOWANCE | 173.19 |
| 151 | G120620 | CALIFORNIA BUILDING OFFICIALS | 2216 | | 13821 | - | 20371 | M.GLASER VIRTUAL EDUCATION REGISTRATION 2020 CAL | 260.00 |
| 152 | G120620 | CINTAS CORPORATION NO. 3 | 4480 | | 4071178776 | - | 20372 | UNIFORMS 12/24/20 | 252.34 |
| 153 | G120620 | CINTAS CORPORATION NO. 3 | 4480 | | 4071856039 | - | 20372 | UNIFORM SRVCS 12/31/20 | 460.26 |
| 154 | G120620 | CLARK PEST CONTROL | 117 | | 27353341 | - | 20400 | PEST CONTROL 5409 7TH ST FOR DEC 20 | 49.00 |
| 155 | G120620 | CLARK PEST CONTROL | 117 | | 27353446 | - | 20373 | PEST CONTROL: 746 8TH ST & 1445 12ST DEC 20 | 200.00 |
| 156 | G120620 | CROMER MATERIAL HANDLING-CMH | 5208 | | 40010305 | - | 20401 | 2 TRACTION TIRE INTALLATION TO FRONT TIRES | 908.04 |
| 157 | G120620 | FASTENAL COMPANY | 3221 | | CABAE14958 | - | 20402 | MATERIAL #GENERAL: BLANK KEY TAGS | 44.84 |
| 158 | G120620 | H & A PLUMBING INC | 707 | | 32962 | - | 20374 | REPAIR LEAK @ GAS LINE AND REPLACE 3 GAS VALVES | 660.00 |
| 159 | G120620 | INFO SEND, INC. | 4244 | | 183402 | - | 20375 | BUSINESS LICENSE MAILING 2020 | 1,464.74 |
| 160 | G120620 | INTERWEST CONSULTING GROUP, INC. | 1571 | | 65337 | - | 20376 | PLAN CHECK SRVCS NOV 20 | 276.44 |
| 161 | G120620 | KERN COUNTY WASTE MANAGEMENT DEPT. | 19 | | WAS DEC 20 | - | 20403 | WASCO GATE FEE OCT & NOV 20 | 1,800.00 |
| 162 | G120620 | KNIGHT'S PUMPING & PORTABLE SERVICE, INC | 1075 | | 75787 | - | 20377 | GREEN WASTE PORTABLE TOILET 12/15/20-01/11/21 | 57.67 |
| 163 | G120620 | LAWSON PRODUCTS INC | 792 | | 9308095124 | - | 20378 | DISPOSAL#GENERAL:2 ASSORTMENTS OF HYDRAULIC O RI | 393.32 |
| 164 | G120620 | LAWSON PRODUCTS INC | 792 | | 9308095125 | - | 20378 | DISPOSAL#GENERAL: HYDRAULIC FITTINGS & HOSE | 446.91 |
| 165 | G120620 | LAWSON PRODUCTS INC | 792 | | 9500227145 | - | 20378 | CREDIT MEMO FROM INV:9307861260 | (21.70) |
| 166 | G120620 | ORTIZ-HERNANDEZ DANIEL | 4878 | | FSA 12/23/20 | - | 20379 | REIMB 2020 MED FSA & DEPENDENT CARE | 5,250.00 |
| 167 | G120620 | PC SPECIALISTS, INC | 5030 | 20217 | 5387518 | - | 20388 | DELL LAPTOPS FOR MULTIPLE DEPT | 18,315.64 |
| 168 | G120620 | QUADIENT FINANCE USA,INC | 1844 | | POSTAGE DEC 20 | - | 20381 | POSTAGE FOR DEC 20 | 219.99 |
| 169 | G120620 | SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT | 1198 | | S9381 | - | 20382 | 21/22 ANNUAL PERMIT TO OPERATE ID:S938110 | 290.00 |
| 170 | G120620 | SHAFTER-WASCO IRRIGATION DISTRICT | 1055 | | 1ST INST FY 20/21 | - | 20404 | 20/21 ASSESSMENT FEE EXMPT PARCEL PMT #1 | 6,943.08 |
| 171 | G120620 | SWRCB | 296 | | SW-0205600 | - | 20383 | ANNL PERMIT FEE ID: 5F15M20002210 10/20-10/21 | 14,984.00 |
| 172 | G120620 | TEN-WEST TOWING INC. | 328 | | 223877 | - | 20384 | DISPOSAL#18:FROM WASCO TO SHAFTER CA CENTRAL PO | 700.00 |
| 173 | G120620 | THE BAKERSFIELD CALIFORNIAN | 206 | | 2735774 | - | 20385 | ADS:RE:BID (29) BELOW GRADE SAMPLING STATION | 129.66 |
| 174 | G120620 | THE GAS COMPANY | 246 | | 08207136329 NOV 20 | - | 20386 | MULTIPLE ADDRESSES NOV 20 | 503.26 |
| 175 | G120620 | THE HOME DEPOT PRO | 5006 | 20217 | 590932471 | - | 20387 | 4 RYOBI HAND SPRAYERS FOR DISINFECTING | 1,554.90 |
| 176 | G120620 | UNIVAR USA INC | 111 | | 48870441 | - | 20389 | LIQUID CHLORINE WELL #10 IRIS & GRIFFITH | 527.86 |
| 177 | G120620 | UNIVAR USA INC | 111 | | 48870442 | - | 20389 | LIQUID CHLORINE WELL #7 4TH & POPLAR | 434.49 |
| 178 | G120620 | UNIVAR USA INC | 111 | | 48870443 | - | 20389 | LIQUID CHLORINE WELL #8 POSO DRIVE | 471.86 |
| 179 | | G120620 Total | | | | | | | \$ 124,010.89 |
| 180 | G120720 | PG & E COMPANY | 85 | 20196 | 118170420 | - | 20407 | CUST:2502524 WELL #14 PG & E AGREEMENT | 22,897.99 |
| 181 | | G120720 Total | | | | | | | \$ 22,897.99 |
| 182 | G120820 | PG & E COMPANY | 85 | | 46754368564 12/28/20 | - | 20408 | NE COR CENTRAL AVE & MARGALO ST 12/28/20 | 243.28 |
| 183 | G120820 | PG & E COMPANY | 85 | | 51997041895 12/24/20 | - | 20408 | UTILITY BILLS 12/24/20 MULTIPLE LOCATIONS | 19,302.43 |
| 184 | | G120820 Total | | | | | | | \$ 19,545.71 |
| 185 | A010121 | ADMINISTRATIVE SOLUTIONS-FRESNO | 2208 | | 44201 | - | 5009 | MEDICAL CHECK RUN 01/05/21 | 260.71 |
| 186 | | A010121 Total | | | | | | | \$ 260.71 |
| 187 | G091720 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27266 | - | 20409 | FIN/PASSWORD RESET-M.SOLORIO | 38.75 |



Bill Pay List

| A | B | | C | D | E | F | G | H | I |
|-----|---------------|--|--------|--------|------------|-------|-------|---|---------------|
| | WarrantNo | Vendor | VendNo | ProjNo | InvNo | DIR # | CkNo | Description | Amounts |
| 188 | G091720 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27267 | - | 20409 | VOICE MAIL PASSWORD-FINANCE DIRECTOR LINE | 87.50 |
| 189 | G091720 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27339 | - | 20409 | MICOLAB TRANSFER NUMBER & CALLER TO NEW PHONEL | 897.50 |
| 190 | G091720 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27362 | - | 20409 | COW-DC-02 HAS IMAGEMANAGER REPLICATION OUT OF D | 155.00 |
| 191 | G091720 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27388 | - | 20409 | MONTHLY BILLING FOR SEPT 20 | 1,384.39 |
| 192 | G091720 Total | | | | | | | | \$ 2,563.14 |
| 193 | G101120 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27474 | - | 20410 | CITRIX SHARELINE RENEWAL EXP DATE 10/30/21 | 240.00 |
| 194 | G101120 Total | | | | | | | | \$ 240.00 |
| 195 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27690 | - | 20411 | CK/ACCESS TO SPECIFIC FOLDERS IN COMMO | 38.75 |
| 196 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27691 | - | 20411 | CM/COW/COW-DC-02 HAS IMAGE MANAGER | 38.75 |
| 197 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27692 | - | 20411 | CM/MARIA-OUTLOOK PSWD WINDOW STAYING ON SCRE | 38.75 |
| 198 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27693 | - | 20411 | CM/LT-AGENTS NO CHECKIN FOR MORE THAN 30 DAY | 32.50 |
| 199 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27694 | - | 20411 | CM/DOMAIN COMPUTER W/OUT AUTOMOTIVE AGENT:17 | 32.50 |
| 200 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27695 | - | 20411 | FIN/FUEL MASTER APPLICATION ISSUES | 77.50 |
| 201 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27696 | - | 20411 | CH/COW-DC-01 CONTINUOUS NETWORK & DOMAIN ISSU | 77.50 |
| 202 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27697 | - | 20411 | CM/WASCO SHAREFILE | 218.75 |
| 203 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27698 | - | 20411 | FIN/OUTLOOK & VPN ISSUES | 232.50 |
| 204 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27699 | - | 20411 | HR/S.GONZALES HIGH TEMPERATURE WARN | 1,201.25 |
| 205 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27700 | - | 20411 | FIN/SSL CERTIFICATE FOR MUNIS UPDATE | 503.75 |
| 206 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27701 | - | 20411 | HR NETWORK CONNECTIONS PHONES | 875.00 |
| 207 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27702 | - | 20411 | HR PHONE TREE MODIFICATIONS | 975.00 |
| 208 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27703 | - | 20411 | FINANCE STAFF-MITEL DEPLOYMENT PROFILES | 116.25 |
| 209 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27704 | - | 20411 | CM/MICOLLAB UPGRADE VERSION 10.6 | 437.50 |
| 210 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27717 | - | 20411 | NOV 20 AGREEMENT REMOTE ACCESS | 96.00 |
| 211 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27750 | - | 20411 | NOV 2020 AGREEMENT MANAGECENTRIC-3YR OPTION RM | 1,361.96 |
| 212 | G110920 | DIAMOND TECHNOLOGIES, INC. | 2724 | | 27816 | - | 20411 | CM/AP OFFLINE-RUN NEW CABLE | 1,583.75 |
| 213 | G110920 Total | | | | | | | | \$ 7,937.96 |
| 214 | G121020 | HOLLOWAY ENVIRONMENTAL SOLUTIONS, LLC. | 2651 | | 1346 | - | 20412 | BIOSOLIDS DECEMBER LOADS | 3,678.30 |
| 215 | G121020 | KERN COUNTY WASTE MANAGEMENT DEPT. | 19 | | WSP NOV 20 | - | 20413 | LANDFILL FEE WSP PRISON NOV 20 | 3,557.70 |
| 216 | G121020 Total | | | | | | | | \$ 7,236.00 |
| 217 | | | | | | | | Grand Total | \$ 987,384.41 |



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Isarel Perez-Hernandez, Finance Director

DATE: January 19, 2021

SUBJECT: Receive and File the Investment Report for the month ended December 31, 2020

Recommendation:

Staff recommends the City Council receive and file the Investment Report for the quarter ended December 31, 2020

Background:

This report is prepared and presented to the City Manager and City Council pursuant to the requirements of the City's Investment Policy and the California Government Code. The City's investment policy requires the Treasurer or Chief Fiscal Officer to render monthly investment reports to the City Manager and the City Council. It requires certain information about the City's investments to be presented in the report and that the report contains statements that:

- 1) The City is in compliance with its investment policy; and
- 2) The City can meet its expenditure requirements for the following six (6) months or explain why sufficient funds will or may not be available.

The City's investment strategy continues to prioritize its investment opportunities on the following; in order of importance:

- 1) Safety;
- 2) Liquidity; and
- 3) Yield

This strategy is consistent with the Government Code and stresses keeping the citizens' funds safe and available for operations, rather than attempting to maximize returns by making riskier investments.

The Finance Department has prepared the Investment Report for the month ended September 30, 2020. This report meets the City's Investment Policy's latest requirements as presented to the City Council on June 16, 2020, as well as Government Code Section 53646.

Discussion:

The market value of the City's total cash and Investments on December 31, 2020, is \$44,811,733 compared to \$42,390,796 on November 30, 2020. This is a \$2,420,937 increase from the previous month (\$2,378,088 increase on the cost basis).

The \$4,497,719 decrease in cash on hand from November to December was primarily due to the cash transfer of \$6,862,684 into the Local Agency Investment Fund (LAIF) and a property tax deposit. The slight increase in investments is primarily due to an unrealized gain from Certificates of Deposits and interest income received from the Union Bank Money Market Account.

As of December 31, 2020, the City has \$26.5 million (59.22%) of its Cash and Investment Portfolio held in the State of California Local Agency Investment Fund ("LAIF"), which earned 0.84 % during the quarter (ended September 30, 2020). This earnings rate exceeded the short-term benchmark. Other cash pools held a combined \$6.1 million (13.79 %) of the City's Cash and Investment Portfolio. The City also has \$3.1 million (6.96 % of its Portfolio) held by UnionBanc Investment Services ("UBIS") and invested, pursuant to City instructions, in Certificates of Deposit and Governmental Securities with a Money Market account being used to maximize returns on otherwise idle cash.

The metrics used in the attached report are based on Securities issued by the United States Government. The short-term benchmark of 0.09 % is the average earned by a 3-month Treasury Bill during the month ended December 31, 2020, and the long and medium-term benchmark of 0.17 % is the average earnings of 2-year and 3-year treasury notes during that time frame. Lastly, the one-year U.S Treasury benchmark for the month ended December 31, 2020, was 0.12%.

All the information presented in this report is consistent with the City's Audited Financial Statements' disclosures previously presented to the City Council.

Fiscal Impact:

There is no fiscal impact to this action

Attachments:

1. Investment Report for the month ended December 31, 2020.



Investment Report
Thursday, December 31, 2020

| | Average Earnings Rate | | | | | | |
|--|-----------------------|-------------|-------------|-----------------|-------|----------------|---------|
| | this Month | Metrics (3) | Cost | Market Value(1) | Days | % of Portfolio | WAM (2) |
| Investments | | | | | | | |
| Local Agency Investment Fund (LAIF) - Beginning | 0.84% | 0.09% | 17,407,359 | 17,492,878 | | | |
| Local Agency Investment Fund (LAIF) - Deposit Money Market Funds | | | 2,137,316 | 2,147,816 | | | |
| Local Agency Investment Fund (LAIF) - Deposit Wells Fargo & Mission Bank | | | 6,862,684 | 6,896,399 | | | |
| Local Agency Investment Fund (LAIF) - Total | | | 26,407,359 | 26,537,093 | 7 | 59.22 % | 0.01 |
| Other Cash Pools: | | | | | | | |
| CSJVRMA Investment Pool | 1.60% | 0.09% | 1,249,519 | 1,292,462 | 7 | 2.88 % | 0.00 |
| Cal Trust Short Term Money Market Fund | 0.49% | 0.09% | 1,587,774 | 1,600,940 | 1 | 3.57 % | 0.09 |
| Cal Trust Medium Term Money Market Fund | 0.68% | 0.17% | 3,215,891 | 3,286,012 | 3 | 7.33 % | 0.00 |
| Investments held in trust by UnionBanc Investment Services, Inc. (see Details on next page) | | | | | | | |
| Certificates of Deposit | 2.71% | 0.17% | 3,000,000 | 3,102,440 | 5,776 | 6.92 % | 0.09 |
| Money Market Funds (November 30, 2020) | | | 2,144,706 | 2,144,706 | | | |
| Money Market Funds (December 31, 2020) - Draw | | | (2,137,316) | (2,137,316) | | | |
| Money Market Funds (December 31, 2020) | 0.00% | 0.09% | 16,038 | 16,038 | 1 | 0.04 % | 0.00 |
| Investments current month (Decemver 31, 2020) | | | 35,476,581 | 35,834,985 | | | 0.09 |
| Investments previous month (November 30, 2020) | | | 28,600,774 | 28,916,330 | | | |
| Total Investments - Increase(Decrease) | | | 6,875,807 | 6,918,656 | | | |
| Less New Cash Investment | | | (6,862,684) | (6,896,399) | | | |
| Net Investment Increase(Decrease) (December 31,2020) | | | 13,123 | 22,257 | | | |
| Cash | | | | | | | |
| Cash on Hand (December 30, 2020) | | | 8,976,748 | 8,976,748 | 1 | 25.05 % | 0.00 |
| Cash on Hand (November 30, 2020) | | | 13,474,467 | 13,474,467 | 1 | 37.60 % | 0.00 |
| Total Deposits and Cash on Hand - Increase(Decrease) | | | (4,497,719) | (4,497,719) | | | |
| Total Cash and Investments (December 31, 2020) | | | 44,453,329 | 44,811,733 | | | |
| Total Cash and Investments previous month (November 30, 2020) | | | 42,075,241 | 42,390,796 | | | |



- (i) *The City's Portfolio of Investments comply with the City's Investment Policy.*
- (ii) *According to Government Code Section 53646(b)(3) this report shall include a statement denoting the City's ability to meet its expenditure requirement for the next six month. The City has sufficient available funds on hand to meet its estimated expenditures for the next six months but is also relying on cash inflows to supplement its available funds.*

(1) Sources: State of CA PMIA, National Financial Services, LLC and published Sources
(2) Weighted Average Maturity
(3) Metrics from public sources

- Long and Medium Term Portfolio: Average US Treasury Note 2 and 3 year rate
- Short Term Portfolio: 13 Week Treasury Bill Rate
- One-year U.S Treasury Benchmark .12%

(*) May include true-up adjustments from previous periods.

Certificates of Deposit and Government Securities Held in trust by Unionbanc Investment Services
December 31, 2020

| Investment | Tranche if applicable | CUSIP | Rate | Maturity | Cost | Market Value ⁽¹⁾ | Days | % of Portfolio | WAM ⁽²⁾ |
|---|-----------------------|-----------|---------|------------|-----------|-----------------------------|-------|----------------|--------------------|
| CERTIFICATES OF DEPOSIT | | | | | | | | | |
| PRIVATEBANK &TC CHICAGO ILL | | 74267GVM6 | 1.500 % | 8/30/2021 | 250,000 | 252,360 | 242 | 0.56 % | 0.00 |
| WELLS FARGO BANK NATL ASSN | | 949763AM8 | 1.600 % | 8/31/2021 | 250,000 | 252,610 | 243 | 0.56 % | 0.00 |
| ALLY BANK MIDVALE UTAH | | 02007GEY5 | 3.000 % | 9/13/2021 | 250,000 | 255,178 | 256 | 0.56 % | 0.00 |
| SALLIE MAE BK SLT LAKE CITY UT | | 795450W35 | 3.000 % | 9/13/2021 | 250,000 | 255,178 | 256 | 0.56 % | 0.00 |
| CROSSFIRST BK LEAWOOD KS | | 2276ABQ7 | 1.850 % | 9/22/2021 | 250,000 | 253,290 | 265 | 0.56 % | 0.00 |
| STEARNS BK NA ST CLOUD MN | | 857894UM9 | 1.950 % | 9/29/2021 | 250,000 | 253,563 | 272 | 0.56 % | 0.00 |
| FIRST PREMIER BK SIOUX FALLS | | 33610RRG0 | 1.950 % | 10/5/2021 | 250,000 | 253,640 | 278 | 0.56 % | 0.00 |
| INSBANK NASHVILLE TENN | | 45776NCU8 | 3.050 % | 9/21/2022 | 250,000 | 262,758 | 629 | 0.56 % | 0.01 |
| AMERICAN EXPRESS CENTRN | | 02587D2Q0 | 2.500 % | 10/5/2022 | 250,000 | 260,405 | 643 | 0.56 % | 0.01 |
| AMERICAN EXP FED SVGS BK | | 02587CHK9 | 2.500 % | 12/12/2022 | 250,000 | 260,993 | 711 | 0.56 % | 0.01 |
| COMENTITY CAP BK UTAH | | 20033AF43 | 3.300 % | 9/14/2023 | 250,000 | 271,178 | 987 | 0.56 % | 0.02 |
| CITIBANK NATIONAL ASSOCIATION | | 17312QT33 | 3.300 % | 9/21/2023 | 250,000 | 271,290 | 994 | 0.56 % | 0.02 |
| TOTAL CERTIFICATES OF DEPOSIT | | | | | 3,000,000 | 3,102,440 | 5,776 | 6.92 % | 0.09 |
| MONEY MARKET FUNDS | | | | | | | | | |
| FIDELITY TREASURY MMKT CAPITAL RESERVES | | FSRXX | 0.010 % | 1/1/2021 | 16,038 | 16,038 | 1 | 0.04 % | 0.00 |
| Total Held by Unionbanc Investment Services | | | | | 3,016,038 | 3,118,478 | 5,777 | 6.96 % | 0.09 |

(1) Sources: National Bank Financial Services, LLC
(2) Weighted Average Maturity





STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director

DATE: January 19, 2021

SUBJECT: Adopt a Resolution of the City Council Adopting Volume 1 of the Kern County Multi-Jurisdictional Hazard Mitigation Plan and the City of Wasco's Annex Hazard Mitigation Plan.

Recommendation:

Staff recommends adoption of a resolution adopting Volume 1 of the Kern County Hazard Mitigation Plan and the City of Wasco's Annex Hazard Mitigation Plan.

Discussion:

The City of Wasco has historically been part of the Kern Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The purpose of having the hazard mitigation plan is to provide the County and the City continued access to grant funding from the Federal Emergency Management Agency (FEMA) to conduct hazard mitigation activities and provide resources for residents wishing to conduct hazard mitigation efforts.

Over the past 18 months, City staff have been working with the County of Kern and Dynamic Planning consultants to update the existing 2014 Annex Hazard Mitigation Plan (HMP) for the City of Wasco and the 2014 Kern MJHMP. The plan was developed by the Hazard Mitigation Planning Committee, made up of Dynamic Planning consultants, Emergency Operation Center staff, the Public Works Director, Water Superintendent, former Facilities Supervisor, and the Community Development Director.

City staff reviewed and provided advice and guidance on the existing hazards and mitigation action priorities for Wasco. The hazards and mitigations actions identified are listed below:

| Hazard Type | Mitigation Action Description |
|-------------|---|
| All Hazard | Construct storage capacity to ensure the ability to provide drinking water during a loss of power or drought events |
| Drought | Install municipal water well emergency generator package on wells that lack emergency generators |
| Drought | Install drought-tolerant landscaping in the public right of way and City-owned |

| | |
|----------------|--|
| | buildings and facilities |
| Drought | Remove vegetative fuels and add create defensible space |
| Earthquake | Conduct outreach to encourage privately-owned critical facilities (e.g., churches, hotels, other gathering facilities) to evaluate the ability of the buildings to withstand earthquakes and to address any deficiencies identified. |
| Earthquake | Install seismic shut-off valves on gas fixtures on City-owned facilities |
| Earthquake | Retrofit/Harden City-owned critical facilities and buildings and their ability to withstand earthquakes |
| Earthquake | Install backup power generators for emergency shelters, animal shelters, wastewater lift stations, and cooling centers. |
| Flood | Routinely inspect and maintain stormwater inlets and outfalls for debris and obstructions, sand and gravel build-up, structural damage, and vandalism. |
| Flood | Continue to implement sound floodplain management practices through participation in National Flood Insurance Program |
| Flood | Construct/improve storm drain facilities City-wide to accomplish 100-YR protection |
| Soil Stability | Conduct subsidence investigations on wells located in high subsidence areas |

There are currently 58 jurisdictions participating in the plan update; however, not all jurisdictions could complete the update process at this time. The City of Wasco annex was completed as part of the first round. Volume 1 of Kern MJHMP and the City's Annex HMP were submitted to the California Office of Emergency Services (Cal OES) and FEMA for public review in August and September 2020. Public review comments have been addressed. On December 11, 2020, FEMA determined that the Volume 1 plan and the City's standalone HMP are approved pending adoption.

Governing bodies of the participating jurisdictions are now being asked to adopt the Kern County Multi-Jurisdictional Hazard Mitigation Plan and respective Annex Hazard Mitigation Plan to formalize the plans. A current and approved hazard mitigation plan is a prerequisite for jurisdictions to pursue funding under FEMA's Hazard Mitigation Assistance Program. The Kern County MJHMP must be updated every five years to remain compliant with Federal regulations.

Attached to this staff report, you will find the entire Volume 1 of the Kern Multi-Jurisdictional Hazard Mitigation Plan, the City's standalone Annex Hazard Mitigation Plan, and a memorandum from the consultant with background information on the plan for your review. Once FEMA grants final approval, Volume 1 and the standalone Annex HMPs will be valid for five years. During the five-year period, the City will be eligible to apply for funds through FEMA's Hazard Mitigation Assistance (HMA) Grant Program. When awarded, HMA Grant Program funds can be used to begin implementing the mitigation actions detailed in the City's Annex HMP. Those mitigation actions may help reduce the loss of life, personal injury, and property damage that can result from future disasters.

Staff recommends adopting the resolution adopting Volume 1 of the Kern County Multi-Jurisdictional Hazard Mitigation Plan and the City of Wasco's Annex Hazard Mitigation Plan.

Fiscal Impact:

None.

Attachment:

1. Memorandum from Torie Jarvis RE: 2020-21 Kern MJHMP Background Information
2. Correspondence from Wendy Benson
3. Volume 1 of the Kern Multi-Jurisdictional Hazard Mitigation Plan
4. The City of Wasco's standalone Annex Hazard Mitigation Plan
5. Resolution



MEMORANDUM

TO: All jurisdictions participating in the
Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP)

FROM: Torie Jarvis, Planning Manager
Dynamic Planning + Science
970-323-4330 or torie@dynamicplanning.co

DATE: January 15, 2021

RE: **2020-2021 Kern MJHMP Adoption Background Information**

Over the past 18 months, Kern County, along with participating jurisdictions, developed an update to the 2014 Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) to reduce losses resulting from natural disasters. All participating jurisdictions, the Hazard Mitigation Planning Committee (HMPC), and the public have been offered the opportunity to review the MJHMP. **The governing bodies of participating jurisdictions are now being asked to adopt the Kern MJHMP as the official mitigation plan.** This memo may provide helpful background information for adoption proceedings; please feel free to use as you see fit.

Hazard mitigation is the use of sustained, long-term actions to reduce the loss of life, personal injury, and property damage that can result from a disaster. The Plan provides a formal explanation of prevalent natural hazards within the County and how hazards may affect communities differently. The mitigation strategy presented in the Plan responds to the known vulnerabilities within each community and provides prescriptions or actions to achieve the greatest reduction of natural hazard risk.

The purpose of having a hazard mitigation plan is to (1) provide the County and participating jurisdictions continued access to grant funding from the Federal Emergency Management Agency (FEMA) to conduct hazard mitigation activities and (2) provide resources for residents wishing to conduct hazard mitigation efforts by identifying areas of extreme risk and providing financial and technical mitigation resources based on current gaps.

The plan was developed by the Hazard Mitigation Planning Committee (HMPC), made up of participants from all participating jurisdictions advising on hazard and mitigation action priorities both for the County as a whole and each jurisdiction individually, with expertise from the consultants on the project, Dynamic Planning + Science.

The Kern MJHMP has been set up in two volumes to separate jurisdiction-specific elements (Volume 2) from those that apply to the whole planning area (Volume 1):

- Volume 1, also known as the “umbrella plan,” includes all federally required elements of a hazard mitigation plan that apply to the entire planning area. This includes the description of the planning process, public involvement strategy, goals and objectives, countywide hazard risk assessment,



countywide mitigation initiatives, and a plan maintenance strategy. Volume 1 includes the following appendices:

- Ø Appendix A – Annex Methodology
- Ø Appendix B – Planning Process Documentation

- Volume 2 includes a crosswalk that directs readers to all federally required, jurisdiction-specific elements for each jurisdiction, which, in turn, are available as standalone Annex HMPs. Volume 2 describes the categorization of jurisdictions into municipalities, special districts, school districts, and water and wastewater districts.

There are currently 58 jurisdictions participating in this MJHMP. However, not all jurisdictions were able to complete the update process at the same pace, especially given challenges presented by the ongoing COVID-19 pandemic that, at its initial peak, caused many jurisdictions to radically scale back operations and send employees home. Many of the remaining jurisdictions are planning to submit standalone Annex HMPs to the Volume 1 “umbrella plan” at a later date.

The Volume 1 “umbrella plan” and standalone Annex HMPs for 11 jurisdictions were submitted to Cal OES and FEMA for review in this “Wave One” of submissions. The public reviewed this “Wave One” in August and September 2020 and all public comments have been addressed.

In addition to Kern County, the following jurisdictions were part of this “Wave One” submission:

- | | | |
|--|---|---------------------------------------|
| • City of Tehachapi | • Stallion Springs Community Services District | • Tehachapi Unified School District |
| • City of Wasco | • Tehachapi Valley Recreation and Park District | • Arvin-Edison Water Storage District |
| • Mojave Air and Space Port | • Kern High School District | • Kern County Water Agency |
| • East Niles Community Services District | • Lost Hills Union School District | |

On December 11, 2020, FEMA determined that the Volume 1 “umbrella plan” and “Wave One” standalone Annex HMPs for the 11 jurisdictions listed above are “approvable pending adoption.” FEMA’s determination signals that no additional edits or changes to either the Volume 1 “umbrella plan” or “Wave One” standalone Annex HMPs are required.

The governing body of each jurisdiction listed above must now adopt the Volume 1 “umbrella plan” and its respective standalone Annex HMP and submit the adoption resolution, through DP+S, to FEMA. FEMA will grant final approval of the Volume 1 “umbrella plan” and “Wave One” standalone Annex HMPs after they receive the adoption resolutions.

A current and approved hazard mitigation plan is a prerequisite for jurisdictions wishing to pursue funding under FEMA’s Hazard Mitigation Assistance (HMA) Program. The Kern MJHMP must be updated every five (5) years to remain in compliance with Federal regulations and mitigation grant conditions.

The Kern MJHMP is available at these links, to either view in a browser or to download. Note the large document size if choosing to download. The following links are for Volume 1 and directly to the “Wave One” Annexes.

**KERN MJHMP VOLUME 1 (COUNTY UMBRELLA PLAN):**[Download](#) (warning: large document size)[View in Browser](#)**KERN MJHMP ANNEXES (WAVE ONE)**

| Jurisdiction | Download Annex | View Annex in Browser |
|-------------------------------------|--------------------------|---------------------------------|
| City of Tehachapi | Download | View in Browser |
| City Of Wasco | Download | View in Browser |
| Kern High School District | Download | View in Browser |
| Lost Hills Union School District | Download | View in Browser |
| Tehachapi Unified School District | Download | View in Browser |
| East Niles CSD | Download | View in Browser |
| Mojave Air and Space Port | Download | View in Browser |
| Stallion Springs CSD | Download | View in Browser |
| Tehachapi Valley RPD | Download | View in Browser |
| Arvin-Edison Water Storage District | Download | View in Browser |
| Kern County Water Agency | Download | View in Browser |

From: [Wendy Benson](#)
To: [Biridiana Bishop](#)
Cc: [Daniel Ortiz-Hernandez](#); [Jeff Tackett](#); [Keri Cobb](#); [Maria Martinez](#); [Mariana Sobolewski](#); [Wayne Jackson](#); [Torie Jarvis](#)
Subject: Kern Multi-Jurisdiction Hazard Mitigation Plan - FEMA Conditional Approval! and Next Steps
Date: Monday, January 4, 2021 12:08:26 PM
Attachments: [Kern MJHMP Resolution Template Municipalities Final.docx](#)
[Background memo, KernMJHMP Final.docx](#)

Hi Biridiana:

You may recall that Volume 1 of the Kern Multi-Jurisdiction Hazard Mitigation Plan, also known as the “umbrella plan,” and the standalone Annex Hazard Mitigation Plans (HMPs) of the 11 jurisdictions in Wave One of submissions (including the City of Wasco), were under review by Cal OES and FEMA. We were standing by to see whether FEMA required any edits or changes to Volume 1 and the standalone Annex HMPs before approving them.

I am pleased to report that FEMA recently notified us that Volume 1 and the Annex HMPs of the 11 jurisdictions in Wave One, including the City of Wasco's, are “Approvable Pending Adoption.” No edits or changes are necessary. **This is a significant milestone, and I congratulate you and the City for contributing to its achievement!**

In granting a designation of “Approvable Pending Adoption,” FEMA has determined that Volume 1 and the 11 Annex HMPs are eligible for final approval pending adoption by Kern County and the 11 participating jurisdictions. To adopt Volume 1 and its own standalone Annex HMP, the governing body of each participating jurisdiction must now approve a resolution.

Next steps. The City Council of the City of Wasco needs to approve a resolution that adopts the Volume 1 “umbrella plan” and its Annex HMP as the official mitigation plan. Would you please submit the resolution for approval at the Council's next available meeting?

To help you prepare an agenda item, attached are:

- **A resolution template.** Please fill in the highlighted areas with the name of your jurisdiction and its governing body and insert the template into your Council's resolution format.
- **Sample background information.** When the resolution is presented to your Council for adoption, you may wish to include background information that discusses the purpose of hazard mitigation, reviews the plan update process, and states the benefits to the City of having a FEMA-approved hazard mitigation plan. The attached memorandum provides that information. Please feel free to use it as you see fit.

In case you wish to direct the City's Council members to the plan documents, here are links to:

- [Volume 1 of the Kern Multi-Jurisdiction Hazard Mitigation Plan](#) and
- [The City of Wasco's standalone Annex Hazard Mitigation Plan \(HMP\).](#)

As described in the resolution template and background information, the City's Council must adopt both Volume 1 and its standalone Annex HMP. The Council must adopt both because while the Annex HMP covers elements specific to the City of Wasco, Volume 1 includes elements that apply to all participating jurisdictions, such as the description of the planning process, public involvement strategy, and goals and objectives.

After the Council adopts Volume 1 and the standalone Annex HMP, please email a copy of the signed resolution to Torie Jarvis, the Planning Manager for plan update consultant Dynamic Planning + Science (DP+S). Torie's email address is torie@dynamicplanning.co. She is copied on this email.

After Torie collects signed resolutions from each jurisdiction, she will compile them and send them to FEMA. After FEMA receives the signed resolutions, they will grant final plan approval.

Once FEMA grants final approval, Volume 1 and the standalone Annex HMPs will be valid for five years. During the five-year period, the City will be eligible to apply for funds through FEMA's Hazard Mitigation Assistance (HMA) Grant Program. When awarded, HMA Grant Program funds can be used to begin implementing the mitigation actions detailed in the City's Annex HMP. Those mitigation actions may help reduce the loss of life, personal injury, and property damage that can result from future disasters.

We anticipate that the resolutions will be submitted to FEMA around mid-February 2021. To ensure that the City's resolution is included in this group, please submit it for approval at the Council's January or February meeting.

To help us plan the submittal to FEMA, please let me know when you will be able to submit the resolution for Council approval. It appears that the Council has meetings on January 19th and February 2nd. Would you be able to submit the resolution for approval at one of those meetings?

Please also let me know if you need additional information and how I can be of assistance. As always, I appreciate your time, patience, consideration, and work to update the Kern Multi-Jurisdiction Hazard Mitigation Plan. **We are almost there!**

Thank you,
Wendy

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Register with ReadyKern, Kern County's emergency notification system, to be provided with vital public safety information in an emergency or disaster affecting our area www.ReadyKern.com.

RESOLUTION NO. 2021 - _____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO ADOPTING THE
UPDATED MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**

WHEREAS, the City of Wasco, a political subdivision of the State of California, is an official participating jurisdiction in the updated Kern Multi-Jurisdiction Hazard Mitigation Plan ("MJHMP"); and,

WHEREAS, the City of Wasco recognizes the updated MJHMP as the official hazard mitigation plan for participating jurisdictions; and

WHEREAS, the City of Wasco has gathered information and prepared the updated MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 CFR § 201.6; and

WHEREAS, Volume 1 of the updated MJHMP recognizes the threat that natural hazards pose to people and property Kern County-wide; and

WHEREAS, the City of Wasco's Annex to Volume 1 of the updated MJHMP provides additional information specific to the City of Wasco, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community; and

WHEREAS, the City of Wasco has reviewed Volume 1 of the updated MJHMP and its Annex and affirms that the plan actions in Volume 1 and its Annex should reduce the potential for harm to people and property from future hazard occurrences within the community; and

WHEREAS, The U. S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, The Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, An adopted hazard mitigation plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, The City of Wasco fully participated in the FEMA-prescribed mitigation planning process to prepare this updated MJHMP; and

WHEREAS, The residents were afforded opportunities to comment and provide input in the updated MJHMP and the mitigation actions in the Plan; and

WHEREAS, The City of Wasco, as a fully participating jurisdiction of the updated MJHMP, is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, The California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the updated MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

WHEREAS, The City of Wasco desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the updated MJHMP; and

WHEREAS, Adoption by the governing body for the City of Wasco demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this updated MJHMP; and

WHEREAS, Adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the updated MJHMP.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: The City Council of the City of Wasco finds the facts mentioned above to be true and further finds that this Council has jurisdiction to consider, approve, and adopt the subject of this Resolution.

SECTION 2: The City Council of the City of Wasco does hereby adopt the updated Kern Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and its Annex, as approved by FEMA and Cal OES, as the official mitigation plan for the City of Wasco.

SECTION 3: This Council will consider adopting the updated Kern Multi-Jurisdictional Hazard Mitigation Plan by reference into the safety element of their general plan to conform with AB 2140.

SECTION 4: This Council authorizes the Director of Kern County Emergency Services to submit an approved and signed copy of this adoption resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA
MAYOR of the City of Wasco

Attest:

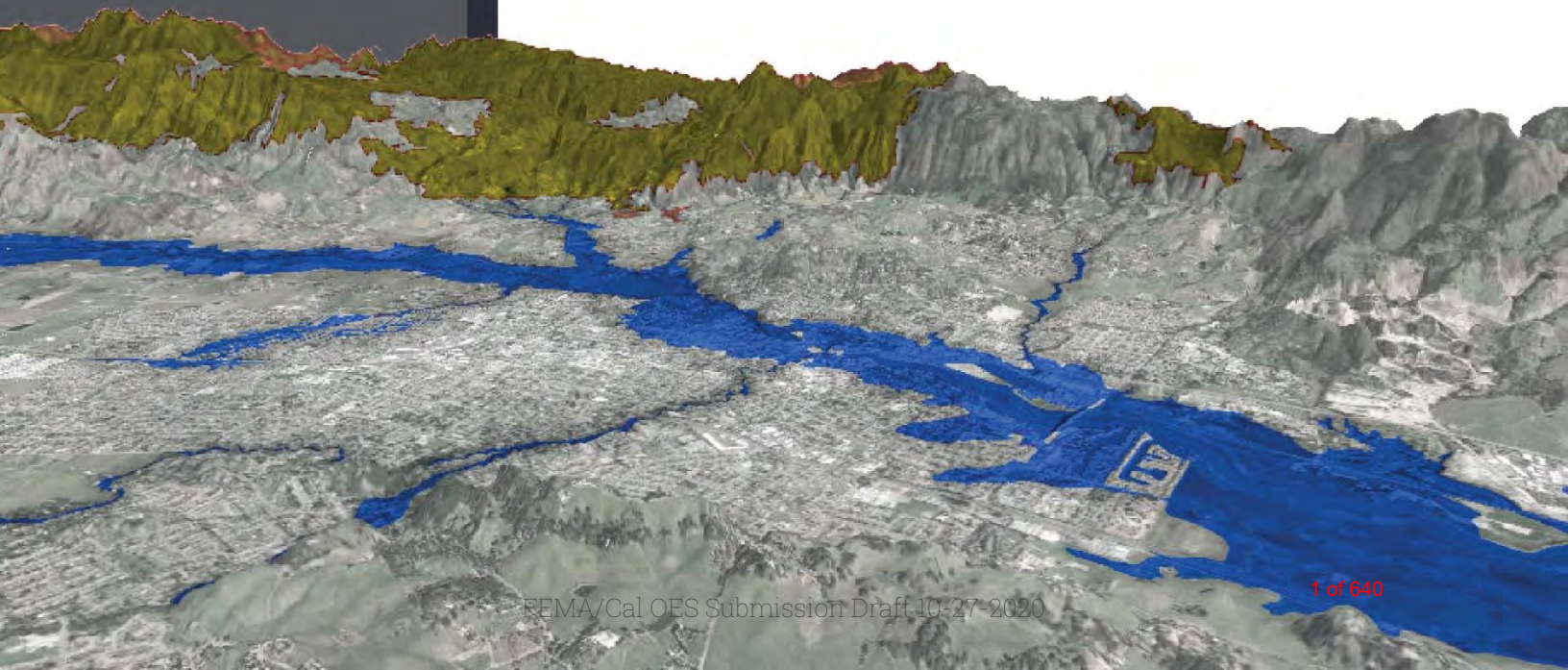
MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

COUNTY OF KERN

MULTI-JURISDICTION HAZARD MITIGATION PLAN

**KERN COUNTY FIRE DEPARTMENT
OFFICE OF EMERGENCY SERVICES**

2601 PANORAMA DR. BUILDING B
BAKERSFIELD, CA 93306





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Kern County

Multi-Jurisdiction Hazard Mitigation Plan

Volume 1

Planning-Area-Wide Elements

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Executive Summary

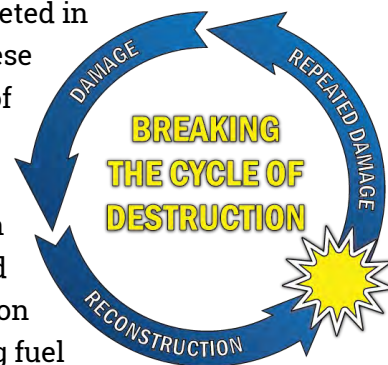
KERN COUNTY

MULTI-JURISDICTION HAZARD MITIGATION PLAN



Kern County prepared this Hazard Mitigation Plan to guide County and City Officials, Special District Managers, School District Administrators, and Water and Wastewater District Managers in protecting the people and property within the County from the effects of natural disasters and hazard events. This plan demonstrates Kern County's commitment to reducing risk from natural hazards through mitigation and serves as a tool to direct County resources to achieve optimum results with available administrative, technical, and financial resources.

The term **"hazard mitigation"** refers to actions or strategies that can reduce or eliminate long-term risks caused by natural disasters. Mitigation activities can be developed, planned, and implemented before or after a disaster occurs. After disasters, repairs and reconstruction often are completed in such a way as to simply restore damaged property to pre-disaster conditions. These efforts may return property and infrastructure to "the norm", but the replication of pre-disaster conditions may result in a repetitive cycle of damage and reconstruction. Hazard mitigation planning in Kern County can break this repetitive cycle by reducing vulnerability to hazards through smart construction and proper planning of future development and critical infrastructure. Hazard mitigation activities can be conducted through a wide variety of mitigation strategies, such as construction of regional flood control projects or implementing fuel reduction activities around buildings within high wildfire risk areas.



What is a hazard mitigation plan?

This Hazard Mitigation Plan provides an explanation of prevalent hazards within the County and how hazards may affect the County and participating cities and special districts differently based upon proximities to natural hazards. This plan also identifies risks to vulnerable assets, both people and property. Most importantly, the mitigation strategy presented in this plan responds to the identified vulnerabilities within each community and provides prescriptions or actions to achieve the greatest risk reduction based upon available resources. The County and participating jurisdictions intend to save lives, reduce injuries, reduce property damage, and protect natural resources for future generations through mitigation activities.

Why have a hazard mitigation plan?

The passage of the Disaster Mitigation Act in 2000 (DMA 2000) requires proactive pre-disaster planning as a condition of receiving certain federal financial assistance under the Robert T. Stafford Act. DMA 2000 encourages state and local authorities to work together on pre-disaster planning to assist local governments to accurately assess mitigation needs, resulting in faster allocation of funding and more cost-effective risk reduction projects under FEMA's Hazard Mitigation Assistance program. The purpose of this Multi-jurisdiction Hazard Mitigation Plan (MJHMP) is twofold. First, it provides the County and participating jurisdictions continued access to grant funding from FEMA to conduct hazard mitigation activities for participating jurisdictions. Secondly, it provides resources for residents wishing to conduct



hazard mitigation efforts by identifying areas of extreme risk and providing financial and technical mitigation resources based upon current gaps.

Why is the plan updated so often?

As a DMA 2000 requirement, the plan must be updated every five years to remain in compliance with federal mitigation grant conditions. Federal regulations require hazard mitigation plans to include a plan for monitoring, evaluating, and updating the hazard mitigation plan. An update process provides an opportunity to reevaluate recommendations, monitor the impacts of actions that have been accomplished, and determine if there is a need to change the focus of mitigation strategies over time. Grant compliance is contingent on meeting the plan update requirements that are contained in the Code of Federal Regulations (CFRs). Jurisdictions that allow a plan to expire are not able to pursue funding under the Robert T. Stafford Act.



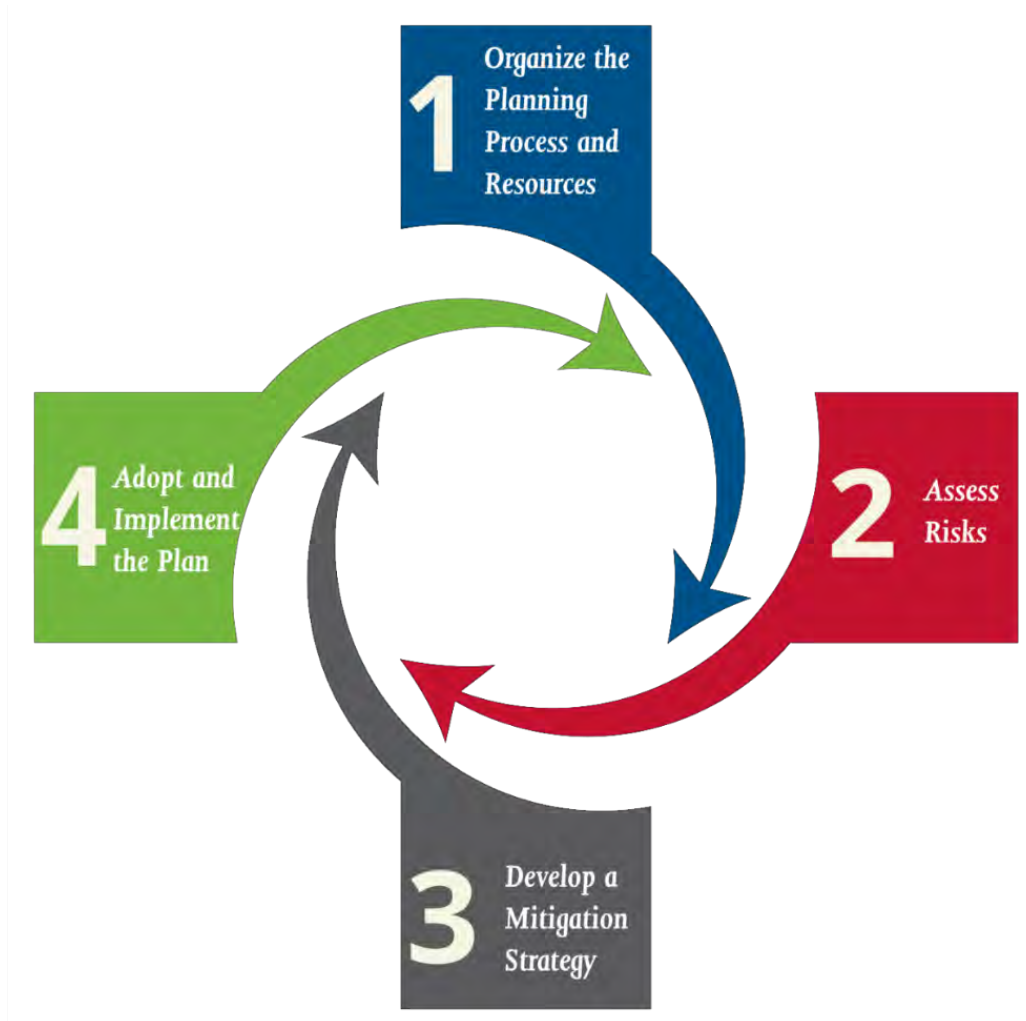
Participating Jurisdictions

The Kern County MJHMP has multiple participating jurisdictions and geographically covers the entire area within Kern County (hereinafter referred to as the “planning area”). A planning partnership was formed to develop and steer content in this Plan. This partnership consists of Kern County stakeholders and participating jurisdictions who have worked together to create the goals, objectives, mitigation strategies, and implementation methods to reduce risk. Any local government or non-profit agency with the ability to regulate building or infrastructure development or maintenance may participate in the planning process. However, to obtain FEMA approval, each of the local jurisdictions must meet all FEMA planning requirements outlined in federal regulations at 44 CFR § 201.6 *et seq.* A list of jurisdictions that have elected to participate in this MJHMP can be found in Table 2-1.



Plan Development and Update Methods

Hazard mitigation planning is the process through which hazards are identified, likely impacts determined, mitigation goals set, and appropriate mitigation strategies identified. This plan documents the hazard mitigation planning process the County and participating jurisdictions used to increase natural hazard resiliency in the community. Kern County and all participating jurisdictions followed the recommended FEMA four-step process to develop this 2020 updated Plan. This update included a reorganization of planning partners to provide clear delineation of jurisdiction information, development of a new risk assessment, revaluation of goals and objectives, development of new mitigation actions, new enhancements for implementing mitigation actions, updates to all sections of the 2014 plan, and a new website for stakeholder involvement and public information.





Risk Assessment

The risk assessment measures the potential loss of life, personal injury, economic injury, and property or infrastructure damage resulting from natural hazards in order to determine vulnerability. For this update, the risk assessment utilized new data and technologies that have become available since 2014. The County and participating jurisdictions used risk assessment information to rank risks and to gauge the potential impacts of each hazard of concern in the Operational Area. The risk assessment included:

- Hazard identification and profiling,
- Assessment of the impact of hazards on physical, social, and economic assets,
- Identification of particular areas of vulnerability,
- Additional impacts of each hazard due to climate change, and
- Estimates of the cost of potential damage.

The following natural hazard threats were identified and profiled as County priority hazards:

Severe Weather **SECTION 4.5.1**



Flood **SECTION 4.5.2**



Dam Failure **SECTION 4.5.3**



Earthquake **SECTION 0**



Wildfire **SECTION 4.5.5**



Drought **SECTION 4.5.6**



Slope Failure **SECTION 4.5.7**



Soil Stability **SECTION 4.5.8**



Participating jurisdictions also individually assessed risks applicable to their jurisdiction. Many participating jurisdictions identified fewer than the County-identified hazards. Those jurisdiction-specific profiles are included in Volume 2 of this MJHMP.



Hazard Exposure and Damage Estimation

In Kern County, earthquakes, flooding, slope failure, dam failure, and wildfire have known geographic extents and corresponding spatial information, which make exposure and damage estimation possible. In order to describe vulnerability for each hazard, it is important to understand the total population and total assets at risk. This provides the estimated damage and losses expected during a “worst case scenario” event for each hazard.

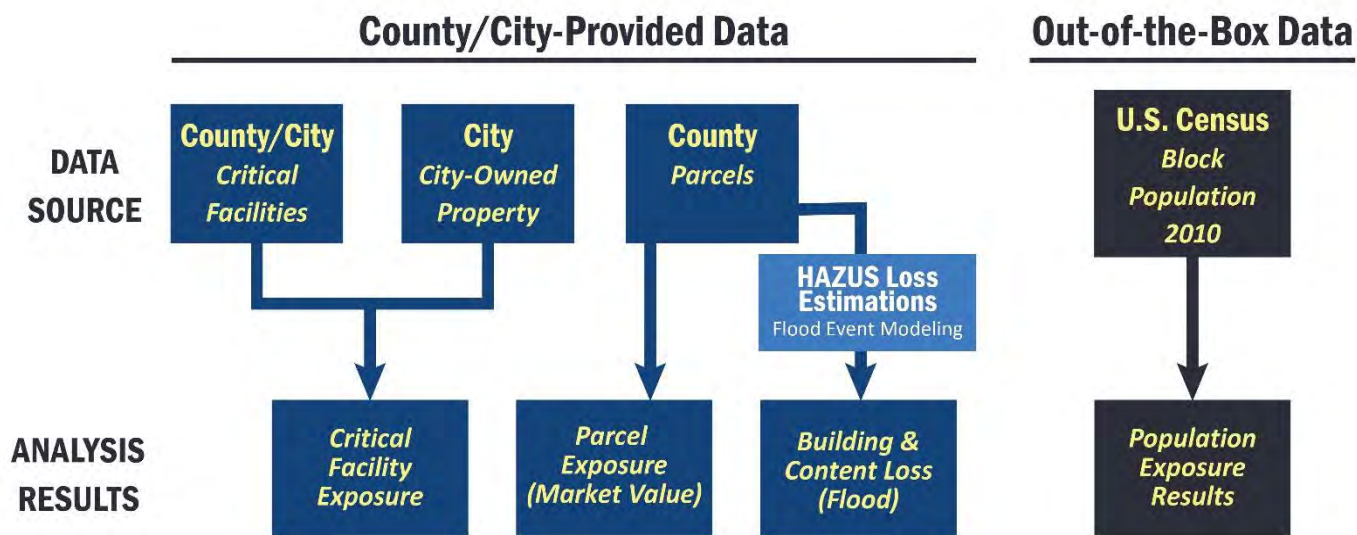


Figure ES 1 Risk Assessment Methodology Summary

Population and Asset Exposure

The total counts of parcels, people, facilities, assets and the sum of values within the planning area which could be exposed to a hazard event is referred to as the “exposure” in this plan. A natural hazards overlay was developed to reflect the combination of many known natural hazard spatial footprints. The spatial overlay method enables summarization of building values, parcel counts, population exposure, and critical facility exposure within a hazard’s geographic extents (see Figure ES 2 exposure example). This method has been used to evaluate exposure for earthquakes, landslides, flooding, dam inundation, and wildfire. For a more detailed explanation on Risk Assessment Methods, see Section 4.4 and Appendix A at A 1-2.



Figure ES 2 Exposure explanation graphic

Damage Assessments

FEMA's Hazus software was used to conduct a detailed loss estimation for flood and earthquake. Hazus is a nationally-applicable, standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. For this planning effort, Hazus was used to generate damage estimations due to possible earthquakes and flooding. The estimated damage and losses provided by the Hazus Software is a "worst case scenario" event and provides the ability to understand possible widescale damage to buildings and facilities.

In the hypothetical map in Figure ES 3, even though both structures are exposed to flooding, it is predicted that the structure with a first floor height below the depth of flooding will receive significantly more damage than the structure with a first floor height above the expected water depth. For a more detailed explanation on Risk Assessment Methods, see Section 4.4 and Appendix A at A 1-2.



Figure ES 3 Hazus Damage Estimation Example



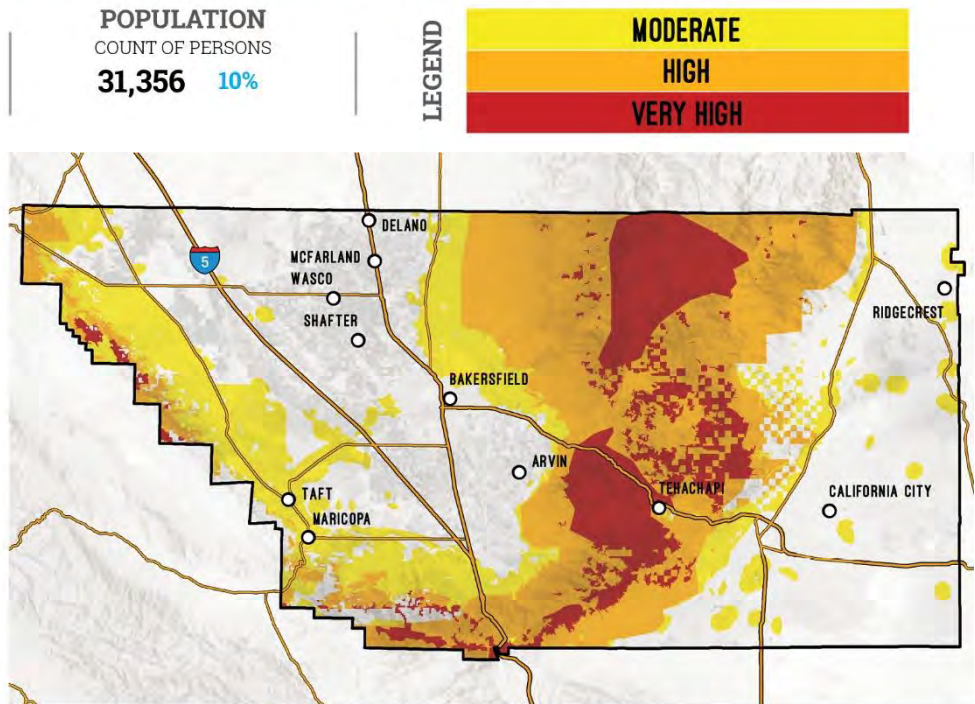
Summary of Vulnerable Assets: People, Property Value, and Infrastructure

Hazards with spatial boundaries can be evaluated to demonstrate the amount of population, critical infrastructure, and parcels within each hazard's footprint. At-risk populations, critical infrastructure, improved parcels, and loss results for each hazard category are provided in bar chart summary tables throughout this plan to evaluate the percentage of assets exposed to different types of hazards. The side-by-side comparison allows officials to evaluate the impacts of potential hazards to determine what hazards to direct energy and financial resources for mitigation activities. For detailed vulnerabilities assessment information, see the individual hazard-specific sections presented in Section 4.5. This Executive Summary provides map summaries for the profiled hazards in Figure ES 4 through Figure ES 7.



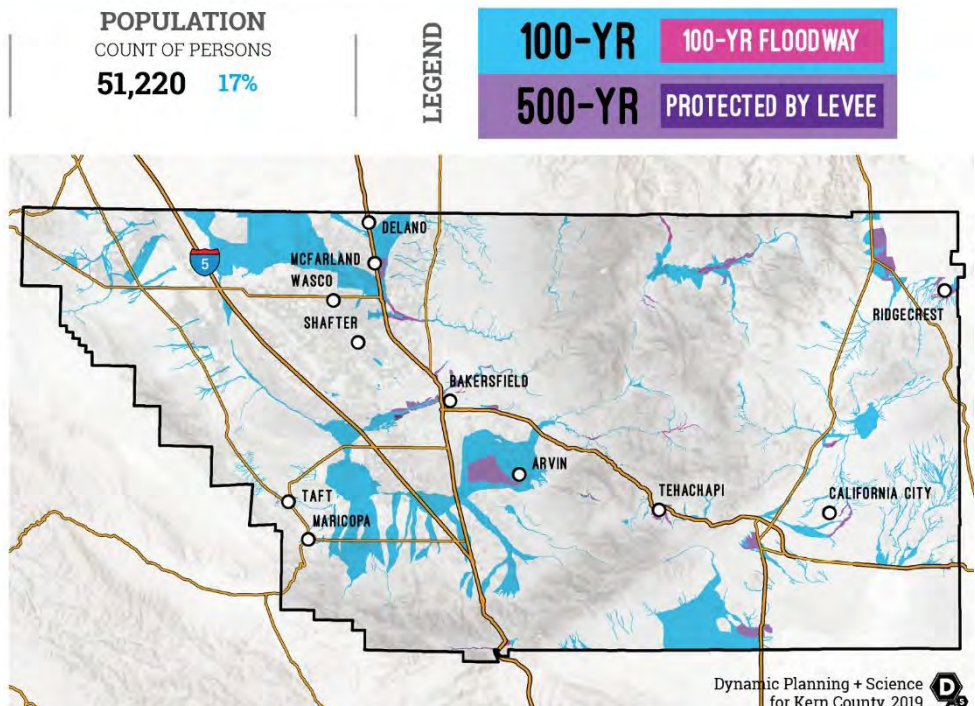
KERN COUNTY - WILDFIRE VULNERABILITY & EXPOSURE SNAPSHOT

| | | |
|--|--------------|------------|
| PARCEL COUNT | | |
| COUNT | | |
| 23,615 | 26% | |
| PARCEL VALUE | | |
| SUM OF IMPROVEMENT | | |
| \$3,108,015,208 | 28% | |
| SUM OF CONTENT | | |
| \$1,554,381,104 | 28% | |
| CRITICAL INFRASTRUCTURE | | |
| POINT COUNT | | |
| Essential Facilities | 18 | 37% |
| High Potential Loss | 148 | 21% |
| Transportation & Lifeline | 1,223 | 22% |
| LINEAR MILEAGE | | |
| Transportation & Lifeline | 3,074 | 20% |
| *Exposure summaries include high and very high LRA and SRA zones. Hazard data sources: Cal Fire, CPUC. | | |



KERN COUNTY - FEMA FLOOD ZONE VULNERABILITY & EXPOSURE SNAPSHOT

| | | |
|--|--------------|------------|
| PARCEL COUNT | | |
| COUNT | | |
| 14,968 | 16% | |
| PARCEL VALUE | | |
| SUM OF IMPROVEMENT | | |
| \$1,497,380,907 | 14% | |
| SUM OF CONTENT | | |
| \$748,831,453 | 14% | |
| CRITICAL INFRASTRUCTURE | | |
| POINT COUNT | | |
| Essential Facilities | 11 | 22% |
| High Potential Loss | 139 | 19% |
| Transportation & Lifeline | 1,104 | 20% |
| LINEAR MILEAGE | | |
| Transportation & Lifeline | 2,962 | 20% |
| *Exposure summaries include 100-year and 500-year flood zone areas. Hazard data sources: FEMA. | | |



Dynamic Planning + Science
for Kern County, 2019

Figure ES 4 Wildfire and Flood Snapshots



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

KERN COUNTY - DAM INUNDATION VULNERABILITY & EXPOSURE SNAPSHOT

PARCEL COUNT COUNT

24,411 27%

PARCEL VALUE SUM OF IMPROVEMENT

\$3,356,526,800 31%

SUM OF CONTENT

\$1,678,343,900 31%

CRITICAL INFRASTRUCTURE

POINT COUNT

Essential Facilities **10** 20%

High Potential Loss **207** 29%

Transportation & Lifeline **1,258** 22%

LINEAR MILEAGE

Transportation & Lifeline **2,605** 17%

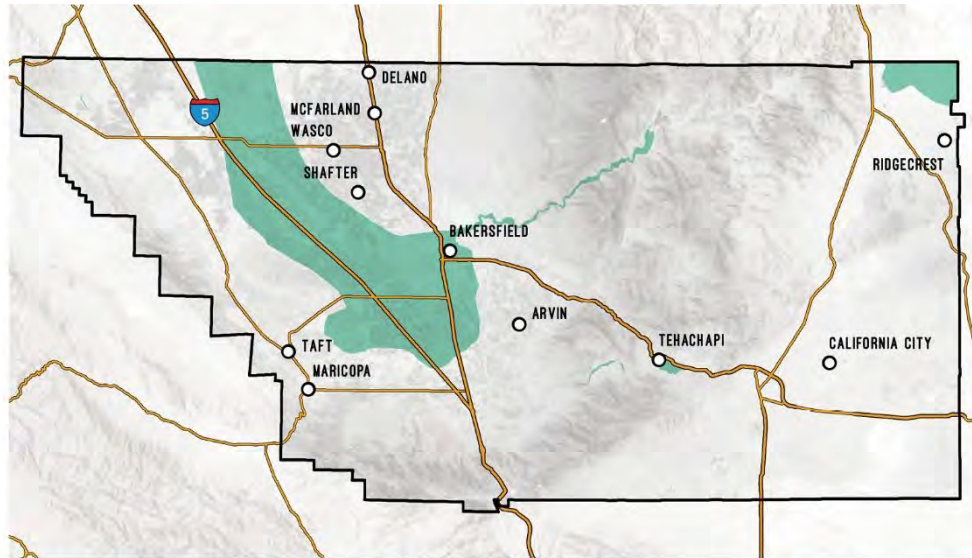
*Exposure summaries include all dam inundation areas. Hazard data sources: Cal OES.

POPULATION COUNT OF PERSONS

100,612 34%

LEGEND

INUNDATION ZONE



KERN COUNTY - EQ - S. SAN ANDREAS MOJAVE N. VULNERABILITY & EXPOSURE SNAPSHOT

PARCEL COUNT COUNT

77,923 85%

PARCEL VALUE SUM OF IMPROVEMENT

\$9,672,907,618 89%

SUM OF CONTENT

\$4,837,003,809 89%

CRITICAL INFRASTRUCTURE

POINT COUNT

Essential Facilities **34** 69%

High Potential Loss **556** 77%

Transportation & Lifeline **3,868** 68%

LINEAR MILEAGE

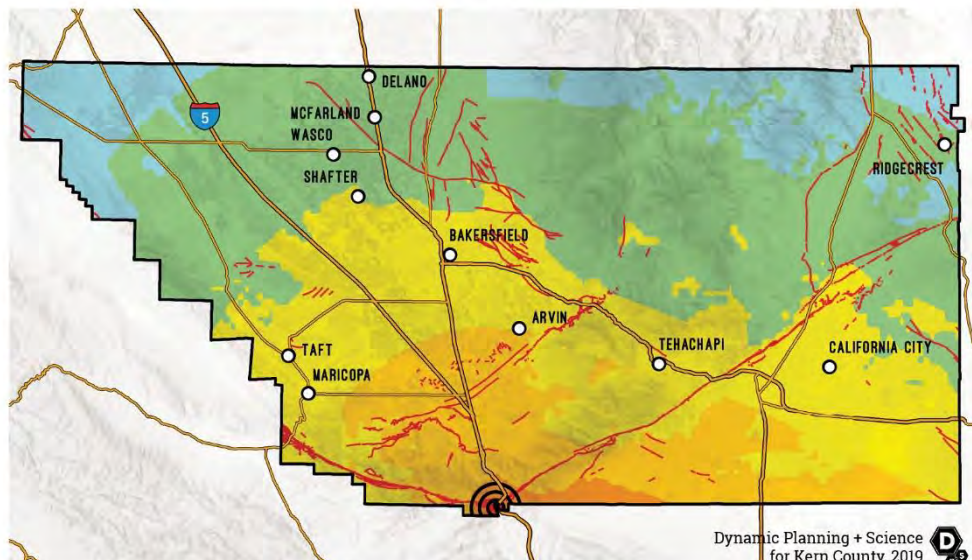
Transportation & Lifeline **9,425** 62%

*Exposure summaries include strong, very strong, and severe MMI classes. Hazard data sources: USGS.

POPULATION COUNT OF PERSONS

254,106 85%

LEGEND



Dynamic Planning + Science
for Kern County, 2019

Figure ES 5 Dam Inundation and Earthquake Snapshot



KERN COUNTY - DWR AWARENESS ZONE VULNERABILITY & EXPOSURE SNAPSHOT

| | |
|--|--------------|
| PARCEL COUNT | |
| COUNT | |
| 178 | 0% |
| PARCEL VALUE | |
| SUM OF IMPROVEMENT | |
| \$28,464,953 | 0% |
| SUM OF CONTENT | |
| \$14,233,976 | 0% |
| CRITICAL INFRASTRUCTURE | |
| POINT COUNT | |
| Essential Facilities | 0 0% |
| High Potential Loss | 0 0% |
| Transportation & Lifeline | 8 0% |
| LINEAR MILEAGE | |
| Transportation & Lifeline | 37 0% |
| *Exposure summaries include all awareness zones. Hazard data sources: DWR. | |

POPULATION
COUNT OF PERSONS
349 0%

LEGEND

AWARENESS ZONE



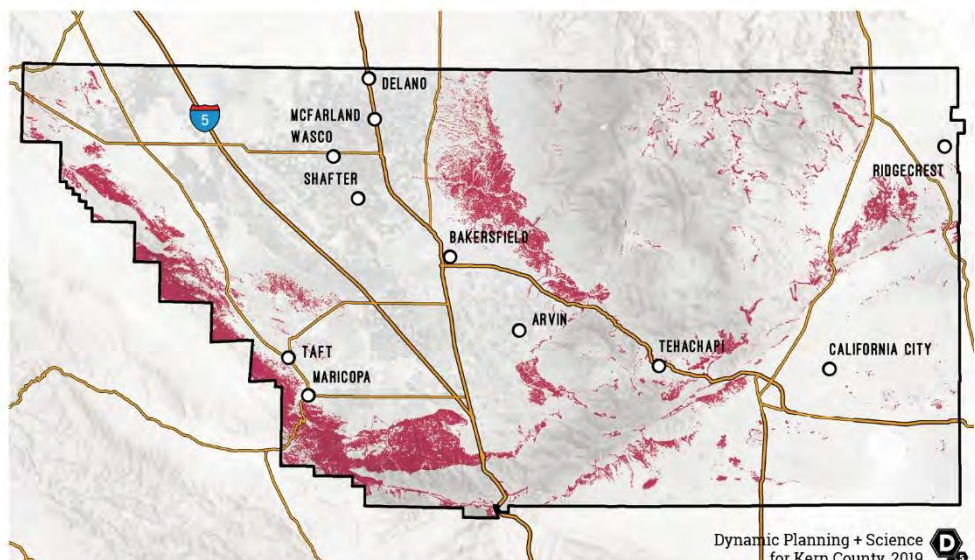
KERN COUNTY - LANDSLIDE VULNERABILITY & EXPOSURE SNAPSHOT

| | |
|--|---------------|
| PARCEL COUNT | |
| COUNT | |
| 1,942 | 2% |
| PARCEL VALUE | |
| SUM OF IMPROVEMENT | |
| \$276,015,865 | 3% |
| SUM OF CONTENT | |
| \$138,039,432 | 3% |
| CRITICAL INFRASTRUCTURE | |
| POINT COUNT | |
| Essential Facilities | 0 0% |
| High Potential Loss | 4 1% |
| Transportation & Lifeline | 342 6% |
| LINEAR MILEAGE | |
| Transportation & Lifeline | 331 2% |
| *Exposure summaries include high susceptibility only (class 9+). Hazard data sources: CGS. | |

POPULATION
COUNT OF PERSONS
5,769 2%

LEGEND

HIGH LANDSLIDE RISK



Dynamic Planning + Science
for Kern County, 2019

Figure ES 6 Awareness Zone and Landslide Snapshot



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

KERN COUNTY - SUBSIDENCE VULNERABILITY & EXPOSURE SNAPSHOT

PARCEL COUNT COUNT

76,994 84%

PARCEL VALUE SUM OF IMPROVEMENT

\$8,989,026,902 82%

SUM OF CONTENT

\$4,495,077,951 82%

CRITICAL INFRASTRUCTURE

POINT COUNT

Essential Facilities **35** 71%

High Potential Loss **632** 88%

Transportation & Lifeline **4,133** 73%

LINEAR MILEAGE

Transportation & Lifeline **10,707** 71%

*Exposure summaries include all classes of earth movement. Hazard data sources: DWR.

POPULATION COUNT OF PERSONS

265,101 88%

LEGEND

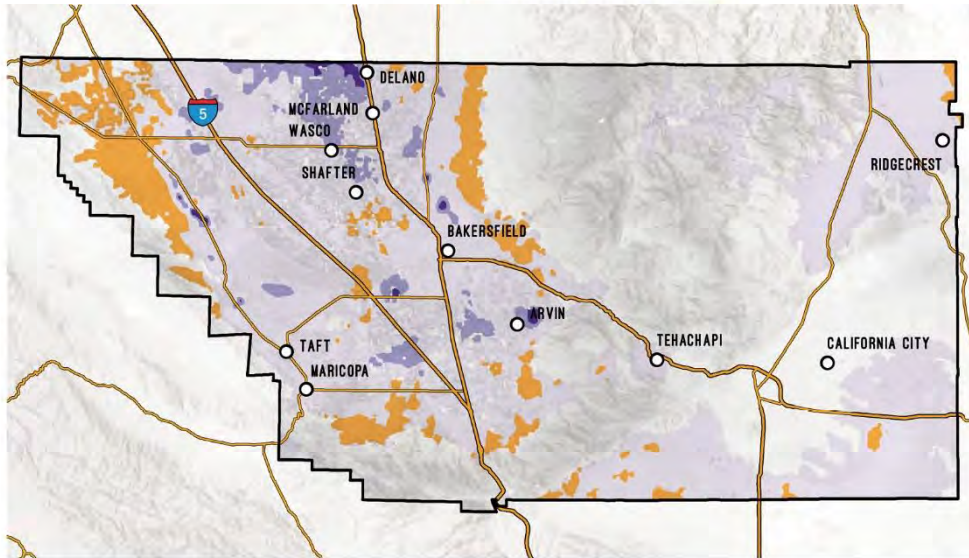
LOW LIFT

LOW SUBSIDENCE

MEDIUM SUBSIDENCE

HIGH SUBSIDENCE

EARTH MOVEMENT



KERN COUNTY - EQ2 VULNERABILITY & EXPOSURE SNAPSHOT

PARCEL COUNT COUNT

86,520 95%

PARCEL VALUE SUM OF IMPROVEMENT

\$10,405,778,755 95%

SUM OF CONTENT

\$5,203,625,878 95%

CRITICAL INFRASTRUCTURE

POINT COUNT

Essential Facilities **41** 84%

High Potential Loss **649** 90%

Transportation & Lifeline **4,480** 79%

LINEAR MILEAGE

Transportation & Lifeline **10,834** 72%

*Exposure summaries include strong, very strong, and severe MMI classes. Hazard data sources: USGS.

POPULATION COUNT OF PERSONS

264,002 88%

LEGEND

III

WEAK
MMI

IV

LIGHT

V

MODERATE

VI

STRONG

VII

VERY
STRONG

VIII

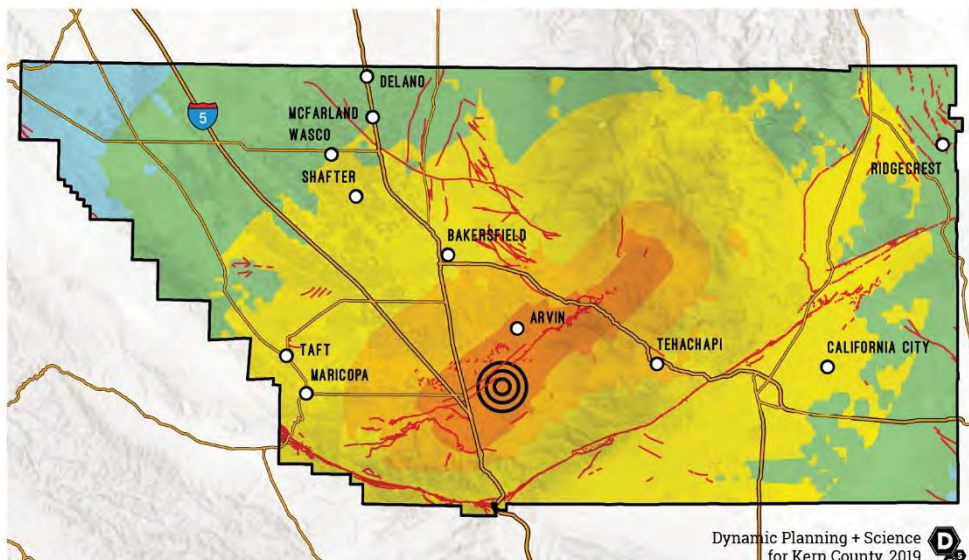
SEVERE

IX

VIOLENT

X

EXTREME



Dynamic Planning + Science
for Kern County, 2019

Figure ES 7 Subsidence and Earthquake Snapshot



Mitigation Goals

The Steering Committee reviewed and updated the goals from the 2014 Kern County Hazard Mitigation Plan and confirmed a set of objectives. The following guiding principles aided the Steering Committee and planning partners in selecting actions contained in this plan Update:

Goal 1: Enable residents to mitigate the impacts of hazards and disasters.

Goal 2: Reduce hazard impacts to existing and future development and the natural environment.

Goal 3: Reduce hazard impacts to existing and future critical facilities, infrastructure, and high potential loss facilities.

Goal 4: Improve multi-jurisdiction coordination to reduce risk through mitigation planning and hazard analysis on a continual basis.

Mitigation Strategy

The mitigation strategies and activities designed to reduce or eliminate losses resulting from natural hazards are the centerpiece of the mitigation planning process. Through the mitigation actions, participating jurisdictions will become more resilient to disasters. Actions identified in this plan may or may not be geared toward grant funding under HMA. Rather, the focus was the initiatives' effectiveness in achieving the goals of the plan within each jurisdiction's capabilities.

Participating jurisdictions individually selected a range of appropriate mitigation actions to work toward achieving the MJHMP's goals, compiled in Volume 2 and the jurisdiction Annex HMPs. In addition, the Steering Committee and participating jurisdictions identified countywide actions benefiting the whole partnership, as listed in Volume 1. These initiatives also are summarized in the following tables.



County Wide Priority Mitigation Actions

| Mitigation No. | Hazard Type | Year | Title/Description |
|----------------|-----------------|------|--|
| ma-AH-KC-201 | All Hazard | 2005 | Hazard Public Education |
| ma-AH-KC-104 | All Hazard | 2005 | Remote Automated Weather Station System |
| ma-DF-KC-384 | Dam Failure | 2020 | Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure |
| ma-DR-KC-290 | Drought | 2020 | Develop a public education campaign to encourage water conservation during drought. |
| ma-DR-KC-291 | Drought | 2020 | Install remote monitoring devices on well flow meters on County owned wells |
| ma-DR-KC-293 | Drought | 2020 | Amend land use codes to incorporate regulations that encourage and incentive water savings for development |
| ma-DR-KC-294 | Drought | 2020 | Replace existing turf grass and water intensive landscaping with drought resistant landscaping |
| ma-DR-KC-384 | Drought | 2020 | Expand Willow Springs Water Bank to reduce drought and increase water supply flexibility and sustainability |
| ma-EQ-KC-297 | Earthquake | 2020 | Encourage privately owned critical facilities (e.g. churches, hotels, other gathering facilities) to evaluate the ability of the buildings to withstand earthquakes and to address any deficiencies identified. |
| ma-AH-KC-111 | Earthquake | 2005 | Mobile Home Foundation Earthquake Retrofitting |
| ma-EQ-KC-102 | Earthquake | 2005 | Formation of Kern County Unreinforced Masonry Task Force |
| ma-EQ-KC-305 | Earthquake | 2020 | Participate in seismic studies and needed seismic retrofits on County bridges that are located in high risk areas for earthquake scenarios included in this HMP |
| ma-EQ-KC-306 | Earthquake | 2020 | Evaluate soil liquefaction potential around County assets in areas with shallow groundwater |
| ma-EQ-KC-307 | Earthquake | 2020 | Install seismic gas shut-off valves on County buildings to prevent the flow of gas into buildings during a seismic event |
| ma-EQ-KC-295 | Earthquake | 2020 | Retrofit / Harden County-owned critical facilities and buildings and their ability to withstand earthquakes. |
| ma-EQ-KC-296 | Earthquake | 2020 | Retrofit non-compliant suspended ceilings in County buildings. This includes Non-Structural Suspended Gypsum Dry-Wall & Cement Plaster Ceilings built 1950-1974. |
| ma-EW-KC-301 | Extreme Weather | 2020 | Outreach and Education to developers before and during the development process about best management practices to mitigate the effects of the urban heat island effect and stormwater runoff resulting from increased impervious surface |



| | | | |
|---------------------|-----------------|------|---|
| ma-EW-KC-435 | Extreme Weather | 2020 | Develop outreach to educate the public, via County communication channels, on preparedness for driving in winter weather including preparing your vehicle, driving techniques, and what to do if caught in a winter weather event while driving. |
| ma-FL-KC-202 | Flood | 2005 | Kern Lake CRMP Master Plan Mitigation Projects |
| ma-FL-KC-283 | Flood | 2020 | Adopt higher regulatory standards (including but not limited to freeboard, comp storage, lower substantial damage thresholds, setback and fill restrictions) as means to reduce future flood risk and support a no-adverse-impact (NAI) philosophy to floodplain management |
| ma-FL-KC-284 | Flood | 2020 | Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure |
| ma-FL-KC-285 | Flood | 2020 | Elevate and retrofit bridges and culverts to allow proper stormwater / 100-YR flows |
| ma-AH-KC-153 | Flood | 2005 | Caliente Creek Habitat Mitigation Project |
| ma-AH-KC-158 | Flood | 2005 | Cuddy Creek Restoration Project |
| ma-FL-KC-110 | Flood | 2005 | Flood Mitigation Plan |
| ma-FL-KC-99 | Flood | 2014 | Streambed Mitigation in Kern River South Fork at Sierra Hwy (north of SR 178) |
| ma-FL-KC-70 | Flood | 2014 | Continue to Implement Sound Floodplain Management Practices through Participation in the National Flood Insurance Program |
| ma-FL-KC-97 | Flood | 2014 | Lake Isabella Blvd Box Culvert at Erskine Creek (near Elizabeth Norris Rd) |
| ma-FL-KC-82 | Flood | 2014 | Bridge on Famoso Road at Poso Creek (approx 1/3 mile east of State Hwy 99) |
| ma-FL-KC-98 | Flood | 2014 | Construct a Box Culvert across Redrock Randsburg Road at Redrock Canyon Wash (just east of Hwy 14) |
| ma-FL-KC-302 | Flood | 2020 | Kern Storm Water Resource Plan Mitigation Projects |
| ma-FL-KC-303 | Flood | 2020 | Kern County Flood Hazard Mitigation Plan - Projects |
| ma-FL-KC-304 | Flood | 2020 | County of Kern Caliente Creek - Conceptual Plan for Mitigation |
| ma-SF-KC-292 | Slope Failure | 2020 | Establish a priority list of slope failure locations and implement slope stabilization projects in the highest risk areas. |
| ma-AH-KC-245 | Soil Stability | 2005 | Lebec Landfill and Transfer Station Drainage Improvements and Erosion Control |
| ma-AH-KC-63 | Soil Stability | 2014 | Kern Valley Landfill and Transfer Station Drainage Improvements and Erosion Control |
| ma-SS-KC-299 | Soil Stability | 2020 | Implement wind breaks to prevent wind erosion leading to buildup of soil on County roads and bridges. Wind break erosion mitigation examples include solid fences, porous fences, straw bales, soil surface modification, berms, and landscaping |
| ma-SS-KC-300 | Soil Stability | 2020 | Conduct subsidence investigations on County bridges located in high subsidence areas |
| ma-SH-KC-298 | Soil Stability | 2020 | Outreach and educational programming to property owners and agricultural growers about wind erosion and mitigation techniques such as introducing cover crops, eliminating tillage, and avoiding over grazing |
| ma-AH-KC-179 | Wildfire | 2005 | Hazard Tree Removal, County Park Lands |



| | | | |
|--------------|----------|------|--|
| ma-WF-KC-231 | Wildfire | 2005 | Roadside Disc Breaks |
| ma-WF-KC-183 | Wildfire | 2005 | Defensible Space, Public Education |
| ma-WF-KC-184 | Wildfire | 2005 | Education, Fire Department Personnel |
| ma-WF-KC-180 | Wildfire | 2005 | Greater Tehachapi Area Community Wildfire Protection Plan (was Hazardous Wildland Fuels Mitigation, Greater Tehachapi Area) |
| ma-WF-KC-181 | Wildfire | 2005 | Mount Pinos Community Wildfire Protection Plan (was Hazardous Wildland Fuels Mitigation, Frazier Mtn Area) |
| ma-WF-KC-182 | Wildfire | 2005 | Kern River Valley Community Wildfire Protection Plan (formerly Hazardous Wildland Fuels Mitigation, Kern River Valley) |
| ma-WF-KC-286 | Wildfire | 2020 | Retrofit care facilities (adult care, child care, schools) with fire-resistant materials and or create defensible space around structures. |
| ma-WF-KC-287 | Wildfire | 2020 | The Alta Sierra CWPP details mitigation needed to protect 7 structure protection groups throughout the WUI in Alta Sierra Community. |
| ma-WF-KC-288 | Wildfire | 2020 | Myers Canyon CWPP Mitigation Projects |
| ma-WF-KC-289 | Wildfire | 2020 | Make high visibility address markers available to all residents within the WUI |

Mitigation Action Implementation

Despite County efforts, no amount of planning or mitigation can prevent disasters from occurring or eliminate the risk and impacts of such events. Hazard events will continue to occur, and the County and participating jurisdictions will take actions to reduce the risks these hazards pose to life, property, and the economy. While this MJHMP identifies opportunities for reasonable mitigation actions, each individual has a responsibility to be aware of the potential hazards where they live and to minimize their own household's vulnerability.

The County's ability to carry out mitigation is limited to those facilities over which it has authority. The County does not have direct authority over schools, water and sanitation districts, private gas, electric and communication utilities, state and federal highways and facilities, private hospitals, or neighboring cities and tribes. The County will focus on actions within its authority to do while seeking to cooperatively work with other entities to address mutual areas of vulnerability and interdependence.

Full implementation of the Plan's recommendations will take time and resources. The measure of the Plan's success will be the coordination and pooling of resources within the participating jurisdictions and maintaining these successes over time. Teaming together to seek financial assistance at the state and federal level will be a priority to initiate projects that are dependent on alternative funding sources. This plan was built upon the effective leadership of a multi-disciplined steering committee and a process that relied heavily on public input and support. The plan will succeed for the same reasons.



Adoption Records (To be included)

To comply with DMA 2000, the County Board of Supervisors officially adopt this Kern County Multi-Jurisdiction Hazard Mitigation Plan Volume 1 and Volume 2 upon plan approval from Cal OES and FEMA. The adoption of the MJHMP in its entirety recognizes the County's commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.



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Volume 1

KERN COUNTY

MULTI-JURISDICTION

HAZARD MITIGATION PLAN



Section 1. Introduction

1.1 Purpose

Kern County and many other participating jurisdictions prepared this Multi-Jurisdiction Hazard Mitigation Plan (MJHMP), originally approved by the Federal Emergency Management Agency (FEMA) in 2006. The plan in its current form reflects a comprehensive update in 2019-2020. The purpose of this plan is to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. This plan demonstrates the commitment of each participating jurisdiction to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This plan was also developed to ensure Kern County and participating jurisdictions' continued eligibility for certain federal disaster assistance, specifically the FEMA Hazard Mitigation Assistance (HMA) grants, including the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance Program (FMA). The plan is also important for maintaining and improving the standing of the County in the National Flood Insurance Program's Community Rating System (CRS) which provides for lower flood insurance premiums to the residents in the unincorporated areas.

The **Master Goal/Mission Statement of the Kern County Multi-Jurisdiction Hazard Mitigation Plan** is "to develop sustainable communities to preserve life, protect property, the environment, and the economy from natural hazards."

1.2 Background and Scope

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses incurred by insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be reduced or even eliminated. Hazard mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities demonstrates that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of \$6 in avoided future losses in addition to saving lives and preventing injuries. (National Institute of Building Sciences, 2017)



1.3 Participating Jurisdictions

The Kern County Hazard Mitigation Plan is a multi-jurisdiction plan that geographically covers the entire area within Kern County's jurisdictional boundaries (hereinafter referred to as the "planning area"). A planning partnership was formed to develop and steer content in this plan. This partnership consists of Kern County and local government planning partners who worked together to create the goals, objectives, mitigation strategies, and implementation methods to reduce natural hazard risk within the planning area. Any jurisdiction or organization may participate in the planning process. However, to obtain Federal Emergency Management Agency (FEMA) approval, each local jurisdiction must meet all requirements of hazard mitigation planning outlined in 44 C.F.R. § 201.6. Participating jurisdictions are listed in Table 2-1 and are shown in Figure 1-1.

1.4 Why Update This Plan?

Hazard mitigation is a way to reduce or alleviate the loss of life, personal injury, and property damage that can result from a disaster through long and short-term strategies. It involves strategies such as planning, policy changes, programs, projects, and other activities that can mitigate the impacts of hazards. The responsibility for hazard mitigation lies with many, including private property owners, business and industry, and local, state and federal government.

The Federal Disaster Mitigation Act of 2000 (DMA 2000) required state and local governments to develop hazard mitigation plans as a condition of federal disaster grant assistance. (Pub. L. No. 106-390; 42 U.S.C. § 5121 *et seq.*) Prior to 2000, federal disaster funding focused on disaster relief and recovery, with limited funding for hazard mitigation planning. DMA 2000 increased the emphasis on planning for disasters before they occur.

DMA 2000 encourages state and local authorities to work together on pre-disaster planning and promotes sustainability. Sustainable hazard mitigation includes the sound management of natural resources and the recognition that hazards and mitigation must be understood in the broadest possible social and economic context. The enhanced planning network called for by DMA 2000 helps local governments articulate accurate mitigation needs, resulting in faster allocation of funding and more cost-effective risk reduction projects.

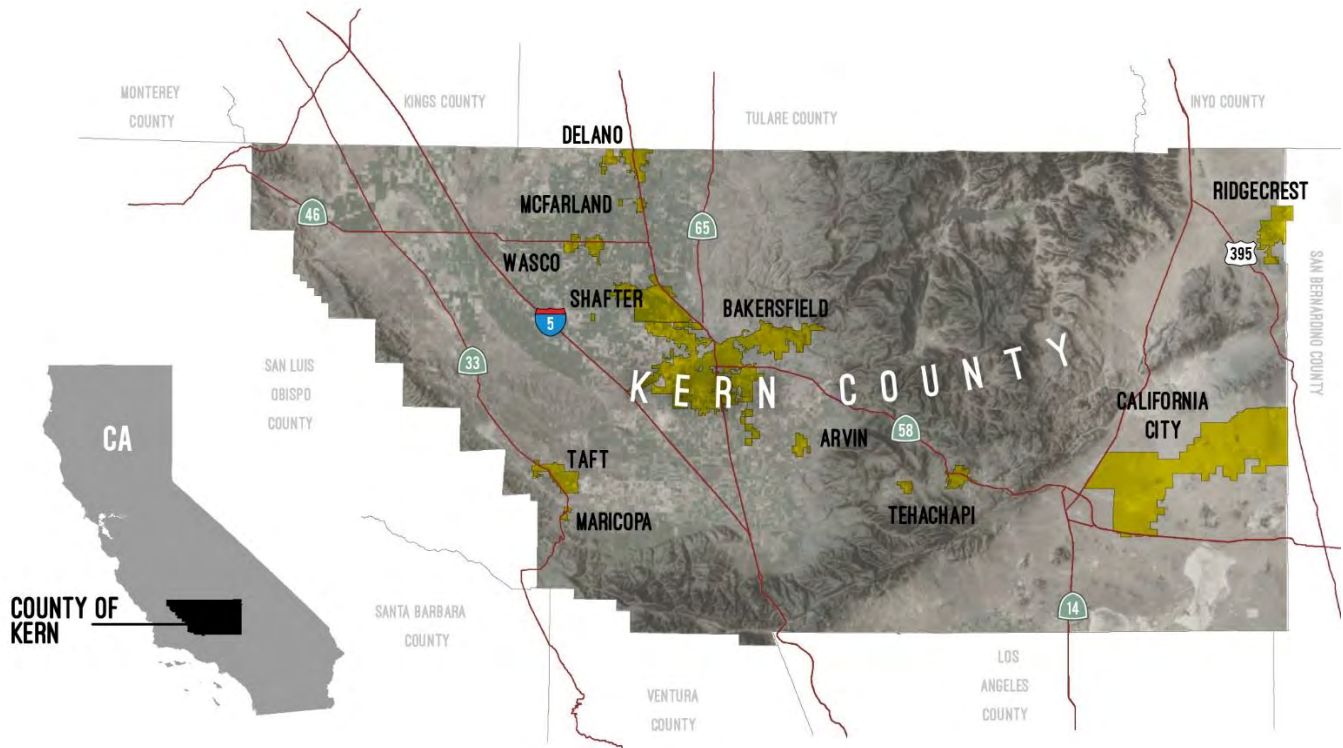


Figure 1-1: Participating Jurisdictions Map

1.4.1 Purposes for Planning

This Hazard Mitigation Plan identifies resources, information, and strategies for reducing risk from natural hazards. Kern County and the local jurisdictions that participated as planning partners (collectively “the planning partners”) initiated this planning effort in part because:

- the Kern County area has significant exposure to numerous natural hazards that have caused millions of dollars in past damage;
- the planning partners want to be proactive in preparing for the probable impacts of natural hazards; and
- limited local resources make it difficult to implement proactive risk-reduction measures. Federal and State financial assistance is paramount to successful hazard mitigation in the area.

Elements and strategies in the plan were selected because they best meet the needs of the planning partners and their citizens. The plan was developed to meet the following objectives:

- Meet or exceed requirements of the DMA 2000 and the 2015 California legislation requiring the incorporation of climate adaptation strategies into hazard mitigation planning (SB 379).
- Enable all planning partners to continue using federal grant funding to reduce risk through mitigation.
- Meet the needs of each planning partner as well as state and federal requirements.



- Create a risk assessment that focuses on Kern County hazards of concern.
- Create a single planning document that integrates all planning partners into a framework that supports partnerships within the County and puts all partners on the same planning cycle for future updates.
- Coordinate existing plans and programs so that high-priority initiatives and projects to mitigate possible disaster impacts are funded and implemented.

1.5 Who Will Benefit from This Plan?

One benefit of multi-jurisdiction planning is the ability to pool resources and eliminate redundant activities within a planning area with fairly uniform risk exposure and vulnerabilities. FEMA encourages multi-jurisdiction planning under its guidance for the DMA 2000. The plan will help guide and coordinate mitigation activities throughout Kern County.

All citizens and businesses of Kern County are the ultimate beneficiaries of this MJHMP. The plan reduces risk for those who live in, work in, and visit the County. It provides a viable planning framework for all foreseeable natural hazards that may impact the County. County stakeholder participation helped ensure that plan outcomes will be mutually beneficial. The resources and background information in the plan are applicable countywide, and the Plan's goals and recommendations can lay groundwork for the development and implementation of local mitigation activities and partnerships.

1.6 How to Use This Plan

This plan has been set up in two volumes to separate jurisdiction-specific elements (Volume 2) from those that apply to the whole planning area (Volume 1):

- **Volume 1**—Volume 1 includes all federally-required elements of a hazard mitigation plan that apply to the entire planning area. This includes the description of the planning process, public involvement strategy, goals and objectives, countywide hazard risk assessment, countywide mitigation initiatives, and a plan maintenance strategy. Vol. 1 includes the following appendices:
 - Appendix A—Annex Methodology
 - Appendix B—Planning Process Documentation
- **Volume 2**—Volume 2 includes a crosswalk that directs readers to all federally-required, jurisdiction-specific elements for each participating jurisdiction, which are in turn available as standalone Annex HMPs. Vol. 2 describes the categorization of jurisdictions into municipalities, special districts, school districts, and water and wastewater districts. All planning partners have adopted Volume 1 in its entirety and each partner's jurisdiction-specific Annex HMP.



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Section 2. What's New

This section of the plan includes background information on the 2014 MJHMP and this MJHMP Update. The 2014 Mitigation Actions were reviewed and have been changed, updated, and revised to reflect new priorities in this MJHMP. Only the information and data still valid from the 2014 Plan was carried forward as applicable into this MJHMP update. The sections below describe the planning process for this update.

2.1 Participating Jurisdictions in the 2014 HMP vs MJHMP Update

In September of 2014, the County met all approval requirements from the DMA and officially adopted an update to the 2006 HMP. Eligibility status of the planning partnership was monitored by the Kern County Point of Contact (POC) over the five-year update process. A partner was deemed to be meeting participation requirements based on:

- Progress reports being submitted annually by the specified time frames,
- Partners notifying the POC of changes in designated points of contact,
- Partners supporting the Steering Committee by attending designated meetings or responding to needs identified by the Committee, and
- Partners continuing to be supportive as specified in the planning partner expectations package provided to them at the beginning of the process.

Table 2-1 tracks 2014 and 2020 Participating Jurisdictions.

Table 2-1: Participating Jurisdiction Tracker

| Jurisdiction Name | 2014 Participating Jurisdiction | 2020 Participating Jurisdiction |
|--|---------------------------------|---------------------------------|
| Airport Districts | | |
| Indian Wells Valley Airport District | Y | N |
| Mojave Air and Space Port | Y | Y |
| Community Service Districts | | |
| Arvin CSD | Y | Y |
| Bear Valley CSD | Y | Y |
| East Niles CSD | Y | Y |
| Golden Hills CSD | Y | Y |
| Rosamond CSD | Y | Y |
| Stallion Springs CSD | Y | Y |
| Mosquito Abatement Districts | | |
| South Fork Mosquito Abatement District | Y | N |



| Jurisdiction Name | 2014 Participating Jurisdiction | 2020 Participating Jurisdiction |
|---|---------------------------------|---------------------------------|
| Municipalities | | |
| City of Arvin | Y | Y |
| City of Bakersfield | Y | Y |
| City of California City | Y | Y |
| City of Delano | Y | Y |
| City of Maricopa | Y | Y |
| City of McFarland | Y | N** |
| City of Ridgecrest | Y | Y |
| City of Shafter | Y | Y |
| City of Taft | Y | Y |
| City of Tehachapi | Y | Y |
| City of Wasco | Y | Y |
| Recreation and Park Districts | | |
| Buttonwillow RPD | Y | N* |
| North of River RPD | Y | Y |
| Shafter RPD | Y | Y |
| Tehachapi Valley RPD | Y | Y |
| Wasco RPD | Y | N |
| West Side RPD | Y | Y |
| School Districts | | |
| Bakersfield City School District | Y | Y |
| Buttonwillow Union School District | Y | Y |
| Delano Joint Union High School District | Y | N* |
| Edison Elementary School District | Y | N* |
| Elk Hills School District | Y | N* |
| Fairfax School District | Y | N* |
| Kern Community College District | Y | Y |
| Kern High School District | Y | Y |
| Kernville Union School District | Y | N* |
| Lost Hills Union School District | Y | Y |
| Mojave Unified School District | Y | Y |
| Panama-Buena Vista School District | Y | N |
| Pond Union School District | Y | N* |
| Richland School District | Y | Y |
| Sierra Sands Unified School District | Y | Y |
| Taft City School District | Y | Y |



| Jurisdiction Name | 2014 Participating Jurisdiction | 2020 Participating Jurisdiction |
|---|---------------------------------|---------------------------------|
| Tehachapi Unified School District | Y | Y |
| Vineland School District | Y | Y |
| Sanitation Districts | | |
| Ford City-Taft Heights Sanitation District | Y | Y |
| Kern Sanitation Authority | Y | Y |
| North of the River Sanitary District | Y | Y |
| Water Districts | | |
| Arvin-Edison Water Storage District | Y | Y |
| Berrenda Mesa Water District | Y | Y |
| Buena Vista Water Storage District | Y | N |
| Buttonwillow County Water District | Y | Y |
| Cawelo Water District | Y | Y |
| Greenfield County Water District | Y | Y |
| Kern County Water Agency | Y | Y |
| Kern Delta Water District | Y | Y |
| Kern-Tulare Water District | Y | Y |
| Lost Hills Water District | Y | Y |
| North of the River Municipal Water District | Y | Y |
| Semitropic Water Storage District | Y | Y |
| Tehachapi-Cummings County Water District | Y | Y |
| West Kern Water District | Y | Y |
| Wheeler Ridge-Maricopa Water Storage District | Y | Y |

* Indicates a jurisdiction that did not participate in the HMP formulation process, although never formally withdrew participation.

** The City of McFarland has its own active Hazard Mitigation Plan that explores vulnerabilities and mitigation separate from this MJHMP.

2.2 Mitigation Actions

During this MJHMP update process, each of the 2014 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2014 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdiction level, and thus were not included in this update. The County has made significant changes to other 2014 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices.



Table 2-2 provides a record of cancelled County-wide Mitigation Actions and an explanation for why the mitigation action was cancelled. Ongoing or pending mitigations actions from previous HMPs are included within the Mitigation Action Plan in Table 5-6. Completed previous Mitigation Actions for the County are detailed in Table 2-3.

Table 2-2. Cancelled Mitigation Actions from 2014

| Mitigation No. | Hazard Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Reason Cancelled |
|----------------|-------------|-----------|------|----------------|---|---|--|
| ma-AH-KC-64 | All Hazard | Cancelled | 2014 | County of Kern | Mosquito Vector Control in Kern County for Communities without Mosquito Control Districts | Kern County Department of Public Health | Some progress has been made over the years; marked as deleted in 2014. |
| ma-FL-KC-62 | Flood | Cancelled | 2014 | County of Kern | Bridge on Redrock Randsburg Road at Redrock Canyon Wash | Kern County Roads Department | This project has been replaced with an alternative project to construct a box culvert. |

2.3 New Analysis and Risk Assessment Methodology

The County strengthened this plan by using new research methods and information systems. Geographic Information Systems (GIS) mapping provided the County with the tools to develop more comprehensive data sets than those in the 2014 MJHMP.

This MJHMP focuses on natural hazards. New MJHMP mitigation actions focus on four different classifications, including:

- Local Plans and Regulations – intended to reduce the County’s vulnerability to future hazard events through the implementation of codes and regulations.
- Structure and Infrastructure Projects – intended to protect existing structures by retrofitting, relocating, or modifying the structure to withstand a hazard event.
- Natural Systems – to reduce the effects of hazards on the natural resources within a region by preserving and/or restoring natural areas along with their mitigation functions.
- Public Information and Awareness – to advise residents, potential buyers, and visitors about hazards, potentially hazardous areas, and mitigation techniques.



2.4 Successful Mitigation Activities

The 2014 Kern County HMP guiding principles, goals, objectives, and mitigation actions have been implemented through various on-going projects, plans and programs. With respect to the mitigation actions and strategies developed in 2014, Kern County has made improvements toward reducing natural hazard risks to life and property within the County. Significant risk reduction efforts have been made for floodplain management, flood damage prevention, and fire hazard abatement. Table 2-3 summarizes the completed mitigation actions since 2014. These and many other successful policies, programs, and projects are summarized below.

Table 2-3. Completed Mitigation Actions Since 2014 MJHMP

| Mitigation No. | Hazard Type | Status | Year | Primary Agency | Title/Description | Responsible Party |
|----------------|----------------|-----------|------|----------------|---|--|
| ma-AH-KC-39 | Soil Stability | Completed | 2014 | County of Kern | Bena Landfill Drainage Improvements and Erosion Control | County of Kern Waste Management Department |
| ma-FL-KC-100 | Flood | Completed | 2014 | County of Kern | Replace Tehachapi Blvd Bridge at Cache Creek with Reinforced Concrete Box Culvert | Kern County Roads Department |
| ma-FL-KC-69 | Flood | Completed | 2014 | County of Kern | Bena Road Bridge Replacements at Caliente Creek and Walker Basin Creek | Kern County Roads Department |
| ma-FL-KC-94 | Flood | Completed | 2014 | County of Kern | Emergency Bridge on Pasadena Lane (across Borel Canal) | Kern County Roads Department |
| ma-FL-KC-95 | Flood | Completed | 2014 | County of Kern | Cuddy Creek Streambed Restoration at Frazier Mtn Park Rd Bridge | Kern County Roads Department |
| ma-WF-KC-3 | Wildfire | Completed | 2014 | County of Kern | Fire Safe Council Development | Kern County FD |
| ma-HM-KC-109 | Hazmat | Completed | 2005 | County of Kern | Pesticide Accident Response Gap Alleviation | Kern County Office of Emergency Services |



Figure 2-1: Caliente Creek Feasibility Study Area

Photo: AECOM (Patch, May 2019)

Caliente Creek Flood Mitigation Study

Kern County Public Works published the Caliente Creek Habitat Mitigation and Groundwater Recharge Feasibility Study (Feasibility Study) in June 2017, and a counterpart, the Caliente Creek Conceptual Plan in May 2019, as initial steps in flood mitigation for Caliente Creek. The Feasibility Study includes two alternative scenarios for floodplain management. In the first scenario, 267 acres would remain in farming production while the remaining 233 acres would be restored to native vegetation. In the second scenario the entire 500-acre floodplain would be restored to native vegetation with no farming. The Caliente Creek Conceptual Plan includes permitting

requirements and estimated costs for each alternative scenario.

Backup Emergency Generators Installed in the City of Bakersfield

The City of Bakersfield received funding from FEMA's Hazard Mitigation Grant Program (HMGP) to purchase and install emergency backup generators at Beach Park Storm Lift Station and Pistol Range Storm Lift Station. During rain events, storm runoff drains to the two pump stations, where it is pumped over levees into the river channel. Installing two new backup generators will aid in ensuring that the lift stations remain functional during any storms which might impair access to power, vital to flood protection for the City. The City utilized (HMGP) funds for 75% of the associated costs, matched by local funding.

Removal of Wildfire Prone Dead and Dying Trees throughout Kern County

The combined effects of drought and insect infestation have caused massive tree die-offs both regionally and in Kern County in recent years. Approximately 150 million trees have died from the California drought, which began in 2011. (Smithsonian Magazine, 2019) These trees pose a fire hazard to public facilities owned and operated by the County. The Kern County Fire Department conducted a series of tree removal projects during 2019. Two projects on Sawmill Road and Poso Creek involved the selection and removal of 2,223 dead or dying trees to reduce wildfire hazard in those areas. The County also completed removal projects for Tehachapi Mountain Park, Rancheria Road, Breckenridge Road, the Piute Mountains, Icehouse Road, and Old State Road.



The County has also taken administrative steps to mitigate the fire risk of tree die-offs. The County established a Kern County Tree Mortality Task Force which was assembled in order to create a response plan for removing dead and dying hazard trees in addition to serving as a forum for information sharing between local, state, federal, private, and non-profit agencies. One of the principal goals of the Task Force is to collaborate with local, private, and public partners to identify and remove these trees. The Task Force meets on a monthly basis. It has so far been associated with a number of ongoing efforts to remove fire prone trees around Kern County. These include securing state responsibility area fire prevention fund grants, and working with Cal Trans, private landowners, and utility companies to remove trees. (Kern County Fire Department, n.d.)



Figure 2-2: U.S. Forest Service Worker Removing Branches from Dead Tree

Photo: U.S. Forest Service (Patch, April 2016)

Kern County Fire Department's Maintenance of Fire Roads and Fuel Breaks

Kern County Fire Department Road Crews have maintained more than 1,000 miles of fire roads and fuel breaks between 2019 and 2020. Maintaining routes for firefighting is an indispensable mitigation measure to prepare for and lessen the risk of wildland fires on both public and private lands. Maintaining defensible space around key structures or infrastructure is also one of the most cost-effective ways of protecting property from highly combustible material such as grass, brush, and timber.

Walker Basin Creek, Caliente Creek, and Tehachapi Boulevard Bridge Replacements

Two bridges were constructed in 1933 to cross Walker Basin Creek and Caliente Creek. The original construction of these bridges used wood pile and frame with concrete decking. The wooden supports of the construction were severely damaged from flooding activity in 2011, which effectively undermined the supporting framework of the construction. County Engineers inspected the bridge and determined that it was not practical to retrofit or rehabilitate the bridges. They also determined that the bridges were no longer safe for motorists and could collapse under heavy weight. After deciding on an emergency replacement, the County selected a protected box culvert conveyance design. Additionally, the roadway surroundings were modified to provide extensive erosion mitigation in order to protect the roadway and downstream properties from any damage resulting from the culvert capacity being exceeded.



The Tehachapi bridge replacement resulted from the need to construct an emergency replacement bridge due to the Piute Fire which burned the structural supports of the bridge on July 17, 2012. A new bridge was constructed in 2012 which featured a design of triple box culverts.

Cuddy Creek Bridge and Channel Protection

The Cuddy Creek bridge project consisted of placing concreted-rock channel protection downstream from the bridge in order to prevent further degradation to the bridge, to prevent the channel from an immediate danger of being washed out from potential flooding, and to



Figure 2-3: Bena Bridges During Construction

Photo: Kern County California (Patch, October 2012)

provide for the general safety of travelers using the bridge. Construction of the project began in October of 2008 and it was completed on November of the same year. There were an additional number of protective measures that were taken during and after construction. These included a Water Diversion Plan, biological monitoring, and post-construction surveys. The County was careful to protect fish and wildlife resources in and around Cuddy Creek. Vehicle access corridors and staging areas were marked with highly visible flags to ensure that environmentally sensitive areas were not disturbed. Excess construction materials were also removed from the project site in order to restore the channel bed and banks to their condition prior to construction.

County-Wide Community Wildfire Protection Plan Update In-Development

Since the 2014 HMP, the County took proactive role in developing Community Wildfire Protection Plans (CWPPs) for the Mount Pinos, Greater Tehachapi, and Kern River Valley areas. The purpose of CWPPs is to reduce wildfire risk through a collaborative process of planning, prioritizing, and implementing hazardous fuels reduction projects. CWPPs are community plans and thus require the involvement of various stakeholders from throughout the County. These were in addition to the development of Fire Safe Councils. Fire Safe Councils are grassroots community-based organizations which share the objective of making California's communities less vulnerable to catastrophic wildfire.



The County is currently developing its first county-wide CWPP which encompasses over two million acres and could potentially affect over 70,000 habitable structures. The work is being done by a consultant and is being funded by a Calfire Greenhouse Gas Reduction Fund (GGRF) grant for \$93,333. The CWPP will be completed by September 2021.

The CWPP will be broken into three geographic regions:

- The Kern River Valley area, which includes the communities of Kernville, Lake Isabella, Bodfish, Alta Sierra, and Glenville.
- The Frazier Park area, which includes the communities of Pine Mt. Club, Pinion Pines, and Lake of the Woods.
- The greater Tehachapi area, which includes the communities of Keene, Hart Flat, and Bear Valley Springs.

Along with providing important regional wildfire data, it is hoped that involving community members in the CWPP planning process will bring out a new group of potential fire planning leaders.

2.5 Incorporation into other Planning Mechanisms

Over the past 5 years, the 2014 HMP was incorporated into other planning mechanisms as a demonstration of progress in local hazard mitigation effort. This newly-updated HMP will be referenced in the 2020-2021 Kern County Emergency Operations Plan and the 2021 County-Wide CWPP. This update also will be incorporated into planning documents such as the County Flood Mitigation Plan, Groundwater Management Plan, Groundwater Sustainability Plan, General Plan, Wildfire Protection Plan and the Kern County Integrated Regional Water Management (IRWM) Plan in the future.



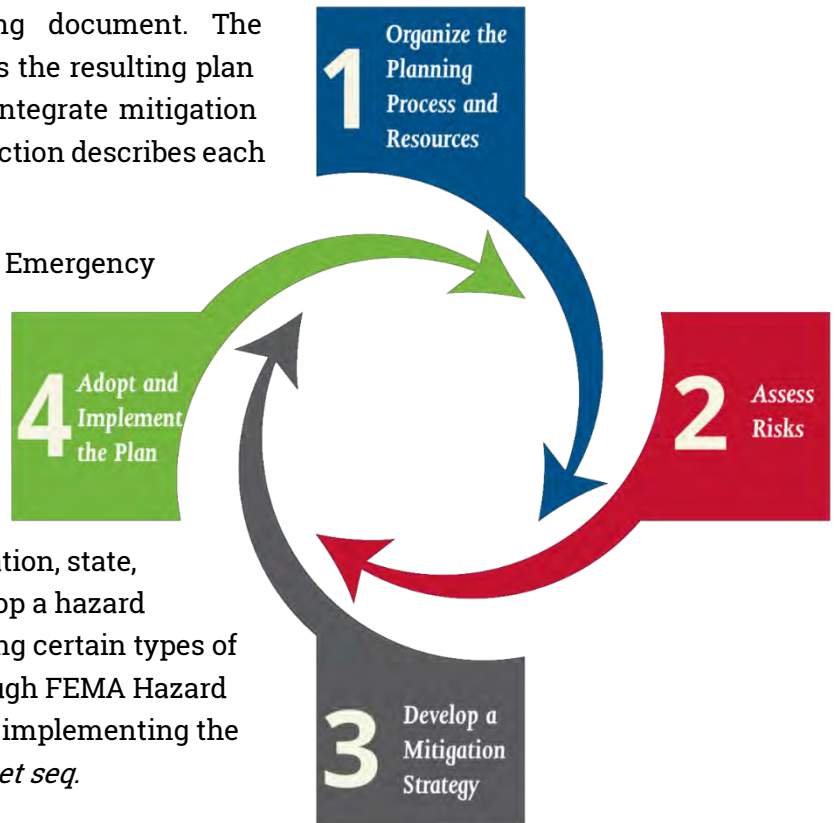
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Section 3. Planning Process

This section describes each stage of the planning process used to develop the MJHMP. The planning process provides a framework for document development and follows the FEMA recommended steps as enumerated in federal regulation and outlined herein. This MJHMP is a community-driven, living document. The planning process itself is as important as the resulting plan because it encourages communities to integrate mitigation with day-to-day decision making. This section describes each stage of the planning process.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000 (DMA 2000, 42 U.S.C. § 5165), is intended to “reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from natural disasters.” Under this legislation, state, tribal, and local governments must develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance through FEMA Hazard Mitigation Assistance. FEMA regulations implementing the DMA 2000 are located at 44 C.F.R. § 201.6 *et seq.*



FEMA prescribes four major planning steps:

- **Step 1: Organize Resources**
- **Step 2: Assess Risk**
- **Step 3: Develop a Mitigation Strategy**
- **Step 4: Adopt and Implement the plan**

Each jurisdiction that participated in the MJHMP independently followed the FEMA four step process. Figure 3-1 provides a detailed, phased breakdown of the planning process that each participating jurisdiction completed. These four steps are integrated with a ten step planning process which FEMA's Community Rating System uses to establish floodplain management credit in addition to Flood Mitigation Assistance programs.

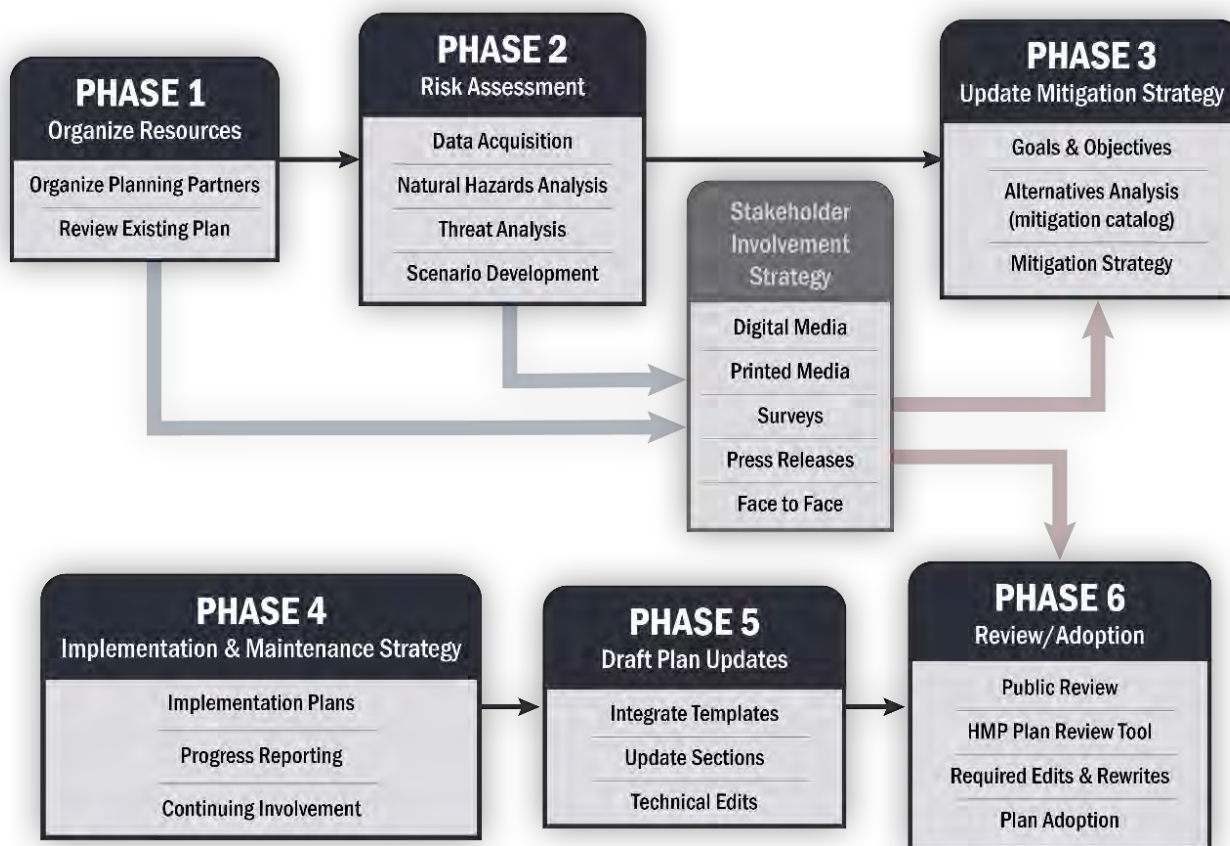


Figure 3-1: Kern County MJHMP Planning Process

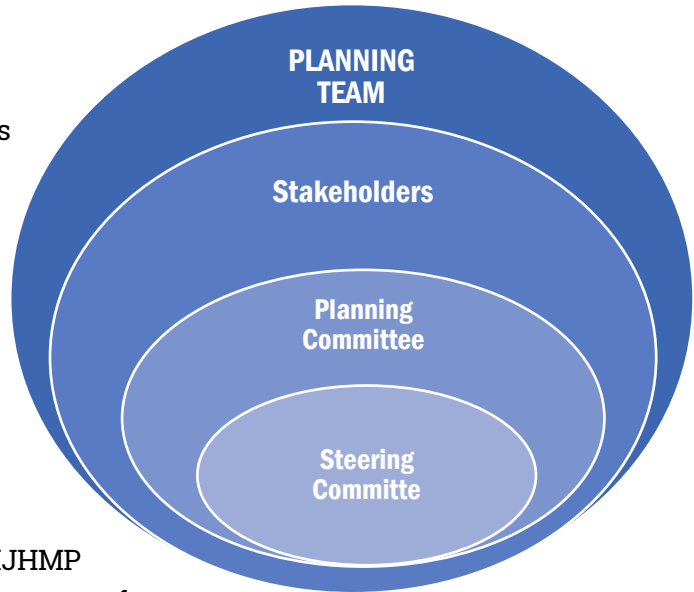


STEP 1: Organize Resources

The first step of the MJHMP planning process was organizing resources, consisting of developing the planning team and reviewing relevant existing documents.

Building the Planning Team

The Planning Team was comprised of participants from all participating jurisdictions who worked together to develop the MJHMP. The Planning Team consisted of a Steering Committee, Planning Committee, a broader group of residents and regional stakeholders, and an HMP consultant used for plan development and facilitation.



Steering Committee

The Steering Committee was at the core of the MJHMP planning process and was integral to ensuring the success of the planning process, its implementation, and future maintenance.

Members of the Steering Committee, listed in Table 3-1 below, represented each participating jurisdiction and were also a part of the MJHMP Planning Committee, discussed below and in the individual annexes in Volume 2.

Table 3-1: MJHMP Steering Committee

| Name | Title | Department |
|-----------------------|---|---|
| County of Kern | | |
| Alexa Kolosky | Planner III | Public Works Department |
| Andrew Freeborn | Public Information Officer | Fire Department |
| Brad Aragon | Loss Prevention Specialist | Kern County Counsel/Risk Management |
| Brandon Smith | Battalion Chief | Fire Department |
| Chris Huot | Assistant City Manager | City of Bakersfield |
| David Witt | Fire Chief/Director of Emergency Services | Fire Department |
| Dennis McNamara | Division Chief | Planning and Natural Resources Department |
| Greg Van Mullem | Systems Analyst II | Assessor-Recorder |
| Jeff Fariss | EMS Program Manager | Public Health Services Department |



| Name | Title | Department |
|--------------------|---------------------------------------|---|
| Jeffrey Utter | GIS Manager | Information and Technology Services |
| Jon Lifquist | Assessor-Recorder | Assessor-Recorder |
| Jose De Leon | GIS Specialist | Fire Department |
| Kevin Hamilton | Floodplain Manager | Public Works Department |
| Lorelei Oviatt | Director | Planning and Natural Resources Department |
| Megan Person | Director of Countywide Communications | Board of Trade/KGOV |
| Michael Dillenbeck | Public Works Manager | Public Works Department |
| Nik Turner | GIS Specialist | Public Works Department |
| Robert Voyles | Public Works Operations Manager | City of Bakersfield |
| Wendy Benson | Administrative Coordinator | Fire Department |
| Zachary Wells | Battalion Chief | Fire Department |

Planning Committee

The MJHMP Planning Committee consisted of multiple key decisionmakers with specific expertise to contribute to the planning process from each participating jurisdiction. The Planning Committee served as liaisons to the greater community. Each Planning Committee member was responsible for communicating the direction and status of the planning effort to respective departments and constituents of each jurisdiction and were expected to represent the perspectives of the participating jurisdiction to the Committee.

The Planning Committee was involved in various planning processes, including:

- Structured coordination and meetings
- Collection of valuable local information and other requested data
- Decision making on plan process and content
- Development of mitigation actions
- Review and comment on plan drafts
- Coordination of the public input process

All Planning Committee members did not necessarily attend stakeholder group meetings. Some participated by reviewing draft documents, assisting in individual jurisdictional vulnerability assessments, with public outreach, or at other stages of the process. Table 3-2 provides a list of the Planning Committee Members. Documentation of Planning Committee invitations are provided in Appendix B.



Table 3-2: MJHMP Planning Committee

| Name | Title | Department |
|--------------------------------|---|---|
| County of Kern | | |
| Adrianna Kessler | Senior Human Resources Manager | Department of Human Services |
| Alexa Kolosky | Planner II | Public Works Department |
| Andrew Freeborn | Public Information Officer | Fire Department |
| Brandon Smith | Battalion Chief | Fire Department |
| Brian Marsh | County Director/Farm Advisor | Farm and Home Advisor |
| Carl Brewer | Senior CAO Manager, Construction Services | County Administrative Office/General Services Division |
| Carlos Rojas | Planner III | Planning and Natural Resources Department |
| Darin Heard | Deputy Agricultural Commissioner/Sealer | Agricultural and Measurement Standards Department |
| David Witt | Interim Fire Chief/Director of Emergency Services | Fire Department |
| Dennis McNamara | Division Chief | Planning and Natural Resources Department |
| Ed Greynolds | | Department of Agriculture |
| Greg Van Mullem | Systems Analyst II | Assessor-Recorder |
| Jared Bradford | Planner I | Planning and Natural Resources Department |
| Jeff Fariss | EMS Program Manager | Public Health Services Department |
| Jeffrey Utter | GIS Manager | Information and Technology Services |
| Jeremy Oliver | Program Director | Aging & Adult Services Department |
| John George | Supervising Planner | Planning and Natural Resources Department |
| Jose De Leon | GIS Specialist | Fire Department |
| Kaler Ayala | Fiscal and Policy Analyst III | County Administrative Office |
| Kevin Hamilton | Floodplain Manager | Public Works Department |
| Kevin Kimmel | | Sheriff's Department |
| Kimberly Fleming, B.S., M.P.A. | Special Projects Manager | County Administrative Office/General Services Division |
| Mark Lewis | Business Manager | Library |
| Michael Dillenbeck | Waste Management Supervisor | Public Works Department |
| Michael Mata | Assistant Probation Division Director | Probation Department |
| Nick Cullen | Director | Animal Services Department |
| Nik Turner | GIS Specialist | Public Works Department |
| Shane Denton | Supervising Park Ranger | Kern County Administrative Office/General Services Division |
| Steve Williams | Lieutenant | Sheriff's Department |

**COUNTY OF KERN****Kern Multi-Jurisdiction 2020 MJHMP Update**

| Name | Title | Department |
|--------------------------------|--|--|
| Zachary Wells | Battalion Chief | Fire Department |
| Zack Bittle | Sergeant | Sheriff's Department |
| City of Arvin | | |
| Cecilia Vela | City Clerk | City of Arvin |
| Christine Viterelli | Grant Writer | City of Arvin |
| Jerry Breckinridge | City Manager | City of Arvin |
| Olan Armstrong | Lieutenant | Arvin Police Department |
| Pawan Gill | Director of HR and Administrative Services | City of Arvin |
| City of Bakersfield | | |
| Brianna Carrier | Administrative Analyst III | City Manager's Office |
| Chris Huot | Assistant City Manager | City of Bakersfield |
| John Frando | Deputy Fire Chief | Bakersfield Fire |
| Kevin Albertson | Fire Marshal/Training Officer | Bakersfield Fire Department |
| Robert Voyles | Operations Manager | City of Bakersfield Public Works Department |
| Stuart Patteson, P.E. | Assistant Public Works Director | City of Bakersfield Public Works Department |
| William Ballard | Deputy Fire Chief | Bakersfield Fire Department |
| City of California City | | |
| Anna Linn | Acting City Manager | City of California City |
| David Orr | Firefighter/Paramedic | California City Fire Department |
| Jeremy Kosick | Fire Chief / Fire Marshal | California City Fire Department |
| Riuss Jensma | Administrator/EOC Coordinator | California City Fire Department |
| City of Delano | | |
| Joe Rojas | Associate Engineer/Water Coordinator | City of Delano |
| Pattie Castellanos | Department Assistant | City of Delano Engineering Department |
| Roman Dowling, P.E. | City Engineer / Public Works Director | City of Delano Public Works Department |
| City of Maricopa | | |
| Eric Ziegler | City Administrator | City of Maricopa |
| Laura Robison | Deputy City Clerk | City of Maricopa |
| City of McFarland | | |
| Alexander Lee | City Planner | City of McFarland |
| Claudia Ceja | City Clerk | City of McFarland |
| Diana Garcia | Grant Administrator | City of McFarland |
| Maria Lara, M.A. | Community Development Director | City of McFarland Community Development Department |



| Name | Title | Department |
|---|--|--|
| City of Ridgecrest | | |
| Bard Lower | Public Works Director | City of Ridgecrest Public Works Department |
| Heather Spurlock | Administrative Secretary | City of Ridgecrest Planning Department |
| Joshua Villa | Code Enforcement Officer | Ridgecrest Police Department |
| Ronald Strand | City Manager | City of Ridgecrest |
| City of Shafter | | |
| Diana Burnett | Captain | Shafter Police Department |
| Jeff Bell | Captain | Shafter Police Department |
| Kevin Zimmermann | Chief | Shafter Police Department |
| Suzanne Forrest | Senior Planner | City of Shafter Planning Department |
| Wayne Clausen | Planning Director | City of Shafter Planning Department |
| City of Taft | | |
| Craig Jones | City Manager | City of Taft |
| Damon McMinn | Chief | Taft Police Department |
| Lonn Boyer | Director of Human Resources/Assistant City Manager | City of Taft |
| Mark Staples | Director of Planning and Development Services | Planning and Development Services |
| Michelle Kincaid | Administrative Assistant to the City Manager | City of Taft |
| City of Tehachapi | | |
| Ashley Whitmore | Administrative Manager/Deputy City Clerk | City of Tehachapi |
| Corey Costelloe | Assistant to the City Manager | City of Tehachapi |
| Greg Garrett | City Manager | City of Tehachapi |
| Kent Kroeger | Chief | Tehachapi Police Department |
| Key Budge | Community Relations Specialist | City of Tehachapi |
| City of Wasco | | |
| Biridiana Bishop | Public Works Director | City of Wasco Public Works Department |
| Daniel Ortiz-Hernandez | City Manager | City of Wasco |
| Jeff Tackett | Water Superintendent | City of Wasco |
| Keri Cobb | Senior Planner | City of Wasco |
| Maria Martinez | Executive Assistant | City of Wasco |
| Wayne Jackson | Facilities Supervisor | City of Wasco |
| Bakersfield City School District | | |
| Kristabel Garcia-Diaz | Office Manager | Bakersfield City School District |
| Marcos Rodriguez | Director, Facilities | Bakersfield City School District |

**COUNTY OF KERN****Kern Multi-Jurisdiction 2020 MJHMP Update**

| Name | Title | Department |
|--|--|---|
| Buttonwillow Union School District | | |
| Dana Baugh | Administrative Assistant | Buttonwillow Union School District |
| Steven Santillan | Lead Bus Driver/Custodian | Buttonwillow Union School District |
| Stuart Packard | Superintendent | Buttonwillow Union School District |
| Delano Joint Union High School District | | |
| Adrian Maduena | Chief Financial Officer | Delano Joint Union High School District |
| Matt Carter | Director of MOT | Delano Joint Union High School District |
| Norma Gomez | Facilities Technician | Delano Joint Union High School District |
| Edison School District | | |
| Todd Noble | MOT Director | Edison School District |
| Elk Hills School District | | |
| Lenetta Cloud | Administrative Assistant to the Superintendent | Elk Hills School District |
| Ricardo Esquivel | Interim Superintendent | Elk Hills School District |
| Fairfax School District | | |
| Michael Coleman | District Superintendent | Fairfax School District |
| Kern Community College District | | |
| Christopher Counts | Director, Public Safety | Bakersfield College |
| Joseph Grubbs | Executive Director, Risk Assessment and Management | Kern Community College District |
| Sheila Shearer | Coordinator, Risk Management and Safety | Kern Community College District |
| Kern High School District | | |
| Benny Wofford | Emergency Preparedness & Safety Manager | Kern High School District |
| Brian Mendiburu | Director of Student Behavior & Supports | Kern High School District |
| Jenny Hannah | Director of Facilities | Kern High School District |
| Kenny Seals, Ed.D. | Director of Business Administration | Kern High School District |
| Patrick Blake | Emergency Preparedness & Safety Administrator | Kern High School District |
| Dr. Kenny Seals | Director of Business Administration | Kern High School District |
| Ed Komin | Chief of Police | Kern High School District |
| Kernville Union School District | | |
| Alex Brundage | M and O Manager | Woodrow Wallace Elementary School |
| Jennifer Bartlett | Secretary | Woodrow Wallace Elementary School |
| Nikolle Evans | Director of Maintenance and Operations | Kernville Union School District |



| Name | Title | Department |
|---|--|--|
| Lost Hills Union School District | | |
| Harrison Favereaux | Chief Administrative Officer | Lost Hills Union School District |
| Jackie Villa | | Lost Hills Union School District |
| Mojave Unified School District | | |
| Aaron Haughton, Ed.D. | Superintendent | Mojave Unified School District |
| Cassie Hogan | Supervisor of Accounting & Categorical Programs | Mojave Unified School District |
| Keith Gainey | Assistant Superintendent - Business Services | Mojave Unified School District |
| Paula Dickerson | Administrative Assistant to the Superintendent | Mojave Unified School District |
| Panama-Buena Vista Union School District | | |
| Glenn Imke | Assistant Superintendent of Business Services | Panama-Buena Vista Union School District |
| Kay Lackey | HSRM Coordinator | Panama-Buena Vista Union School District |
| Kevin Silberberg, Ed.D. | Superintendent | Panama-Buena Vista Union School District |
| Sandie Taylor | Administrative Secretary | Panama-Buena Vista Union School District |
| Pond Union School District | | |
| Alex Lopez | Superintendent | Pond Union School District |
| Humberto Vargas | Director of Transportation | Pond Union School District |
| Kim Howard | Administrative Assistant | Pond Union School District |
| Richland School District | | |
| Martin Rodriguez | Chief Business Officer | Richland School District |
| Yuriana Torres | Facilities Planning & Operations Secretary | Richland School District |
| Sierra Sands Unified School District | | |
| Bryan Auld | Assistant Superintendent, Human Resources | Sierra Sands Unified School District |
| Carol Brewster | Human Resource Technician, Human Resources | Sierra Sands Unified School District |
| Dave Ostash | Superintendent | Sierra Sands Unified School District |
| Diane Naslund | Administrative Secretary to the Superintendent | Sierra Sands Unified School District |
| Taft City School District | | |
| Janice Dillingham | Executive Assistant | Taft City School District |
| Tommy Aguilera | MOT Director | Taft City School District |
| Tehachapi Unified School District | | |
| Julianna Schill | Secretary to the Business Services Chief Administrator | Tehachapi Unified School District |

**COUNTY OF KERN****Kern Multi-Jurisdiction 2020 MJHMP Update**

| Name | Title | Department |
|---|---|---|
| Kelly Patterson | Secretary to the Director of Maintenance and Operations | Tehachapi Unified School District |
| Kirk Gilbert | Director of Maintenance and Operations | Tehachapi Unified School District |
| Hojat Entezari | Business Services Chief Administrator | Tehachapi Unified School District |
| Stacey Larson-Everson | Superintendent | Tehachapi Unified School District |
| Vineland School District | | |
| Anabel Rubio | Administrative Assistant/Human Resources | Vineland School District |
| Cindy Castro | Superintendent | Vineland School District |
| Ivan Mendieta | Supervisor, MOT | Vineland School District |
| Special Districts | | |
| Bear Valley CSD | | |
| Kristy McEwen | Secretary of the Board | Bear Valley Community Services District |
| Tim Melanson | Chief of Police | Bear Valley Community Services District |
| William Malinen | General Manager | Bear Valley Community Services District |
| Buttonwillow RPD | | |
| Megan Lucas | Office Manager/Program Director | Buttonwillow Recreation and Park District |
| East Niles CSD | | |
| Larry White | Senior Treatment Operator | East Niles Community Services District |
| Timothy Ruiz, P.E. | General Manager | East Niles Community Services District |
| Tony Johnson | Superintendent | East Niles Community Services District |
| Indian Wells Valley Airport District | | |
| Demi Mace | Assistant Manager | Indian Wells Valley Airport District |
| Scott Seymour | Manager | Indian Wells Valley Airport District |
| Mojave Air and Space Port | | |
| Brandon Welton | Deputy Fire Chief | Mojave Air and Space Port |
| Floyd VanWey | Facilities Manager | Mojave Air and Space Port |
| Joe Hughes | Fire Chief Assistant | Mojave Air and Space Port |
| John Himes | Director of Operations | Mojave Air and Space Port |
| North of the River RPD | | |
| Joe West | CTSA Transportation Supervisor | North of the River Recreation and Park District |
| Monya Jameson | General Manager | North of the River Recreation and Park District |
| Paul Anderson | Superintendent of Parks | North of the River Recreation and Park District |



| Name | Title | Department |
|--|--|--|
| Rosamond CSD | | |
| Brach Smith | Director of Public Works | Rosamond Community Services District |
| John Houghton | Assistant General Manager/Superintendent | Rosamond Community Services District |
| Lizette Guerrero | Director of Administration/Board Secretary | Rosamond Community Services District |
| Shafter RPD | | |
| Armando Gonzalez | | Shafter Recreation and Park District |
| Phillip Jimenez | District Manager | Shafter Recreation and Park District |
| South Fork MAD | | |
| Genel Hodges | Clerk of the Board of Trustees | South Fork Mosquito Abatement District |
| Paul Coburn | Manager/Technician | South Fork Mosquito Abatement District |
| Stallion Springs CSD | | |
| Brad Burris | | Stallion Springs Community Services District |
| David Aranda | General Manager | Stallion Springs Community Services District |
| Ed Gordon | President, Board of Directors | Stallion Springs Community Services District |
| Tehachapi Valley RPD | | |
| Carrie Champlin | Business Manager/Clerk of the Board | Tehachapi Valley Recreation and Parks District |
| Corey Torres | Interim District Manager | Tehachapi Valley Recreation and Park District |
| Wasco RPD | | |
| Vickie Hight | District Manager | Wasco Recreation and Parks District |
| West Side RPD | | |
| Brad White | Maintenance Supervisor | West Side Recreation and Park District |
| Christy Cloud | Business Services Supervisor | West Side Recreation and Park District |
| Terra O'Neill | Administrative Assistant | West Side Recreation and Park District |
| Arvin CSD | | |
| Alexis Gaona | Chief Operator | Arvin Community Services District |
| Raul Barraza, Jr. | General Manager | Arvin Community Services District |
| Arvin-Edison Water Storage District | | |
| Chris Krauter | General Superintendent | Arvin-Edison Water Storage District |
| Fernando Ceja | Engineering Technician | Arvin-Edison Water Storage District |

**COUNTY OF KERN**

Kern Multi-Jurisdiction 2020 MJHMP Update

| Name | Title | Department |
|---|---|--|
| Jeevan Muhar | Engineer-Manager | Arvin-Edison Water Storage District |
| Mark Dawson, P.E. | Engineer | Arvin-Edison Water Storage District |
| Micah Clark | Engineering Technician | Arvin-Edison Water Storage District |
| Sherry Jauch | Executive Secretary | Arvin-Edison Water Storage District |
| Berrenda Mesa Water District | | |
| Kris Lawrence | Regulatory Coordinator | Berrenda Mesa Water District / Lost Hills Water District |
| Phillip Nixon | Co-Manager | Berrenda Mesa Water District |
| Steve Bottoms | Operations and Maintenance Superintendent | Berrenda Mesa Water District |
| Buena Vista Water Storage District | | |
| Angie Thompson | Executive Assistant | Buena Vista Water Storage District |
| Tim Ashlock | Engineer-Manager | Buena Vista Water Storage District |
| Buttonwillow County Water District | | |
| Regina Houchin | Board Secretary | Buttonwillow County Water District |
| Cawelo Water District | | |
| David Ansolabehere | General Manager | Cawelo Water District |
| Ford City-Taft Heights Sanitation District | | |
| Adrian Nava | Engineer III-C | Ford City-Taft Heights Sanitation District |
| Jason Nordine | Wastewater Specialist II | Ford City-Taft Heights Sanitation District |
| Kyle Perez | Engineer II | Ford City-Taft Heights Sanitation District and Kern Sanitation Authority |
| Leslie Edwards | Engineer III-C | Ford City-Taft Heights Sanitation District and Kern Sanitation Authority |
| Rositza Lopez | Administrative Coordinator | Ford City-Taft Heights Sanitation District |
| Golden Hills CSD | | |
| Debbie Lee | Administrative Assistant | Golden Hills Community Services District |
| Susan Wells | General Manager | Golden Hills Community Services District |
| Greenfield County Water District | | |
| Mel Johnson | General Manager | Greenfield County Water District |
| Nick Cooper | Operations Manager | Greenfield County Water District |
| Windy Rojas | Office Manager | Greenfield County Water District |
| Kern County Water Agency | | |
| Monica Tennant | Water Resources Planner | Kern County Water Agency |



| Name | Title | Department |
|--|---|--|
| Kern Delta Water District | | |
| Jana Marquez | Groundwater Manager | Kern Delta Water District |
| Steven Teglia | General Manager | Kern Delta Water District |
| Kern Sanitation Authority | | |
| Adrian Nava | Engineer III-C | Kern Sanitation Authority |
| Jason Nordine | Wastewater Specialist II | Kern Sanitation Authority |
| Leslie Edwards | Engineer III-C | Ford City-Taft Heights Sanitation District and Kern Sanitation Authority |
| Rositza Lopez | Administrative Coordinator | Kern Sanitation Authority |
| Kern-Tulare Water District | | |
| Skye Grass | Resources Manager | Kern-Tulare Water District |
| Steven Dalke | General Manager | Kern-Tulare Water District |
| Vanessa Yap | Staff Engineer | Kern-Tulare Water District |
| Lost Hills Water District | | |
| Kris Lawrence | Regulatory Coordinator | Berrenda Mesa Water District/Lost Hills Water District |
| North of River Sanitary District No. 1 | | |
| Megan Lee | Office Administrator | North of River Sanitary District No. 1 |
| Patrick Ostly | District Manager | North of River Sanitary District No. 1 |
| North of the River Municipal Water District | | |
| Carol Havens | Office Manager / Controller | North of the River Municipal Water District |
| Doug Nunneley | General Manager/Secretary-Treasurer | North of the River Municipal Water District |
| Ryan Nunneley | | North of the River Municipal Water District |
| Semitropic Water Storage District | | |
| Isela Medina | Staff Engineer, Water Resources | Semitropic Water Storage District |
| John Luna | Engineering Technician | Semitropic Water Storage District |
| Marsha Payne | Executive Secretary | Semitropic Water Storage District |
| Tehachapi-Cummings County Water District | | |
| Cat Adams | Executive Assistant and Board Secretary | Tehachapi-Cummings County Water District |
| Curtis Hilliker | Operations Assistant | Tehachapi-Cummings County Water District |
| Tom Neisler | General Manager | Tehachapi-Cummings County Water District |
| Troy DePriest | Operations Manager | Tehachapi-Cummings County Water District |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

| Name | Title | Department |
|--|--|---|
| West Kern Water District | | |
| Andrea Crabb | Technical Analyst | West Kern Water District |
| Deann Crabtree | General Manager | West Kern Water District |
| Greg Hammett | General Manager | West Kern Water District |
| Tami Sivils | Human Resource Administrator | West Kern Water District |
| Wheeler Ridge-Maricopa Water Storage District | | |
| Eric McDaris | Contract Administrator | Wheeler Ridge-Maricopa Water Storage District |
| Thomas Suggs, P.E., P.G., H.G. | Staff Engineer | Wheeler Ridge-Maricopa Water Storage District |
| Stakeholders | | |
| Aaron Bock | Chief Planner | Tulare County RMA - Planning |
| Amanda Verhaege | Emergency Services Coordinator | Kings County Fire Department |
| Amy Rocha | District Conservationist | Natural Resources Conservation Service |
| Andrew Lockman | Emergency Services Manager | Tulare County Office of Emergency Services |
| | | Antelope Valley Conservancy |
| Ariana Joven | Executive Director | Kern County Farm Bureau |
| Ben Raymond | Regional Planner | Kern Council of Governments |
| Bernice Romo | Assistant Team Manager, Sand Canyon | Greater Tehachapi Valley CERT |
| Bob Belcher | Assistant Coordinator | Bakersfield CERT |
| Brad Aragon | Loss Prevention Specialist | Kern County Counsel/Risk Management |
| Brandon Bates | Acting Area Conservationist, New Mexico - South Area | Natural Resources Conservation Service |
| Brenda Dawson | Coordinator | Indian Wells Valley CERT |
| Brian Hockett | District Manager | North West Kern Resource Conservation District |
| Brian Thoburn | Governmental Relations Manager | Southern California Edison |
| Brian Uhl | Emergency Services Manager | Santa Barbara County Office of Emergency Management |
| Cal Rossi | Government Relations Manager | Southern California Edison |
| Cathreen Richards | Director | Inyo County Planning Department |
| Chris Hickernell | General Superintendent | Friant Water Authority |
| Christian Buenrostro | Mechanical Engineer, Operations Division, South-Central California Area Office | U. S. Bureau of Reclamation |
| Colt Esenwein | Director | County of San Luis Obispo Public Works Department |
| David Brinsfield | CenCal ADFMO | Bureau of Land Management |
| David Burt | Assistant Coordinator | Stallion Springs CERT |



| Name | Title | Department |
|----------------------------|--|---|
| David Davis | Emergency Services Officer | San Bernardino County Office of Emergency Services |
| David Reiner | Assistant Coordinator | Mountain Communities CERT |
| David Romo | Team Manager, Sand Canyon | Greater Tehachapi Valley CERT |
| David Shaw | Coordinator / Team Manager, Golden Hills/Tehachapi | Greater Tehachapi Valley CERT |
| Dayne Yancey | | Pine Mountain Club CERT |
| Dean Ott | Assistant Coordinator | Kern River Valley CERT |
| Douglas DeFitch | Chief Operating Officer | Friant Water Authority |
| Dylan Van Dyne | Project Manager | U. S. Army Corps of Engineers |
| Ed Gordon | President, Board of Directors | Stallion Springs Community Services District |
| Ed Rieth | | Pine Mountain Club POA |
| Emily Montanez | Senior Program Manager, Chief Executive Office | Los Angeles County Office of Emergency Management |
| Emmanuel Gonzalez Hinojosa | Soil Conservationist | Natural Resources Conservation Service |
| Frank Trotta | Superintendent, Kern River Valley | California Water Service Company |
| Gary Crowell | Interim Chief | Stallion Springs Police Department |
| Gary Darcy | Coordinator | Rosamond CERT |
| Geoff Fulks | District Manager, Bakersfield District | California Water Service Company |
| Gerald Simon | VP, Chief Safety, Sec & EPO | California Water Service Company |
| Gina Darcy | Assistant Coordinator | Rosamond CERT |
| Greg Gatzka | Community Development Director | Kings County Community Development Agency |
| Helen Chavez | Assistant Director | Los Angeles County Office of Emergency Management |
| Hunter Merritt | Water Resources Planner, Public Involvement Specialist | U.S. Army Corps of Engineers, Sacramento District |
| J. D. Saucedo | Emergency Manager | Santa Barbara County Office of Emergency Management |
| James Nelson | Team Manager, Bear Valley Springs | Greater Tehachapi Valley CERT |
| Jeannie Taylor | Kern County CERT Coordinator | Kern County Fire Department |
| Jeannine Giuffre | President | Tehachapi Resource Conservation District |
| Jeffrey Kestly | Senior Public Safety Specialist | PG&E |
| Jim Mason | Coordinator | Mountain Communities CERT |
| Joe Guzzardi | Emergency Services Manager | San Luis Obispo County Office of Emergency Services |
| Jon Yasin | Local Manager, Kern River Valley District | California Water Service Company |
| Jose Pena | Superintendent | California Water Service Company |
| Justin Gagnon | | Los Padres National Forest |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

| Name | Title | Department |
|----------------------|--|---|
| Karin Shulman | General Manager | Pine Mountain Club POA |
| Kathy Gibson | Emergency Manager | Ventura County Office of Emergency Services |
| Katie Allen | Marketing and Communications | PG&E |
| Kelley Williams | Emergency Services Manager | County of Inyo |
| | | Kern River Valley Heritage Foundation |
| Kim Lary | District Conservationist | Natural Resources Conservation Service |
| Kristen Doud | Government Relations Representative, Corporate Affairs | PG&E |
| Leif Mathiesen | Bakersfield Zone Fire Management Officer | Bureau of Land Management |
| Lynn Greer | Outreach Program Specialist / Public Involvement | U. S. Army Corps of Engineers |
| Marty Pepito | Superintendent | California Water Service Company |
| Matt Gutierrez | Risk Manager | Risk Management Division |
| Michael Dyer | Technical Specialist | Santa Barbara County Office of Emergency Management |
| Michael Heimer | Regional Planner III | Kern Council of Governments |
| Michael Washam | Associate Director | Tulare County Resource Management Agency |
| Mike Martinez | Assistant DFMO Suppression | United States Forest Service |
| Miles Wagner | Emergency Services Officer | San Bernardino County OES |
| Monica Williams | Hazard Mitigation Grants Specialist | Governor's Office of Emergency Services |
| Nancy Gooch | Administrative Assistant | Eastern Kern County Resource Conservation District |
| Nick Lesourd | Natural Disaster Program Manager | EOC |
| Pat Wood | Senior Civil Engineer | Los Angeles County Public Works Department |
| Peggy Hoyt-Voelker | | Pine Mountain Club POA |
| Phillip Dixon | District Conservationist | Natural Resources Conservation Service |
| Phyllis Throckmorton | | Pine Mountain Club POA |
| Rafael Molina | | California Water Service Company |
| Reed Schenke | Director | Tulare County Resource Management Agency |
| Rob Dixon | Team Manager, Old West Ranch | Greater Tehachapi Valley CERT |
| Ross Miller | Chief Engineer | Tulare County Resource Management Agency |
| Sally Thoun | Team Manager, Alpine Forest | Greater Tehachapi Valley CERT |
| Sandy Young | Coordinator | Stallion Springs CERT |



| Name | Title | Department |
|-------------------------------|---|---|
| Sarah Rose | Assistant Team Manager, Golden Hills/Tehachapi | Greater Tehachapi Valley CERT |
| Scott Milner | Emergency Services Coordinator | San Luis Obispo County Office of Emergency Services |
| Sergio Vargas | Deputy Director, Watershed Planning & Permits Division | Ventura County Watershed Protection District |
| Seth Mitchell | District Fire Management Officer (Detailed) | United States Forest Service |
| Shane Santos | Assistant District Fire Manager | United States Forest Service |
| Stephanie Stephens | Hazard Mitigation Grants Specialist | Governor's Office of Emergency Services |
| Steve Doe, Ph.D., P.E. | Chief, Special Investigations Branch, South Central Region Office | California Department of Water Resources |
| Steven Larson | Chief, Pre-Disaster and Flood Mitigation Division | Governor's Office of Emergency Services |
| Terri Mejorado | Emergency Services Coordinator | Governor's Office of Emergency Services |
| Terry Butler | Assistant Coordinator | Pine Mountain Club CERT |
| Thomas Klein | Coordinator | Kern River Valley CERT |
| Thomas Yancey | Coordinator | Pine Mountain Club CERT |
| Wendy Wang | Water Resources Engineer, Central Valley Flood Planning Office | California Department of Water Resources |

The County enlisted Dynamic Planning + Science (DP+S or Planning Consultant Team) due to its expertise in assisting public sector entities with developing hazard mitigation plans. DP+S staff facilitated the planning process, collected, and analyzed data, produced meeting materials, and produced drafts of the MJHMP for review. The MJHMP Consultant Team, as shown in Table 3-3, consisted of a variety of hazard mitigation and certified urban planning professionals.

Table 3-3: MJHMP Update Consultant Team

| HMP Update Project Team | HMP Update Project Team Role |
|---------------------------|---|
| Ethan Mobley, AICP | Project Manager / Hazard Mitigation Planner |
| Brian Greer | GIS Specialist/Spatial Analyst |
| Torie Jarvis | Assistant Project Manager |
| Ty Johnson | Hazard Mitigation Planner |
| Daniel Spivak | Hazard Mitigation Planner |
| Alex Krebs | GIS Associate |



Planning Committee Meetings

The Planning Committee met throughout the development of the updated MJHMP. Table 3-4 charts those meetings, including date, type, and topics discussed. Meeting documentation, including agendas, hazard maps, PowerPoint presentations, minutes, sign-in sheets, and other relevant handouts, are provided in Appendix B.

Table 3-4: Meeting Summary

| Date | Meeting Type | Topics |
|-----------------------------|------------------------------------|---|
| April 12th, 2019 | Planning Committee Kickoff Meeting | <ul style="list-style-type: none"> ▪ <i>Welcome and Introductions</i> ▪ <i>Statement of Work Review</i> ▪ <i>Expectations from Participating Jurisdictions</i> ▪ <i>DMA 2000 Requirements</i> ▪ <i>Project Schedule</i> ▪ <i>Data Calls/Data Review</i> ▪ <i>Next Steps</i> |
| May 23rd, 2019 | Planning Committee Meeting #1 | <ul style="list-style-type: none"> ▪ <i>Welcome and Introductions</i> ▪ <i>Mitigation Planning Defined</i> ▪ <i>Expectations from Participating Jurisdictions</i> ▪ <i>Planning Process Review</i> ▪ <i>Project Schedule</i> ▪ <i>Website Review</i> ▪ <i>FEMA Hazard Mitigation Program</i> ▪ <i>2012 Mitigation plan Review</i> ▪ <i>What has Changed?</i> ▪ <i>Outreach</i> ▪ <i>Next Steps</i> |
| July 18th, 2019 | Planning Committee Meeting #2 | <ul style="list-style-type: none"> ▪ <i>Welcome and Introductions</i> ▪ <i>Meeting #1 Recap</i> ▪ <i>Planning Team Development</i> ▪ <i>Risk Assessment Data Review</i> ▪ <i>RAMP Tool Review</i> ▪ <i>RAMP Tool Exercises</i> ▪ <i>Next Steps</i> |
| September 19th, 2019 | Planning Committee Meeting #3 | <ul style="list-style-type: none"> ▪ <i>Welcome and Introductions</i> ▪ <i>Planning Process Recap</i> ▪ <i>Pinpointing Your Vulnerabilities</i> ▪ <i>Developing a Nexus to HMA Funding</i> ▪ <i>Closeout</i> |
| November 14th, 2019 | Planning Committee Meeting #4 | <ul style="list-style-type: none"> ▪ <i>Welcome and Introductions</i> ▪ <i>Planning Process Recap</i> ▪ <i>Mitigation Alternatives</i> ▪ <i>Hazard Areas of Concern</i> ▪ <i>Goals & Objectives Review (previous plan)</i> ▪ <i>Updating the Mitigation Strategy</i> |



Public Involvement and Outreach

Public involvement is an important and requisite component of any HMP update. The public outreach strategy for this update maximized public involvement throughout the planning process and utilized websites, local media, and community face-to-face efforts.

As required by FEMA, the general public was given an opportunity to be involved in the planning process while developing the HMP Update through surveys, a project website, and public review periods. Each is described below.



Surveys

An 8-question community survey was distributed via the County Nixle Account and website, Facebook page, and e-mail blasts. A total of 1,173 survey responses were collected, including 4 Spanish-speaking survey responses. The results of the survey were used to ensure that the priorities of the County and participating jurisdictions match those of the residents/community members. For example, community members were asked if they believe their property was at risk from a natural hazard disaster; 77.9% said "yes." An example result is displayed in Figure 3-2, while full survey results are discussed in Section 5.5.1.2. The full survey results can be found in Appendix B.

Did you consider the risks of naturally occurring hazards when you chose your home?

1,169 responses

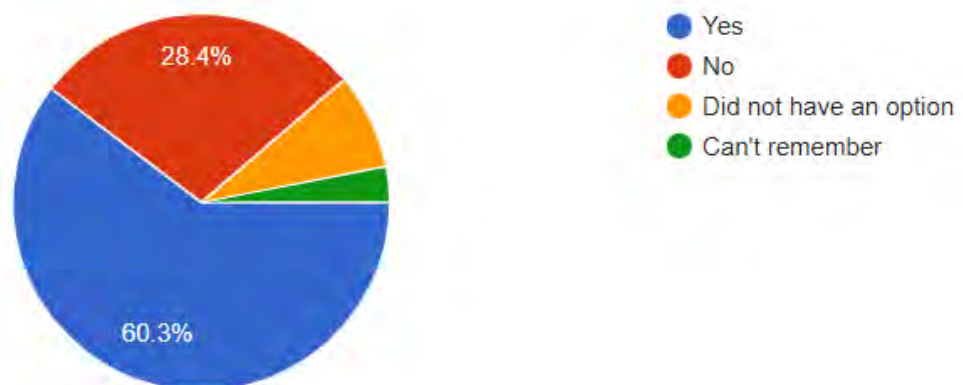


Figure 3-2 Snapshot of community survey results from English-speaking survey. Results are captured fully in Appendix B.



HMP Update Website

For this MJHMP, a project portal at <http://mitigatehazards.com/county-of-kern/> served and will continue to serve as a centralized project information and file-sharing platform. This website provides a tool for project management, collaborative content, and one-stop-shop for mitigation planning resources.

In addition to internal coordination, the project portal played a critical role in public involvement throughout the planning process and documenting public involvement

MITIGATE HAZARDS



including the community survey, meetings, and working sessions. Resources such as the Risk Assessment Mapping Platform (RAMP) and links to all meeting summaries are available to the public via the website. Project participants and stakeholders used the website as a project resource for the duration of the planning process and will continue to have access during the 5-year update cycle and beyond.

Public Review of Draft HMP

The public reviewed the draft HMP during July of 2020. The County and several other jurisdictions announced the available public draft via their websites, and the drafts were available at <http://mitigatehazards.com/county-of-kern/>. The public was able to provide comment via a collaborative PDF, an online submission form, or an email. The notice and response to comments received are available in Appendix B.

STEP 2: Assess the Risk

In accordance with FEMA requirements, the Planning Committee identified and prioritized the natural hazards affecting both Kern County as a whole and each participating jurisdiction individually. It also assessed the vulnerability from those identified hazards. Results from this risk assessment aided subsequent identification of appropriate mitigation actions. While the process is described below, the substance of this risk assessment is detailed in Section 4.

Identify/Profile Hazards

Based on a review of past hazard events, existing plans, reports, and other technical studies, data, and information, the Planning Committee determined if regional hazards could affect the planning area. The Planning Committee completed screening and prioritization processes to determine priority hazards to be assessed. A risk assessment finalized the prioritization process by ranking hazards according to the impact and threat to the County in Vol. 1 and to each participating jurisdiction in Annex HMPs.

Assess Vulnerabilities

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within Kern County are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such



vulnerabilities more in depth. Participating jurisdictions completed this exercise both singly and jointly with the County, and the identified hazards varied widely depending on the geographic make-up of, priorities of, and services provided by the participating jurisdiction. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

Updated content for each hazard profile for the County, including vulnerability, is provided in Section 4.5. Participating jurisdictions are profiled individually in Volume 2 of this plan as Annex HMPs.

Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Kern County. RAMP is a mapping platform built specifically for mitigation planning. It displays County facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. Figure 3-3 shows the location of RAMP on the project website.

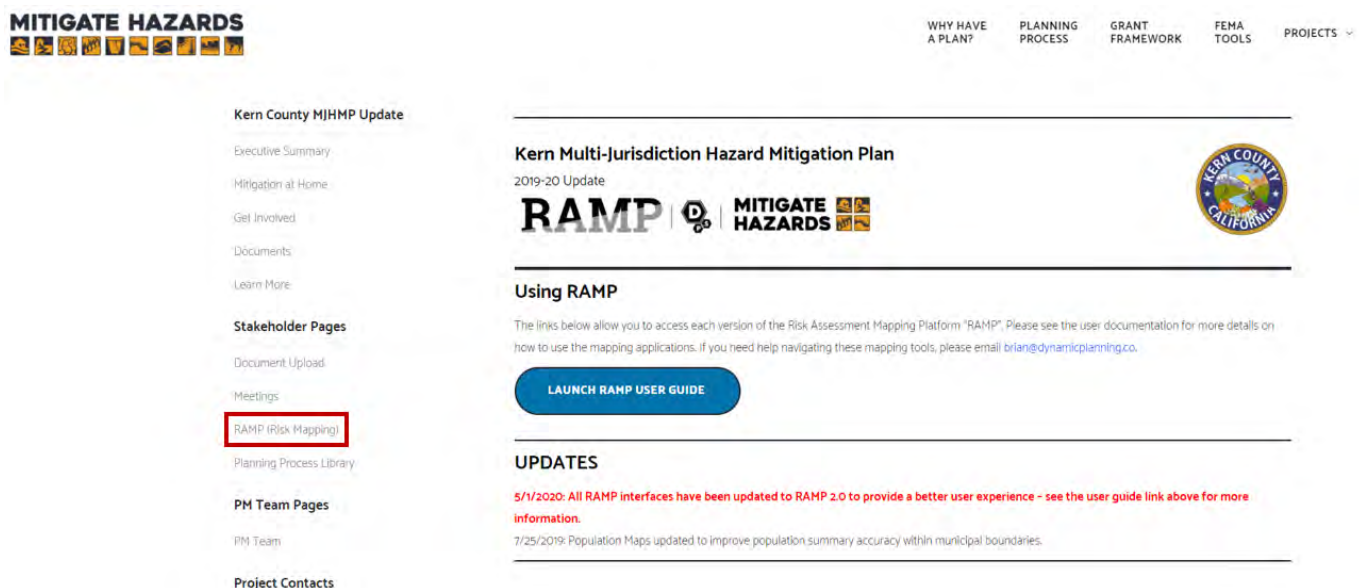


Figure 3-3: RAMP Facilities Map Access at mitigatehazards.com

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the County and participating jurisdiction facilities. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

RAMP's robust data filtering and summation calculations allow the user to understand and visualize vulnerabilities at the facility level with detailed information on the number of structures exposed to various natural hazards. RAMP enables Kern County to pinpoint vulnerabilities and reinforces problem statements in the mitigation strategy. Figure 3-4 demonstrates the RAMP web-based interface.

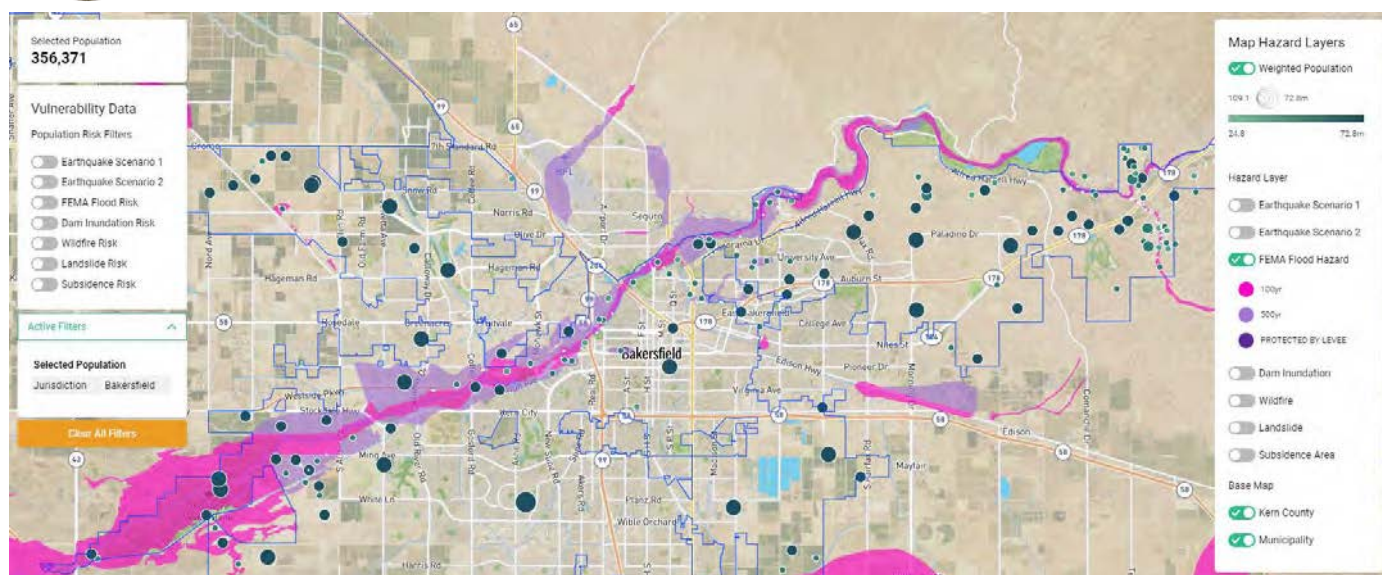


Figure 3-4: RAMP showing the population of Bakersfield overlaid with FEMA Flood Hazard

STEP 3: Develop a Mitigation Strategy

The MJHMP was prepared in accordance with requirements from DMA 2000 and the California Office of Planning and Research (OPR) and FEMA's HMP guidance. This document provides an explicit strategy and blueprint for reducing potential losses identified in the risk assessment based on existing authorities, policies, programs and resources, and participating jurisdictions' abilities to expand on and improve these existing tools. MJHMP development included identifying goals, assessing existing capabilities, reviewing the 2013 HMP goals, and identifying new mitigation actions. The process is described below; the substance of the mitigation strategy is detailed in Section 5 for the County and within Annex HMPs for other participating jurisdictions.

Identify Goals

The Planning Committee reviewed the 2014 HMP goals and determined their current validity, consistent with FEMA requirements. The goals and objectives were updated to meet the current hazard environments and to be consistent with the changing policies and goals of participating organizations. The Goals and Objectives are presented in Section 5.3.4.1.

Develop Capabilities Assessment

A capabilities assessment is a comprehensive review of participating jurisdictions' capabilities and tools to implement the mitigation actions in the MJHMP. The Planning Committee identified technical, financial, and administrative capabilities to implement mitigation actions, as detailed in Section 5.3 and in Annex HMPs.



Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created first by developing problem statements for prioritized hazards. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related, as described in Figure 3-5.



IMPACT

Casualties
Property Damage
Business Interruption
Financial Loss
Environmental Contamination



VICTIM

School Children in Hazard High Hazard Areas
Care Facilities in High Hazard Area
Vulnerable Population Exposed to hazards



THREAT

Increased Fuels due to drought
Hotter, drier climates
More Intense Storms
Impervious surfaces = greater runoff
Increases of Invasive Species

Figure 3-5. Categories of issues addressed in problem statements

Identify Mitigation Actions

As part of the MJHMP planning process, the Planning Committee reviewed and analyzed the status of the mitigation actions identified in the 2014 HMP. The Consultant Team and Planning Committee then worked together to identify and develop new mitigation actions with implementation elements. The Planning Committee prioritized and further detailed the implementation strategies during Planning Committee Meeting #3. Additional detail on these mitigation actions is provided in Section 5.3.

Mitigation Action Support Tool (MAST)

Hazard problem statements and mitigation activities are presented and will be updated through a web interface application developed specifically for participating jurisdictions, truly creating a living document



that can continue to be a valuable resource into the future. The Mitigation Action Support Tool (MAST) is accessible through www.mitigatehazards.com

MAST is a web-based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (California Office of Emergency Services (Cal OES) and FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.

County Planning Processes Library

Kern County assessed hazards, explored hazard vulnerability, developed mitigation strategies, and followed the planning process as described in this section. Table 3-5 provides planning library links for Kern County to each individual vulnerability task that was completed throughout the planning process.

Table 3-5 Kern County Links to HMP Resources

| Jurisdiction | Planning Library Links |
|--------------|--|
| Kern County | Risk Assessment – View Maps / Download maps Hazard Prioritization – View Risk Matrix Areas of Concern – View Problem Statements Capability Assessments – View Capability Assessment |

Multi-Jurisdiction Planning Process

Multi-jurisdiction hazard mitigation planning offers many benefits, such as increased coordination and efficiency in planning and implementation efforts. At the same time, each jurisdiction has specific hazards and specific mitigation actions that must be addressed individually. The MJHMP balances the benefits of a comprehensive, coordinated approach to hazard mitigation with the specific realities of individual participating jurisdictions. Multi-jurisdiction plans are contemplated under FEMA regulations at 44 C.F.R. § 201.6(4).

Volume 2 of this MJHMP documents each jurisdiction's HMP resources. Each participating jurisdiction individually assessed hazards, explored hazard vulnerability, developed mitigation strategies, and followed the same planning process as Kern County to create the annexes. Volume 2 provides links to each participating jurisdiction's stand-alone annex and its vulnerability assessment tasks completed. This ensures each jurisdiction can quickly and easily access its annex, making it a more usable document than a large, unwieldy combined document.



STEP 4: Adopt and Implement the Plan

Once the risk assessment and mitigation strategy were completed, information, data, and associated narratives were compiled into the MJHMP. Section 2 provides detailed information on new and updated elements of the MJHMP.

Plan Review and Revision

Once the *Draft* MJHMP Update was completed, a public and government review period was established for official review and revision. Public comments were accepted, reviewed, and incorporated into this update. Applicable comments from the public have been received and addressed prior to the “*authorization to submit*” to FEMA and Cal OES. Notice of the public comment period is included in Appendix B.

Plan Adoption and Submittal

This plan has been submitted and approved by FEMA and adopted by the County. Copies of the resolutions are provided in forward of this document. ***NOTE: adoption proceedings will be completed after approval by Cal OES and FEMA.***

Implement, Evaluate, and Revise the Plan

The true worth of any mitigation plan is its implementation and success under FEMA’s grant programs. This MJHMP has been assembled to reduce the risk of natural hazards, and also to meet the requirements of the DMA 2000 and maintain eligibility under FEMA’s Hazard Mitigation Assistance (HMA) grant programs.

FEMA administers three programs that provide funding for local agencies with approved mitigation plans:

- **Hazard Mitigation Grant Program (HMGP)**, which assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration.
- **Building Resilient Infrastructure and Communities (BRIC)**, which provides funds for hazard mitigation planning and projects on an annual basis.
- **Flood Mitigation Assistance (FMA)**, which provides funds for planning and projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis.

For more information about FEMA HMA, visit: <https://www.fema.gov/hazard-mitigation-assistance>.



Plan Maintenance

The County will update and monitor this plan in accordance with all FEMA requirements in order maintain eligibility for FEMA HMA. Evaluation and revision procedures for this plan are detailed in Section 6.

Section 6 includes the measures Kern County and participating jurisdictions will take to ensure the MJHMP's continuous long-term implementation, including MJHMP monitoring, reporting, evaluation, maintenance, and updating. Most of this implementation and maintenance will be done through MAST. Figure 3-6 demonstrates how MAST information will translate into Cal OES NOIs and grant sub application requests. Section 6 also contains specifics on integrating mitigation with day-to-day decision making.

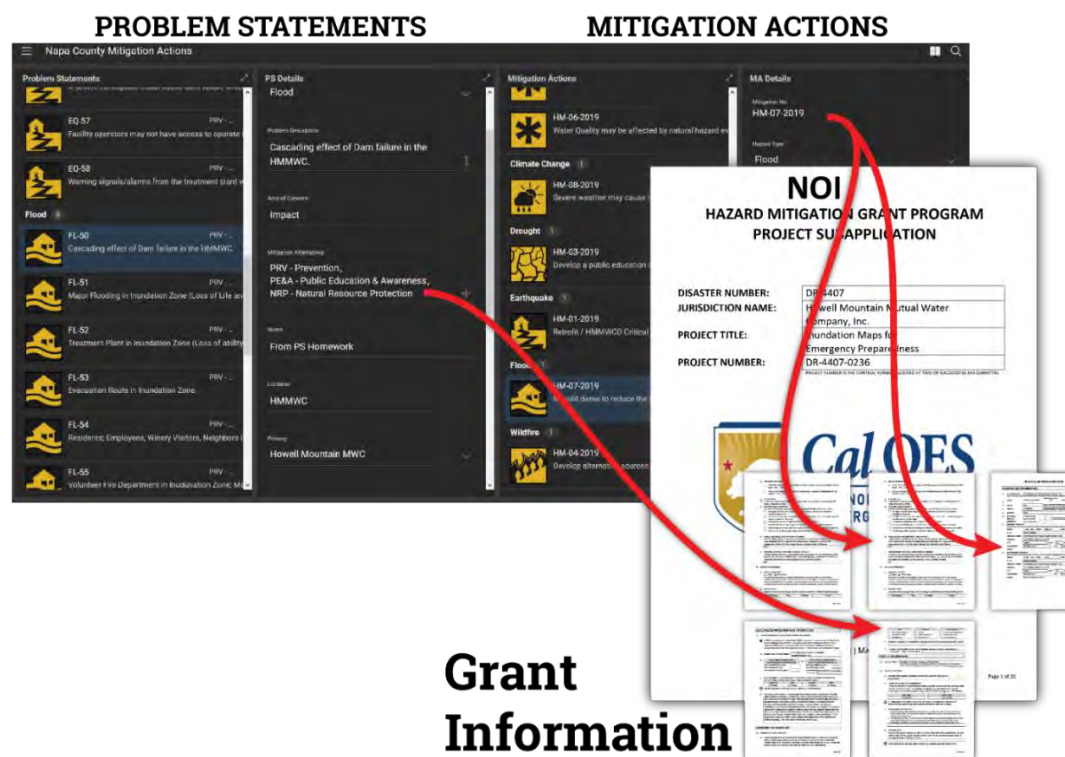


Figure 3-6 MAST elements and Cal OES Grant Applications



Section 4. Risk Assessment

The risk assessment measures the potential impact to life, property, and the economy resulting from natural hazards. The intent of the Risk Assessment is to identify the qualitative and quantitative vulnerabilities of a community to the greatest extent possible given available data. The risk assessment increases understanding of natural hazard impacts to the community and provides a foundation to develop and prioritize mitigation actions. In turn, mitigation actions reduce damage from natural disasters through increased preparedness and focus resources to areas of greatest vulnerability.

This risk assessment section evaluates potential loss from a hazard event by assessing the vulnerability of buildings, infrastructure, and people. It identifies the characteristics and potential consequences of hazards, explores how much of the County could be affected by a hazard, and assesses the impact on County assets. The risk assessment approach consists of three (3) components:

- **HAZARD IDENTIFICATION AND SCREENING**
Identification and screening of hazards (Section 4.1)
- **HAZARD PRIORITIZATION**
Identifying “priority hazards” for each participating jurisdiction to be profiled in more detail (Section 4.2)
- **VULNERABILITY ASSESSMENT**
Determination of potential losses or impacts to buildings, infrastructure and population
This section contains HAZARD PROFILES for individual priority hazards (Section 4.5)

4.1 Hazard Identification and Screening

Per FEMA Guidance, the first step in developing the Risk Assessment is identifying the hazards. This step includes two parts. First, the MJHMP Planning Team considered and screened a broad set of hazards presented in relevant local, regional, and statewide hazard planning documents. The crosswalk of documents reviewed and the results of screening the relevant hazards to be reviewed are outlined in Section 4.1.1. Second, the MJHMP considered past hazard events in Kern County to help prioritize hazards to be evaluated in this document, as outlined in Section 0.



4.1.1 Hazard Screening

The County's MJHMP Planning Team first reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect the County and the nearby region. Table 4-1 provides a crosswalk of hazards identified in the 2014 Kern County MJHMP, 2009 Kern County General Plan, and the 2018 California State Hazard Mitigation Plan. Eighteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for MJHMP Planning Team members to evaluate which hazards were truly relevant to participating jurisdictions and which ones were not. For example, volcanoes were considered to have no relevance to the County, while earthquake, flood, dam failure, landslide, and wildfire were indicated in every hazard document.

Table 4-1: Document Review Crosswalk

| Hazards | 2014 Kern County MJHMP | 2009 Kern County General Plan | 2018 California State HMP |
|--------------------------|------------------------|-------------------------------|---------------------------|
| Agricultural Pests | | | ■ |
| Climate Change | ■ | | ■ |
| Dam Failure | ■ | ■ | ■ |
| Drought | ■ | | ■ |
| Earthquake | ■ | ■ | ■ |
| Flood | ■ | ■ | ■ |
| Insect Hazards | ■ | | |
| Landslide | ■ | ■ | ■ |
| Levee Failure | ■ | | ■ |
| Manmade Hazards | | ■ | ■ |
| Pandemic Disease | ■ | | ■ |
| Sea Level Rise | | | ■ |
| Severe Weather | ■ | | ■ |
| Soil Hazards | ■ | ■ | |
| Terrorism & Tech Hazards | | | ■ |
| Tsunami | | | ■ |
| Volcano | ■ | | ■ |
| Wildfire | ■ | ■ | ■ |

The crosswalk provided the basis for prioritizing hazards to be profiled, displayed in Table 4-2. The prioritized hazards have detailed hazard profiles in Section 4.5, the Vulnerability Assessment.



Table 4-2. Hazard prioritization

| Hazard Type | Explanation |
|---------------------------------|---|
| Climate Change | High priority county-wide, profiled as part of Flood, Wildfire, and Severe Weather hazard. |
| Dam failure | High priority county-wide, profiled hazard. |
| Drought | High priority county-wide, profiled hazard |
| Dust Storms | High priority county-wide; profiled as part of Severe Weather |
| Earthquake/ Geologic Hazards | High priority county-wide, profiled hazard |
| Extreme Heat | Profiled as part of Severe Weather hazard |
| Extreme Cold | Extreme cold is rare in Kern County and not profiled in this plan |
| Flood | High priority county-wide, profiled hazard |
| Hail | Hail events are rare in Kern County and not profiled in this plan |
| Fog | While fog events do occur within Kern County, they are rare and are not considered a priority |
| Hazardous Material | While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this plan. |
| High Winds/ Straight Line Winds | High priority county-wide, profiled as part of Severe Weather |
| Insect Hazards | While insects including Africanized honeybee and pine bark beetle exist in Kern County, this was not considered a priority and pests are not profiled in this plan |
| Levee Failure | High priority county-wide, profiled as part of Dam Failure |
| Lightning | Lightning was not identified as a priority for this plan. |
| Pandemic Disease | While pandemic disease can impact the County, there are better avenues to address this hazard outside this plan. <i>See Note after table for additional info.</i> |
| Radon | This hazard was not identified as a priority |
| Severe Thunderstorm | Severe thunderstorms are rare in Kern County and not profiled in this plan. |
| Slope Failure | High priority county-wide, profiled hazard |
| Soil Hazards | High priority county-wide, profiled hazard |
| Terrorism/Human Caused Threats | While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats. |
| Tornado | Impacts to the County from tornados are extremely unlikely, if any. |
| Volcanic Activity | Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority. |
| Wildfire | High priority county-wide, profiled hazard |
| Winter Storm / Freeze Events | Profiled as part of Severe Weather hazard |



Note regarding pandemic: The County's pandemic planning efforts go back to at least 2006, when a working group prepared a pandemic influenza continuity of operations report that was presented to the Kern Operational Area Emergency Council. At the time, the Emergency Council approved moving forward with the working group's recommendations. Several months later, the report was distributed to the managers of the incorporated cities so they could work on their own pandemic response planning.

The region has continued to move forward implementing recommendations, including the Kern County Board of Supervisors approving labor relations guidelines that would be activated in the event of a pandemic disaster or other disaster that affected employees' availability at their worksites. The guidelines were put into practice during the COVID-19 pandemic in Spring 2020.

In 2012, the need to plan continuity of operations from a perspective broader than solely pandemic influenza was identified. Subsequently, pandemic influenza continuity of operations planning evolved into all-hazards continuity of operations planning.

All-hazards continuity of operations planning continued as an in-County effort until late 2012, when efforts began to hire a consultant to review the County-produced documents, identify inconsistencies, and deliver a Countywide Continuity of Operations Plan (COOP). In 2014, the Board of Supervisors hired a consultant.

COOP development continues. Staff from the responsible County department continues to work with departments to reconcile any conflicting information included in the COOP, such as multiple departments that inadvertently plan to use the same continuity facility. The COOP will eventually be integrated into the overall County EOP, which is in the process of being updated.



4.1.2 Past Major Hazard Events

One important consideration in identifying and prioritizing hazards is past major hazard events, especially those that triggered federal or state disaster declarations. The MJHMP Planning Team reviewed and considered past major hazard events in Kern County as part of the screening and identification process. During this Plan update process, the Planning Team concluded its review of past major hazard events and identified the hazards that would be profiled in the updated MJHMP in July 2019, approximately six months before the COVID-19 pandemic began.

Most available information on major past hazard events comes from federal or state disaster declarations. These declarations may be granted when the severity and magnitude of an event surpasses the ability of the local government to respond and recover. Additional federal or state disaster funding (or both) is generally available in response to a disaster declaration. State funding assistance is provided when a local government's capacity to respond to the disaster is exceeded. Should the disaster be so severe that both the local and state governments' capacities are exceeded, a federal emergency or disaster declaration may be issued allowing for the provision of federal assistance.

The federal government may issue a disaster declaration through FEMA, the U.S. Department of Agriculture (USDA), and the Small Business Administration (SBA). FEMA also issues emergency declarations, which are more limited in scope and do not include the long-term federal recovery programs that accompany major disaster declarations. Quantity and types of damage are the determining factors.

Kern County has received 32 federal disaster declarations¹ since 1953, some of which were statewide, including:



9 Wildfires



2 Earthquakes



11 Severe Weather



1 Drought



5 Floods

Severe weather and flooding events are most likely to occur in the winter months, with twenty-five of the 54 federally-declared disasters occurring in January and February. Wildfires have typically occurred in the late summer and fall, with 170 wildfire declarations from July through October. Table 4-3 lists federal disaster declarations in Kern County since 1995.

¹ Officially, 33 disasters have been declared, as California was declared as part of Hurricane Katrina evacuation; however, no disaster occurred in California.



Table 4-3: Disaster Declarations in Kern County 1995- present

| Year | Date Declared | Incident Description | Disaster Number |
|------|---------------|--|-----------------|
| 2019 | 07/19 | Earthquake | EM-3415 |
| 2017 | 03/17 | Severe Winter Storms, Flooding, & Mudslides | DR-4305 |
| 2016 | 08/16 | California Cedar Fire | FM-5150 |
| 2016 | 06/16 | California Erskine Fire | FM-5131 |
| 2011 | 09/11 | California Canyon Fire | FM-2961 |
| 2011 | 09/11 | California Comanche Fire Complex | FM-2971 |
| 2011 | 09/11 | California Keene Fire Complex | FM-2970 |
| 2011 | 01/11 | Winter Storms, Flooding, & Debris & Mudflow | DR-1952 |
| 2010 | 07/10 | California Bull Fire | FM-2849 |
| 2010 | 09/10 | California Canyon Fire | FM-2858 |
| 2010 | 08/10 | California Post Fire | FM-2852 |
| 2010 | 07/10 | California West Fire | FM-2850 |
| 2008 | 06/08 | California Wildfires | EM-3287 |
| 2007 | 03/07 | Severe Freeze | DR-1689 |
| 2005 | 09/05 | Hurricane Katrina Evacuation | EM-3248 |
| 2005 | 02/05 | Severe Storms, Flooding, Debris Flow, & Mudslides | DR-1577 |
| 2005 | 04/05 | Severe Storms, Flooding, Landslides, & Mud/Debris Flow | DR-1585 |
| 2003 | 06/03 | California Sawmill Fire | FM-2473 |
| 2003 | 06/03 | California Tejon Fire | FM-2474 |
| 2002 | 07/02 | California Deer Fire | FSA-2450 |
| 1999 | 02/99 | Severe Storms, Tornadoes, High Winds, and Flooding | DR1267 |
| 1998 | 02/98 | Severe Winter Storms and Flooding | DR-1203 |
| 1995 | 03/95 | Severe Winter Storms, Flooding, Landslides, Mud Flows | DR-1046 |
| 1995 | 01/95 | Severe Winter Storms, Flooding, Landslides, Mud Flows | DR-1044 |

Source: FEMA Disaster Database via <http://mitigatehazards.com/hazard-mapping/>, accessed 03/04/2020.

Drought declarations may also occur through the United States Department of Agriculture (USDA), as agricultural areas such as Kern County can be particularly impacted from drought. A USDA disaster declaration certifies that the affected county has suffered at least a 30-percent loss in one or more crop or livestock areas and provides affected producers with access to low-interest loans and other programs to help mitigate the impact of the drought. Importantly, all counties neighboring those receiving disaster declarations are eligible for the same assistance. Since 1995, Kern County qualified for USDA drought assistance in 2006 and 2009.



It is important to be aware that hazard events occurring outside County boundaries also directly and indirectly impact Kern County. For instance, dam failures and wildfires may occur outside Kern County but affect watersheds that drain into the County and result in flooding and other impacts related to watershed health. Power supply also could be interrupted by hazards outside of the County.

4.2 Hazard Prioritization

The Planning Committee's hazard prioritization process combines historical data, local knowledge, and consensus opinions to produce a matrix that illustrates whether each profiled hazard is an extreme, high, or medium priority. The criteria below were used to evaluate hazards and identify the highest risk hazard in Kern County. The results of the prioritization process for Kern County are shown in Figure 4-1.

Each participating jurisdiction also completed the hazard prioritization process specifically for the jurisdiction, and this important initial stage informed the rest of the planning process for each jurisdiction. Individual prioritization matrices are available in Volume 2 of this MJHMP.

The following questions and guidance shaped the ranking on the matrices:

Probability

What is the likelihood of a hazard event occurring in a given year?

- **Unlikely-** less than 1% annual probability or occurs rarely in the region or community
- **Possible-** 1%-10% annual probability or could occur. Uncommon in the region or community
- **Likely-** 10%- 100% annual probability or recurrent. Not frequent in the region or community
- **Highly likely-** 100% annual probability or occurs frequently in the region or community

Impact

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?

- **Minor-** very few injuries, if any. Only minor property damage and minimal disruption on quality of life. Temporary shutdown of critical facilities.
- **Limited-** minor injuries only. 10%-25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day.
- **Critical-** multiple deaths or injuries possible. 25%-50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one week.
- **Catastrophic-** high number of deaths or injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.



Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

| | | |
|-------------|---------------|--|
| PROBABILITY | Highly Likely | Highly likely - 100% annual probability. Or Likely to occur every year in your lifetime. |
| | Likely | Likely - between 10 & 100% annual probability. Or will occur several times in your lifetime. |
| | Possible | Possible - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime. |
| | Unlikely | Unlikely - less than 1% annual probability. Or unlikely but possible to occur in your lifetime. |

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

| IMPACT | | | |
|--|---|--|---|
| Minor | Limited | Critical | Catastrophic |
| Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities. | Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day. | Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week. | Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more. |

To concentrate resources, the jurisdictional planning team will focus on "High" and "Extreme" risk hazards. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in **Vol. 1** of this plan. Some hazards are discussed as subset hazards— e.g., "Dam Failure" within the "Flood" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:



Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.



Alluvial Fan deposits and issues in Kern County. This hazard is profiled and defined under "Slope Failure" in Vol. 1 of this plan.



Soil Stability in Kern County includes Land Subsidence and Wind Erosion. Definitions for each are described in Vol. 1. of this plan.



If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Kern County Risk Matrix

| | | IMPACT | | | |
|-------------|---------------|--------|--------------------------------|-------------------|--------------|
| | | Minor | Limited | Critical | Catastrophic |
| PROBABILITY | Highly Likely | Medium | SOIL STABILITY DROUGHT | WILDFIRE | Extreme |
| | Likely | Medium | EXTREME WEATHER SLOPE FAILURE | EARTHQUAKE FLOOD | Extreme |
| | Possible | Low | Medium | High | High |
| | Unlikely | Low | Low | Medium | DAM FAILURE |

Figure 4-1 Prioritized Hazard Assessment Matrix for Kern County



4.3 Kern County Geographic and Demographic Profile

The geographic and demographic profile for Kern County and participating jurisdictions sets the stage for the vulnerability assessment. Paired with the vulnerability assessment, the regional profile can help guide jurisdictions' resources to key populations and geographic areas.

4.3.1 Geography

Kern County is located in southern California, at the southern end of California's San Joaquin Valley. Kern County is California's third-largest county in land area, and at 8,172 square miles, is larger than the land area of Massachusetts, New Jersey, or Hawaii. It is also larger than the areas of Delaware, Rhode Island, and Connecticut combined (California State Association of Counties, 2014). Elevations range from a low of 206' above sea level along the northern border of the county to a high of 8824' in southwest Kern County, just north of the summit of Mt. Pinos (the summit is in Ventura County). The County is bordered by Los Angeles and Ventura Counties on the south, San Bernardino County on the east, Inyo, Tulare and Kings Counties on the north, and San Luis Obispo and Santa Barbara Counties on the west.

Kern County is as diverse as it is large. Terrain varies dramatically within the County, from the fertile lowlands of the San Joaquin Valley, rugged mountain peaks of the southern Sierra Nevada and Tehachapi mountains, to the sweeping panoramas of the Mojave Desert. The County contains the San Joaquin Valley, the Mojave Desert, and interspersed mountain regions. The San Joaquin Valley floor comprises most of the western third of the County and is the population and agricultural center. Mountain ranges include the Sierra Nevada Range, the Tehachapi Range, Temblor Range, El Tejon Mountains, and Tecuya Ridge. The Mojave Desert covers roughly the eastern quarter of the County. Many of the hazards experienced throughout Kern County are more prevalent in one region or another. For example, the mountain region is more susceptible to wildfires while the valley region may be more impacted by drought.

Kern's main water sources are snowmelt from the Sierras that feed into the Kern River from other tributaries and groundwater resources of the San Joaquin Valley and Mojave Desert. The Lake Isabella Dam on the Kern River is the major surface water impoundment in the County. Another important man-made body of water is the Gov. Edmund Brown Aqueduct (also called the California Aqueduct), which carries up to 2 million gallons of water per minute south from the Sacramento River Delta, through Kern County, and into metropolitan Los Angeles. The single largest water user is the Kern County Water Agency, who receives as much as 1 million acre-feet per year for its member districts who hold agricultural and municipal and industrial water supply contracts with the Agency. The aqueduct is visible along portions of Interstate 5, as are powerful pumping stations that help carry its flow over the Tehachapi Mountains towards Los Angeles. (Water Education Foundation, 2020)

Figure 4-2 displays a geographic overview of Kern County.

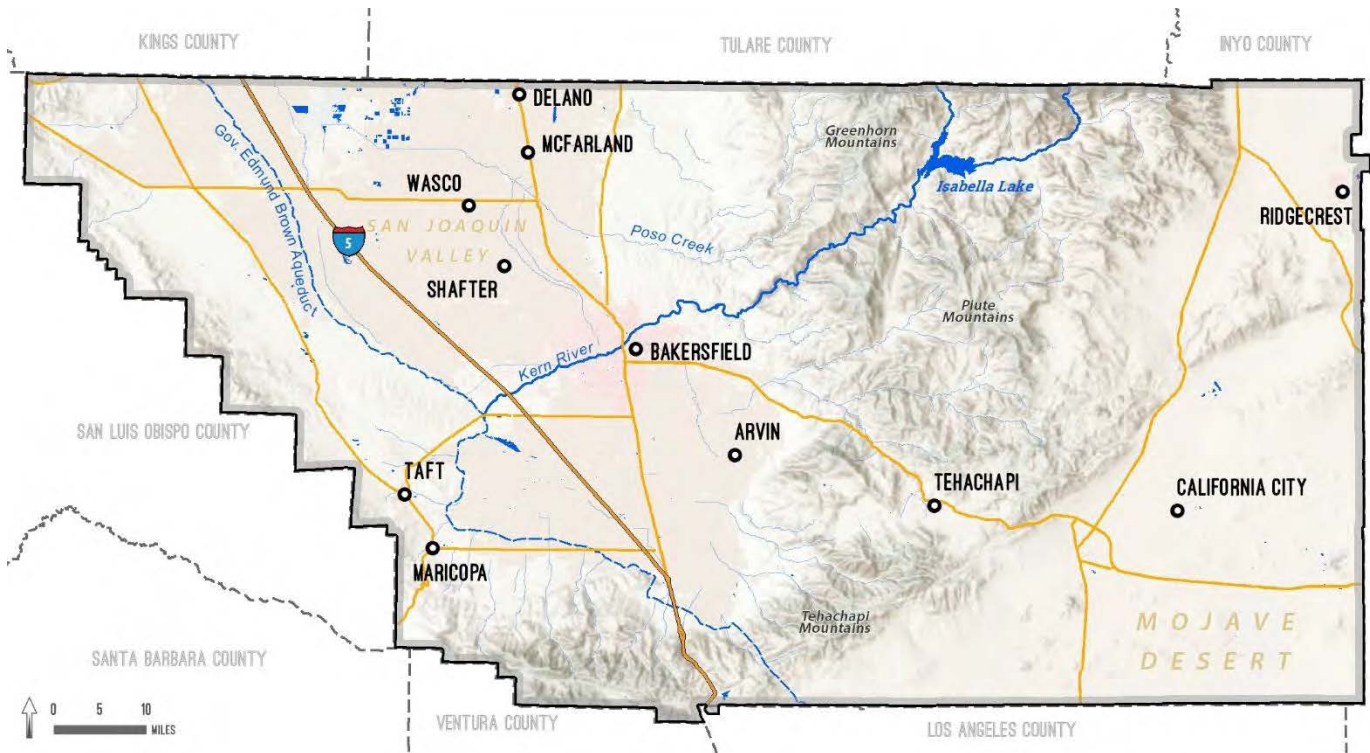


Figure 4-2 Kern County Geographic Overview

4.3.2 Climate

Due to a highly varied geography, Kern County has a diverse range of climates, determined largely by elevation and precipitation. Temperatures are marked by extremes, with summertime highs topping 100 degrees in the San Joaquin Valley and Mojave Desert, while winter temperatures dip into the teens during snowfalls in the higher mountains. Generally, the County is classified as desert or semi-arid, with hot, dry summers and mild, humid winters. In most areas, 90 percent of the precipitation occurs between November and April. The Valley averages 3 to 7 inches of precipitation annually. The western side of the Tehachapi and Sierra Nevada Ranges receive as much as 40 inches of precipitation a year. The desert averages 3 to 6 inches of precipitation a year but is extremely variable. Snowfall is rare in the desert and valley regions but may range from 1 to 4 inches. (Kern County Flood Insurance Study, 2008)

4.3.3 Demographics and Vulnerable Populations

Population information directly relates to the impact of hazards and to other community needs such as housing, industry, stores, public facilities and services, and transportation. Knowledge of the composition of the population, how it has changed, and how it may change in the future helps with future decision making. The United States Census Bureau estimated Kern County's population to be 896,764 in 2018, an estimated 7% increase since 2010. (United States Census Bureau, 2018) This is in contrast to an estimated 6% population increase in California in the same period. (*Id*)



Importantly, demographics help identify which populations may be particularly vulnerable to hazard events. Some populations are at greater risk because of age, resources, physical abilities, or other factors. Vulnerability in the face of a hazard event is not a fixed characteristic; the same person may be at risk for some hazards but not at risk for others. For example, a low-income family without a car may be at risk for a wildfire or flood if a quick evaluation is necessary but prepared in the event of an earthquake. Some individuals are highly and permanently vulnerable to many hazards, such as the frail elderly; people living with chronic sensory, mobility, or cognitive impairments; and individuals dependent upon assistive devices or complex medical regimens in order to survive. (National Center for Disaster Preparedness, 2020) Vulnerable populations also may be living in hazard-prone areas, compounding their risk.

In the context of all-hazards preparedness and response planning, **at-risk individuals** (often used interchangeably with "**vulnerable populations**") are defined federally as "children, pregnant women, senior citizens, and other individuals who have access or functional needs in the event of a public health emergency." (42 U.S.C. § 2802(b)(4)(B)(2019)) Examples of these populations may include, but are not limited to, individuals with disabilities, individuals who live in institutional settings, individuals from diverse cultures, individuals who have limited English proficiency or are non-English speaking, individuals who are transportation-disadvantaged, individuals experiencing homelessness, individuals who have chronic medical disorders, and individuals who have pharmacological dependency.

Natural resource managers may be able to reduce vulnerability of certain populations by increasing the adaptive capacity of affected communities. Examples include cost-sharing to reduce fuels, stabilize structures, or implement flood-reducing measures or educational programs offered in English and Spanish and targeted to specific populations. Specifically planning for vulnerable populations in hazard mitigation can help prioritize resources where they will be the most effective.

This section explores the various demographic and economic circumstances surrounding common vulnerable populations.



4.3.3.1 Income & Housing

Income or wealth is one of the most important factors in natural hazard vulnerability. First, lower income populations are less able to afford housing and other infrastructure that can withstand extreme events. The poor typically occupy more poorly-built and inadequately-maintained housing. For example, mobile or modular homes are more susceptible to damage in earthquakes and floods than other types of housing. In urban areas, the poor often live in older houses and apartment complexes which are more likely to be made of un-reinforced masonry, a building type that is particularly susceptible to damage during earthquakes.

Second, low income populations are less able to purchase resources needed for disaster response. In the United States, individual households are expected to use private resources to prepare for, respond to, and recover from disasters, to a large extent. This means that households living in poverty and minorities are disadvantaged when confronting hazards. The more affluent are able to relocate to safer areas or rebuild following a hazard event. Moreover, individuals who do not own cars or who cannot afford gas for their cars will likely decide not to evacuate. (Krause & Reeves, 2017)

Furthermore, residents below the poverty level are less likely to have insurance to compensate for losses incurred from natural disasters. This means that residents below the poverty level have a great deal to lose during an event and are the least prepared to deal with potential losses. Hurricane events such as Harvey, Irma, and Katrina demonstrate that low-income and minority communities are more vulnerable to hazard events, and they struggle to recover the most. (Id.)

Figure 4-3 shows the median household income distribution for Kern County. The “median” is the value that divides the distribution of household income into two equal parts (e.g., the middle). The median household income in Kern County in 2015 (in 2015 dollars) was estimated to be \$55,775, compared to \$56,516 across the U.S. (United States Census Bureau, 2015)



4.3.3.2 Age

Children and the elderly may be more vulnerable during an extreme hazard event.

Specific planning attention for the elderly is an important consideration, especially given the current aging of the American population. Elderly vulnerability can vary significantly based on health, age, and economic security. However, as a group, the elderly more often lack the physical and economic resources necessary for response to hazard events and are more likely to suffer health-related consequences that make recovery slower. They are more likely to be vision, hearing, or mobility impaired and more likely to experience mental impairment or dementia.

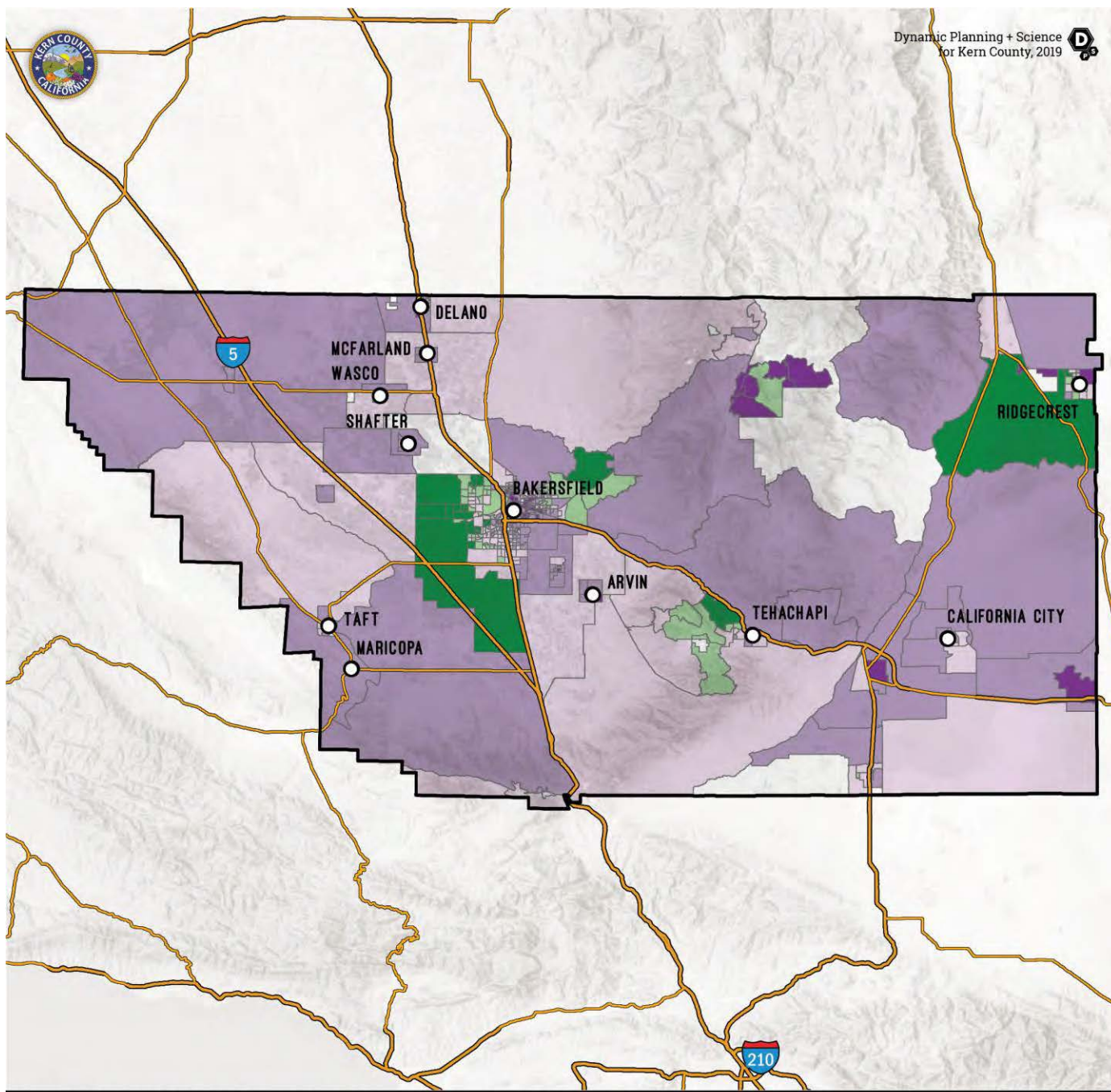
Additionally, elderly persons are more likely to live in assisted-living facilities where emergency preparedness occurs at the discretion of facility operators. These facilities are typically identified as “critical facilities” by emergency managers because they require extra notice to implement evacuation. Elderly residents living in their own homes may have more difficulty evacuating their homes and could be stranded in dangerous situations.

Lower-income elderly populations are less likely to have access to medical care due to financial hardship and are more likely to need special medical attention which may not be readily available during natural disasters.

In many cases, both children and the elderly depend on others to care for them during day-to-day life. Very young children and the elderly may be vulnerable to injury or sickness; this vulnerability can be worsened during a natural disaster because they may not understand the measures that need to be taken to protect themselves from hazards. They also may be weaker and less able to survive a hazard event.

Finally, both children and the elderly have fewer financial resources and are frequently dependent on others for survival. For these populations to remain resilient before and after a natural hazard event, it may be necessary to assist residents with resources provided by the County, Cities, State and Federal emergency management agencies and organizations.

Based on the 2015 American Community Survey, 14% of Kern County's population is 65 or older. The overall age distribution for Kern County is illustrated in Figure 4-4 for population under 18 and Figure 4-5 for population over 65. Figure 4-5 shows that the highest concentrations of people over the age of 65 are east of Arvin. (United States Census Bureau, 2015)



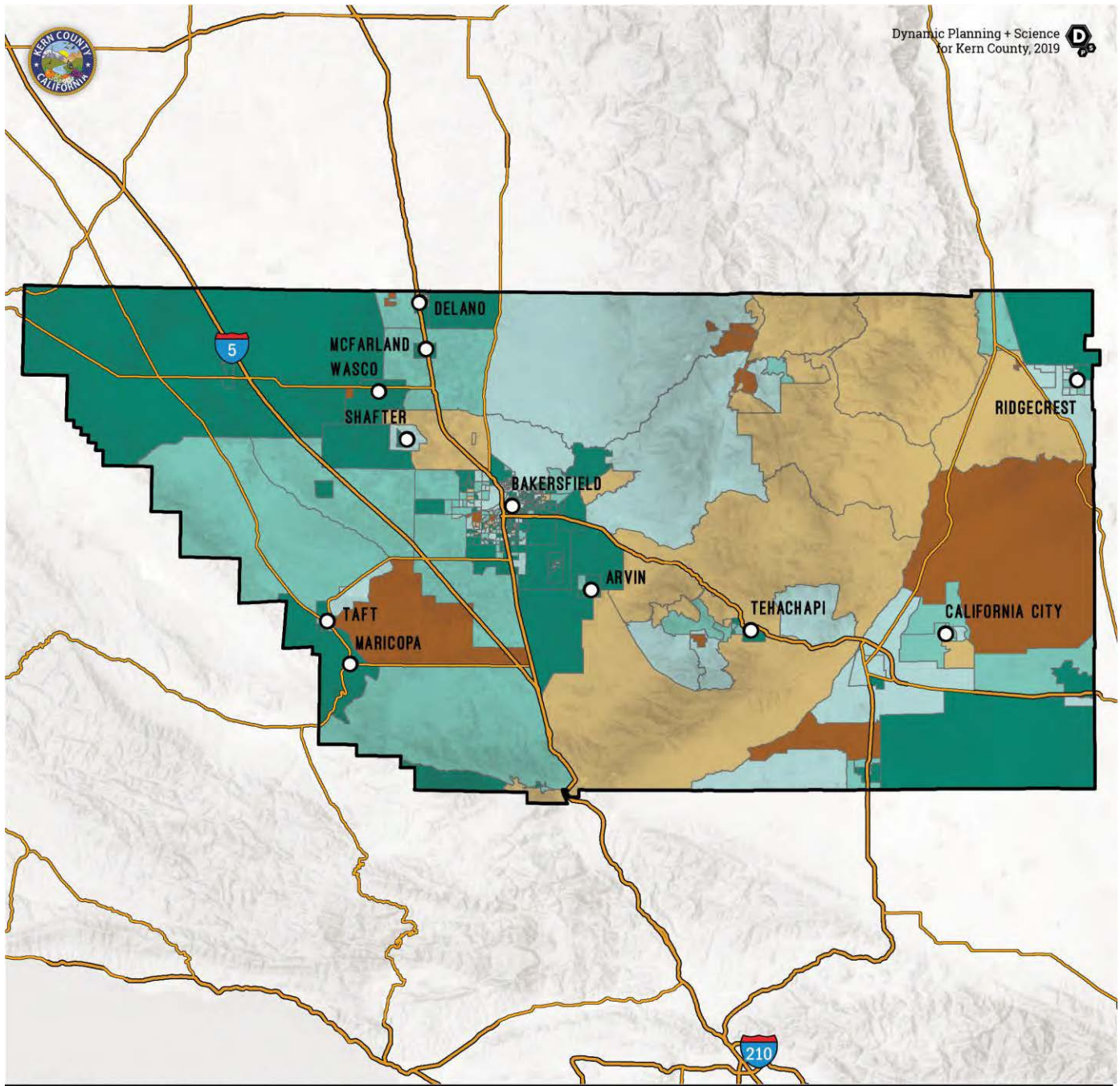
MEDIAN HOUSEHOLD INCOME DISTRIBUTION KERN COUNTY

*Data sources: US Census, ACS.

MAP LEGEND



Figure 4-3: Median Household Income Distribution



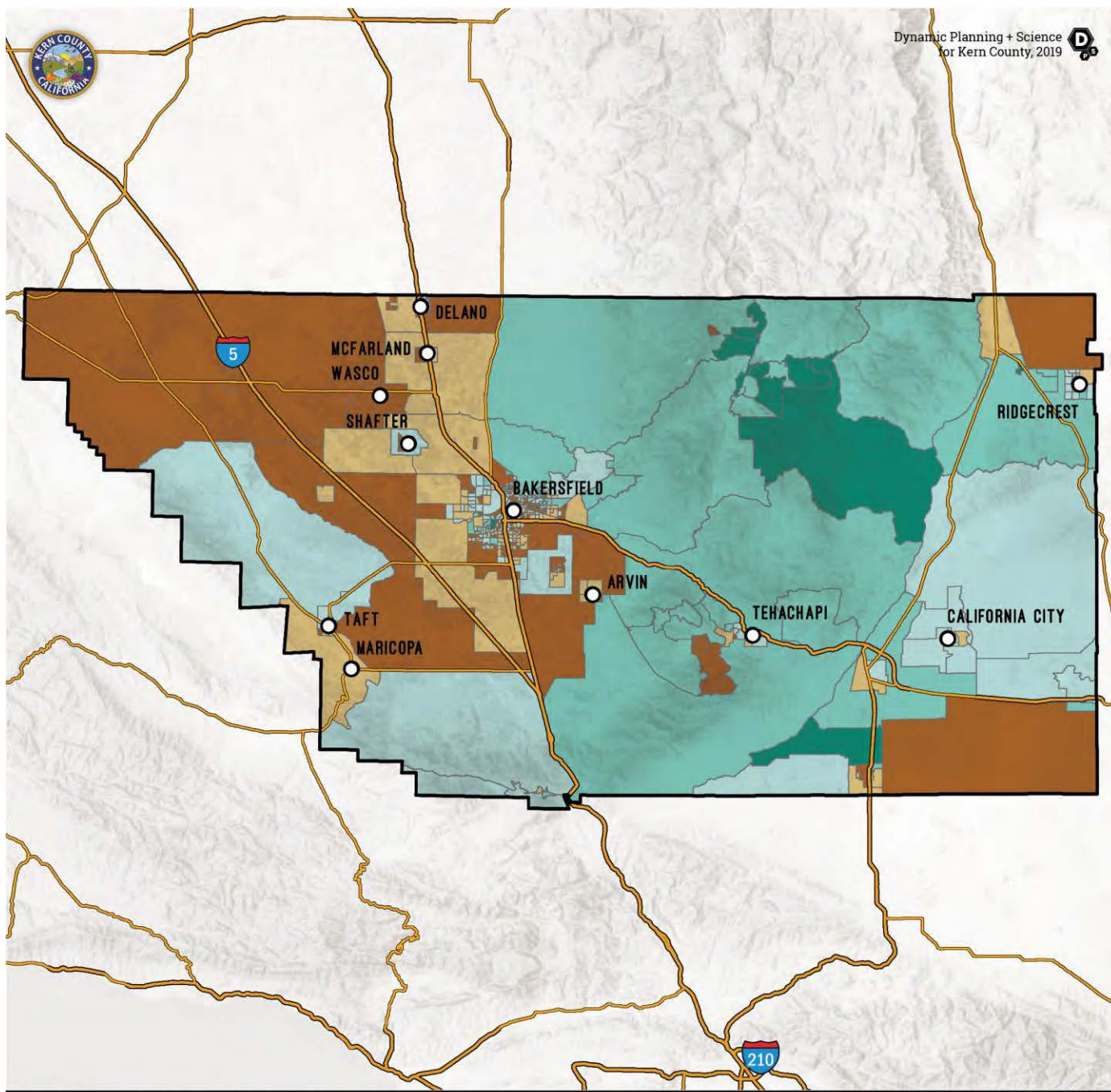
POPULATION UNDER AGE 18 KERN COUNTY

*Data sources: Census ACS 2015 5-year estimates, percentage of total population, quantile classification from countywide sampling.

MAP LEGEND



Figure 4-4: Population Under Age 18



Dynamic Planning + Science
for Kern County, 2019

POPULATION AGE 65 AND OVER KERN COUNTY

*Data sources: Census ACS 2015 5-year estimates, percentage of total population, quantile classification from countywide sampling.

MAP LEGEND



Figure 4-5: Population Over Age 65



4.3.3.3 Race, Ethnicity and Language

Non-English or limited-English speakers may have difficulty understanding emergency information as a result of language and literacy barriers. Non-white communities in fire-prone areas appear from research to be less able to adapt to a wildfire event. (Levin, Phil; Davies, Ian, 2019) Another study found that communities of color lose up to \$29,000 on average in personal wealth following events like hurricanes and wildfires. (Mandel, How Natural Disasters Widen the Wealth Gap Between Minority and White Communities, 2018) Since higher proportions of ethnic minorities live below the poverty line than the majority white population, poverty can compound vulnerability. Farm workers may be particularly vulnerable during a hazard event, especially those non-English speaking and those living in temporary worker housing. (California Employment Development Department, 2019) . (U.S. Dep't of Ag, 2017)

According to the 2017 American Community Survey estimates, Kern County is predominately white, at 75.1% of the total population. The largest minority population is Hispanic or Latino, at 52% of the total county population. This percentage includes other applicable race categories. See Figure 4-6 for the racial distribution within Kern County and a source note explaining the percentage estimates.

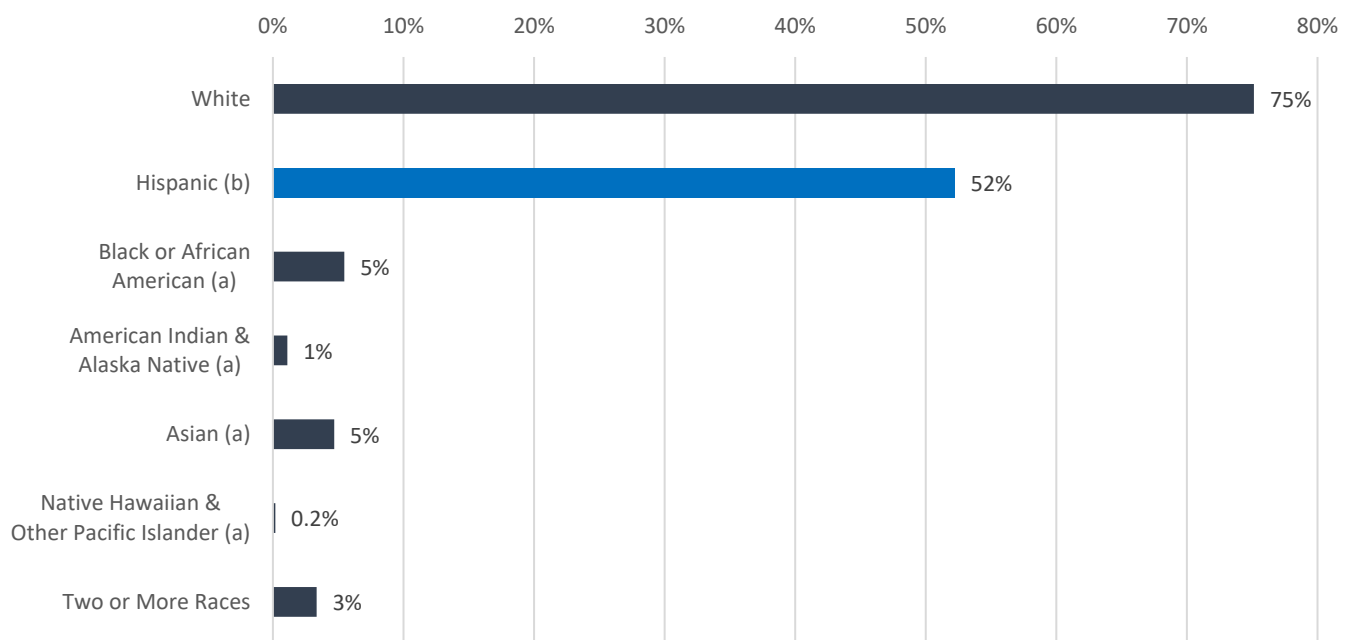


Figure 4-6: Kern County Race Distribution in 2017

Source: 2017 American Community Survey

Note: Hispanics may be of any race, so are included in applicable race categories. This has the effect of influencing total population percentage. (a) Includes persons reporting only one race. (b) Hispanics may be of any race, so also are included in applicable race categories



4.3.3.4 At-risk Individuals with Access and Functional Needs

Another vulnerable population is individuals with access and functional needs that may interfere with their ability to access or receive medical care before, during, or after a disaster or emergency. Irrespective of specific diagnosis, status, or label, the term “access and functional needs” refers to a broad set of cross-cutting access and function-based needs, generally distinguished into **access-based** or **function-based** needs according to the following:

- **Access-based needs** require that resources are accessible to all individuals, such as social services, accommodations, information, transportation, and medications to maintain health.
- **Function-based needs** refer to restrictions or limitations an individual may have that requires assistance before, during, and after a disaster or public health emergency.

At-risk individuals may have additional needs that must be considered in planning for, responding to, and recovering from a disaster or emergency. A recommended approach for integrating the access and functional needs of these individuals is to consider elements based on the CMIST (defined below) Framework:

- **Communication** – Individuals who may have limitations that interfere with the receipt of and response to information require information be provided in an appropriate and accessible format. This can include individuals who are deaf or hard of hearing, individuals who speak American Sign Language, individuals who have limited or no English proficiency, individuals who are blind or have low vision, and individuals who have cognitive or physiological limitations.
- **Maintaining Health** – Individuals who may require Personal Assistance Services (or personal care assistance) in maintaining their activities of daily living such as eating, dressing, grooming, transferring, and toileting.
Independence – Includes individuals who function independently if they have their assistive devices, such as consumable medical supplies (diapers, formula, bandages, ostomy supplies, etc.), durable medical equipment (wheelchairs, walkers, scooters, etc.), and/or service animals.
- **Services and Support** – Includes support for individuals with behavioral health needs, those who have psychiatric conditions (such as dementia, Alzheimer's disease, Schizophrenia, severe mental illness), pregnant women, nursing mothers, infants, and children.
- **Transportation** – Includes individuals with transportation needs because of age, disability, temporary injury, poverty, addiction, legal restriction, or those who do not have access to a vehicle. This requires coordination to ensure access to mass transit and accessible vehicles such as para-transit. (Services, 2016)

While most individuals with access and functional needs do not have acute medical needs requiring the support of trained medical professionals, many will require assistance to maintain health and minimize preventable medical conditions. These individuals may require more time and assistance during an evacuation. It is estimated that over 38% of people over age 65 have some form of disability, as shown in



Table 4-4. (United States Census Bureau, 2018) These numbers warrant special attention from planners and emergency managers.

Table 4-4: Disability Status of Non-Institutionalized Population in Kern County in 2017

| Age | Persons with a Disability | Percent of Age Group |
|-----------------------|---------------------------|----------------------|
| Under 18 years | 9,279 | 4 |
| 18 to 64 years | 52,065 | 10 |
| Age 65 years and over | 34,097 | 40 |

Source: 2017 American Community Survey

4.3.4 Economy

Agriculture has been Kern County's number one industry for many years. Kern County ranks in the top four California counties in agricultural production. Kern County became the leading county with an agricultural production value of \$7.19 billion in 2016. (California Department of Food and Agriculture, 2017) Leading export commodities include almonds, apples, carrots, cotton, garlic, grapes, onions, oranges, pistachios, plums, and roses. These commodities are exported to over 85 foreign countries. The Pacific Rim, including China, Hong Kong, Japan, Republic of Korea, Australia, Canada, India, Vietnam, and the Philippines, receive most of the exported commodities. (2017 Kern County Agricultural Crop Report, 2017)

Kern County had the most farm workers in California in 2016, totaling 150,300, defined by an individual having at least one farm job. In Kern County, the number of farmworkers rose 25% in 2015. (University of California, 2019) The leading sectors of farm employment in Kern County include farm labor contractors (97,900), tree nut farming (11,800), grape vineyards (11,300), other vegetables and melon farming (3,100), and other non-citrus fruit farming (3,000).

A high percentage of farmworkers in Kern County are estimated to be migrant workers. Some of these farm workers may not have proper documentation to be working in the U.S. and may be more hesitant to seek aid or ask questions to properly prepare for a hazard event because of their immigration status. Farmworkers in Kern County are paid an average wage significantly below the national average. In 2014, the average annual wage in the Kern County food system was \$24,182, compared to \$43,737 for all industries. (Sustainable Agriculture Research and Education Program, 2017)

Kern ranks as the largest oil-producing county in the state, with most of the 30,000 working oil wells studding the hills along the western edge of the County. In the desert to the east, the military plays an important role as the home to Edwards Air Force Base and the China Lake Naval Weapons Center. Edwards Air Force Base ranks among the best-known military installations in the country, being the site of many space shuttle landings, and the place where Air Force test pilots push the limits of aircraft under development.

The population centers of Kern County generally correlate with the economic bases for the regions.



Bakersfield, the county seat, is home to over one-third of the County's residents and has seen continued economic growth. Ridgecrest, Tehachapi, and Mojave in the east are aligned with military installations that provide employment. Eastern Kern County is known as a space industry employer. Rosamond provides reasonably priced homes to Los Angeles commuters. Taft and other smaller communities in the southern area of Kern are contiguous to large petroleum fields that have been in operation since the early 1900's. Lamont, Arvin, Delano, Shafter, and Lost Hills provide services and homes to the workers who labor in the fields of the large farms and ranches in the county.

The Kern economy can fluctuate more than other counties because of the cyclical nature of the agricultural, military support, and petroleum industries that comprise the largest segments of the Kern economy. Kern County, CA, had the largest percentage decrease in GDP (-0.7 percent). The mining, quarrying, and oil and gas extraction industry (primarily oil and gas extraction) was the leading contributor to the decrease. (United States Bureau of Economic Analysis, 2018) 2017 unemployment in the County was at 11%. (US Census Bureau, 2017) According to the Bureau of Labor Statistics, in Dec 2019 there were 357,700 jobs in all industries in Kern County. Table 4-5 shows the number of jobs by sector in the County of the top ten occupations in 2018. The top sectors farming, fishing, and forestry related, office and administrative support occupations related, and sales and related occupations.

Table 4-5: Top 10 Jobs by Occupation in Kern County¹ in May 2018

| Occupation | Percent of total employment (in %) | Mean hourly wage (in \$) |
|---|------------------------------------|--------------------------|
| Farming, Fishing, and Forestry | 13.3 | 11.77 |
| Office and Administrative Support Occupations | 11.7 | 18.43 |
| Sales and Related Occupations | 8.1 | 17.96 |
| Food Preparation and Serving Related | 7.8 | 12.95 |
| Education, Training, and Library Occupations | 7.5 | 31.65 |
| Transportation and Material Moving | 7.0 | 18.69 |
| Construction and Extraction | 5.4 | 25.72 |
| Healthcare Practitioners and Technical Occupations | 4.8 | 40.66 |
| Installation, Maintenance, and Repair | 4.3 | 24.75 |
| Production Occupations | 3.8 | 18.84 |
| Management Occupations | 3.7 | 54.56 |

¹ The Bureau of Labor Statistics refers to Kern County as the "Bakersfield, California Metropolitan Statistical Area."

Source: Bureau of Labor Statistics, May 2018, https://www.bls.gov/regions/west/news-release/occupationalemploymentandwages_bakersfield.htm.

4.3.5 Past and Future Trends in Development

Kern County has long been on the forefront of planning for the preservation of agricultural lands and intends to remain leaders in planning for a sustainable future. Kern County has retained its prime agricultural lands in production, even while vast tracts of farmland in other parts of the state have been



urbanized. Looking to the future, there are a number of demographic and land use trends relating to housing, population, and employment issues.

Past development that most increased the risk of hazards in the County happened many decades and even more than a century ago. The County and other participating jurisdictions are well aware of areas of increased hazard risk through older development.

More recently, development in the last few decades has occurred with minimized hazard risk because of existing overlay of federal, state, and local regulation. First, the County and its municipal planning partners all adopt general plans (GPs) which serve as blueprints for establishing long-range development policies, as directed with California's General Planning Law. A GP provides a basis for private development proposals and public projects to remain consistent with existing city, regional and state policies. The GP is designed to help the County and participating jurisdictions address issues related to land use, circulation (traffic), housing, open space, conservation, noise, and safety. The Land Use portion of the plan helps guide the County and participating jurisdictions in determining the location of future development(s), to include possible future annexations for municipal jurisdictions. The Safety Element of the GP serves to decrease risk of impact from natural hazards through multiple required elements and subsection most importantly through the health and safety as required by the California State Law.

All planning partners reviewed their general plans under the capability assessments undertaken for this hazard mitigation plan. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

Moreover, while past development has occurred in hazard areas to some degree, increasing hazard risks, development standards and performance measures, often times incorporated into specific plans, policy plans, and master plans, are employed to reduce risk. These development standards are continually improving and will continue to strengthen into the future.

The total housing units forecast for Kern County includes occupied and vacant housing units. Current methodologies utilized for estimating housing trend predictions include projections based on jobs-to-housing ratios. These models indicate that the region's housing stock will increase by about 1.2 percent per year, but multifamily housing will grow faster, by about 2.3 percent per year, compared to 0.9 percent per year for single family housing. Population forecasts indicate that the County's household population (those living in households) will increase annually by about 1.8% whereas its group quarters population (those living in institutional settings, primarily correctional facilities, college dormitories, and nursing homes) will increase by about 1.1% annually between 2015 and 2050. (Kern Council of Governments, 2015)

Current employment forecasts predict a lower level of growth in the farming sector over the next 35 years. This reflects the potential impact of water supply constraints and the potential conversion of farmland to other uses such as habitat conservation, water recharge, solar, and urban development. The forecast does show an increase in the mining, logging, and oil and gas exploration and extraction sector. Employment in this sector is almost exclusively in oil and gas. Employment in this sector could vary based on the



consistency of oil prices. Total employment forecasts predict an upward trend in growth. (Kern Council of Governments, 2015)

General trends in development indicate a growth pattern which began in 2010 and was reaffirmed in 2013 by a more robust housing market. Wise public policies and social trends explain the healthier trend. For instance, there was federal intervention in the mortgage market and rising incomes. The federal government changed housing finance patterns which consequently influenced how housing was built, bought, and sold in the United States. Additionally, migration patterns help to explain demographic forecasts in the San Joaquin Valley. These trends explain development patterns among many of the Counties in the Valley, including Kern County. (Kern Council of Governments, 2015)

Participating jurisdictions have gone to great lengths to ensure future development within hazard areas is minimized and mitigated to the greatest extent possible. Section 5.3 (Capabilities Assessment) of Volume 1 for the County and each jurisdiction's capabilities assessment of Volume 2 of this MJHMP explain those proactive steps in greater detail. Buildings are increasingly more resilient to hazards through California's building codes, some of the strongest in the country. Nationally, building codes have continually improved disaster resilience, and since 1990 those great improvements have only added about 1% to construction costs. (National Institute of Building Sciences, 2019)



4.4 Vulnerability Assessment Methods

This section provides an overview of the methods used in the vulnerability assessments in Section 4.5. Vulnerabilities to each hazard are assessed in a two-step process, as outlined in this section. First, population, critical facilities, and county parcels are inventoried to develop a “lay of the land.” Second, the inventories are used to calculate estimated exposure and damage from hazards at various levels of severity. A more detailed explanation of the methodology is included in Appendix A.

The vulnerability assessment utilizes geospatial data along with local knowledge of past events. Geospatial data is essential in determining population and assets exposed to hazards identified in this plan. Geospatial analysis can be conducted if a natural hazard has a spatial footprint that can be analyzed against the locations of people and assets. In Kern County, dam failure, earthquake, flooding, landslide, soil subsidence, and wildfire have identifiable geographic extents and corresponding spatial information about each hazard.

Figure 4-7 illustrates the data inputs and outputs used to create the vulnerability analyses for each hazard in Section 4.5.

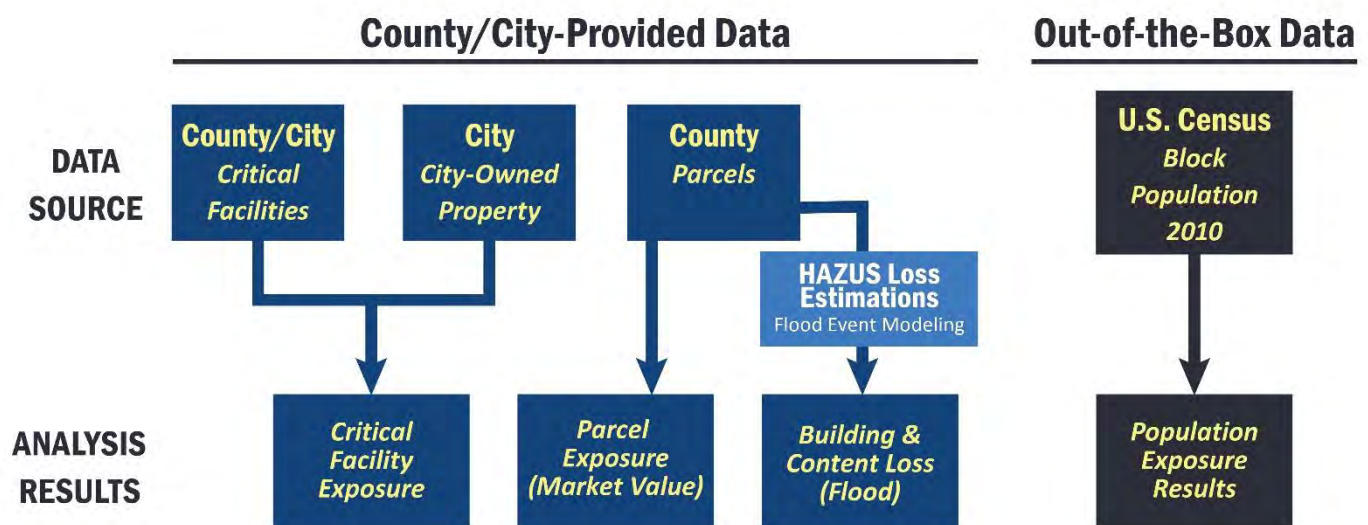


Figure 4-7: Data Source and Method

4.4.1 Population and Asset Inventory

In order to describe vulnerability for each hazard, it is important to first understand the total population and total assets at risk. The population and asset inventories provide a baseline to measure the significance or vulnerability to people and assets for natural hazard events. The asset inventories can also be used to estimate damages and losses expected during a “worst case scenario” event for each hazard. The following sections provide a description of the total population, critical facilities, and parcel inventory inputs.



4.4.1.1 Population

An initial step in producing the hazard-specific vulnerability assessments is to determine the population near each natural hazard. Each natural hazard scenario affects the County residents differently depending on the location of the hazard and the population density of where the hazard event could occur. For hazards that potentially affect the whole county such as earthquake or drought, the vulnerability assessment assumes 896,764 persons or 100% of the County's population is exposed.² Vulnerability assessments presented in Section 4.5 summarize the population exposure for each natural hazard if available.

4.4.1.2 Critical Facilities Inventory

Critical facilities are of particular concern when planning to mitigate hazards. A critical facility is a structure or other improvement that, because of its function, size, service area, or uniqueness, has the potential to cause disruption of vital socioeconomic activities if it is destroyed, damaged, or functionally impaired.

Critical facilities inventory data was developed from a variety of sources, including County, City, District, State, Federal, and private industry datasets. A critical infrastructure spatial database was developed to translate critical facilities information into georeferenced³ points and lifelines.

Critical facility points include police stations, fire stations, hospitals, elder care facilities, day care facilities, buildings containing hazardous materials (HAZMAT), schools, transportation infrastructure, utilities, and government buildings. **Lifelines** include communication, electric power, liquid fuel, natural gas, and transportation routes. A current representation of the critical facility points and lifelines are provided in Figure 4-8. Some critical facility information has been omitted from this document due to national security purposes.

Critical facilities and transportation and lifeline data came from a collection of sources, including but not limited to Kern County GIS, Kern County and local jurisdiction insurance data, California Department of Social Services (CDSS), California Energy Commission (CEC), Federal Communications Commission (FCC), Hazus, U.S. Army Corps of Engineers (USACE), FEMA, and National Park Service (NPS). All data sources have a level of accuracy acceptable for planning purposes. Due to the sensitivity of this information, a detailed list of facilities is not provided. The list is on file with each planning partner. The risk assessment for each hazard qualitatively discusses critical facilities with regard to that hazard.

² Population estimates were derived from 2018 Census American Community Survey (ACS) information.

³ To georeference something means to define its existence in physical space. That is, establishing its location in terms of map projections or coordinate systems. The term is used both when establishing the relation between raster or vector images and coordinates, and when determining the spatial location of other geographical features.



4.4.1.3 Parcel Value Inventory

The Kern County Assessor's data is essential to developing parcel values exposed to each hazard and includes current fair market value of at-risk assets. Kern County Parcel Value Inventory is summarized in Table 4-6. This table only includes parcels that are located in unincorporated Kern County. The Parcel Value Inventory includes market value,⁴ content replacement value, and total assessed value ("total value"), and each hazard profile outlines predicted impacts to this inventory for each hazard's geographic extent. These elements are called out in the table because, in the event of a disaster, the value of the infrastructure or improvements to the land is usually the focus of concern. Generally, the land is not a total loss, and structures can be rebuilt or contents replaced.

"Total market value" as presented in this plan reflect Kern County Assessor data including fair market value where available. If no fair market value was available for a given property, the value reflects the assessed improvement value.

"Total content value" was calculated based on assessor's use codes, translated to occupancy-based multipliers. Each occupancy class prescribes a specific content cost multiplier used to calculate the content cost values shown in the summary and in the hazard profiles in Section 4.5. Occupancy-based content cost multipliers used in this plan reflect those found in the FEMA Hazus 4.2 technical manuals.

Table 4-6: Parcel Counts and Value

| | Total Parcels | Total Market Value (\$) | Total Content Value (\$) | Total Value (\$) |
|-----------------------|---------------|-------------------------|--------------------------|------------------|
| Unincorporated County | 91,455 | \$ 10,906,675 | \$ 5,453,338 | \$16,360,013 |

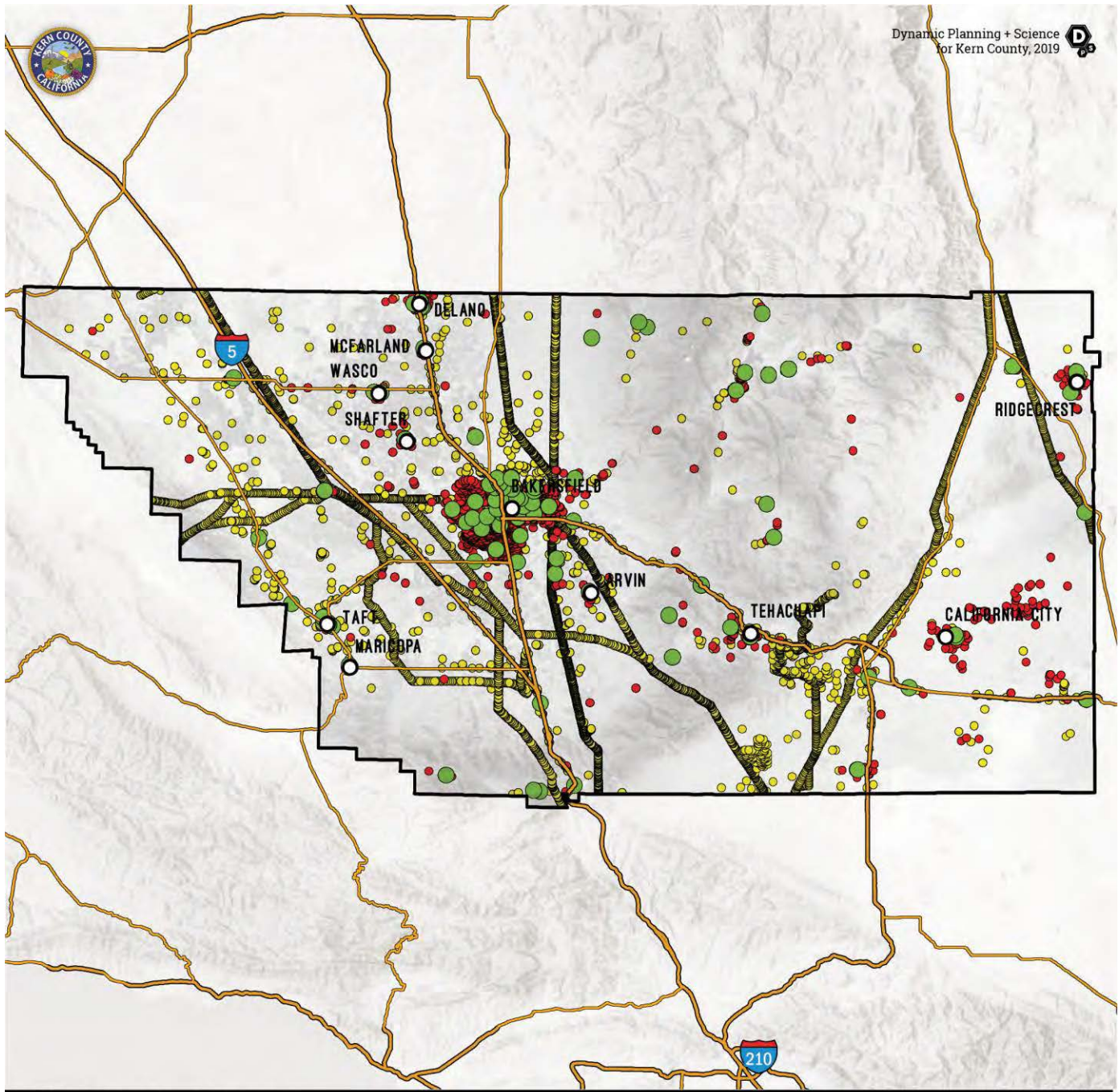
Currency in Thousands. Total market value as provided by County Assessor's Office. Content value calculated using content multipliers per Hazus occupancy classes per county land use designation. Total value is the sum of total market value and total content value.

⁴ Market Value Includes a long-term asset which indicates the cost of the constructed improvements to land, such as buildings, driveways, walkways, lighting, and parking lots.



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update



CRITICAL FACILITIES KERN COUNTY

*Data sources: CDSS, USACE, OSM, NBI, FCC, FEMA, CEC, Kern County, HAZUS.

MAP LEGEND

- | | |
|----------------------|-----------------------------|
| ESSENTIAL FACILITIES | TRANSPORTATION AND LIFELINE |
| HIGH POTENTIAL LOSS | HAZMAT |

Figure 4-8: Critical Facilities in Kern County



4.4.2 Hazard Exposure and Damage Estimation

The population and inventory information are used to generate specific exposure and damage estimations based on the severity of specific hazard events. The hazards in Kern County which have known geographic extents and corresponding spatial information, and thus have exposure and damage estimations, are:

- earthquake,
- flooding,
- slope failure,
- soil subsidence,
- dam failure, and
- wildfire.

Population and Asset Exposure

“Exposure” of assets and population refers to the total counts of parcels, people, facilities, and assets within the planning area in which a hazard event may occur. A natural hazards overlay was developed to reflect the combination of many known natural hazard spatial footprints. The spatial overlay method enables summarization of building values, parcel counts, population exposure, and critical facility exposure within a hazard’s geographic extents. Figure 4-9 illustrates hypothetical flooding exposure. Exposure numbers were generated using Kern County Assessor, address point, and parcel data for replacement and content cost estimates.



Figure 4-9: Hazard Exposure Explanation Graphic

Damage Estimation

For flood and earthquake, detailed damage estimations were conducted through FEMA’s Hazus software. Hazus is a nationally applicable, standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. The estimated damage and losses provided by the Hazus Software is a based upon chosen severity of events and provides the ability to understand possible widescale damage to buildings and facilities.



In the hypothetical geography shown in Figure 4-10, even though both structures are exposed to flooding, it is expected that the structure with a first floor height below the depth of flooding will receive significantly more damage than the structure with a first floor height above the expected water depth. For a more detailed explanation on risk assessment methods, see Appendix A.

At-risk populations, critical infrastructure, improved parcels, and loss results for each hazard category are provided in bar chart summary tables in Section 4.5 to evaluate the percentage of assets exposed to different types of hazards. The side-by-side comparison allows participating jurisdictions to evaluate impacts of potential hazards to prioritize hazard mitigation energy and resources.



Figure 4-10: Hazus Damage Estimation Example



4.5 Vulnerability to Specific Hazards

This section introduces prevalent hazards within the unincorporated portions of Kern County and analyzes how each may affect populations, property, and critical facilities within the County's jurisdiction. Importantly, the hazard mitigation strategy presented in Section 5 is informed by, and responds to, the particular vulnerabilities outlined in this section. The mitigation strategy provides prescriptions or actions to achieve the greatest reduction of vulnerability based on this section, which results in saved lives, reduced injuries, reduced property damage, and protection for the environment in the event of a natural hazard. Methods for calculating exposure and loss estimates are described in Section 4.4 and Appendix A.

This section provides quantifiable exposures to people and property and also contains damage and loss estimates for the unincorporated portions of the County. Participating Jurisdiction Annexes in Vol. 2 of this plan contain specific vulnerabilities to hazards. This section provides information for the following hazards that were prioritized by the MJHMP Planning Committee:

Severe Weather

SECTION 4.5.1



Flood

SECTION 4.5.2



Dam Failure

SECTION 4.5.3



Earthquake

SECTION 4.5.4



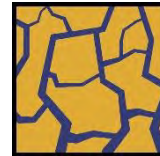
Wildfire

SECTION 4.5.5



Drought

SECTION 4.5.6



Slope Failure

SECTION 4.5.7



Soil Stability

SECTION 4.5.8





4.5.1 Severe Weather Hazard Profile

Severe weather refers to any dangerous meteorological phenomena with the potential to cause damage, serious social disruption, or loss of human life.

Severe weather events can be categorized into two groups: those that form over wide geographic areas are classified as general severe weather; those with a more limited geographic area are classified as localized severe weather. Severe weather, technically, is not the same as extreme weather, which refers to unusual weather events at the extremes of the historical distribution for a given area. (Crop Insurance Solutions, n.d.)



The MJHMP Planning Committee identified three types of severe weather events that typically impact Kern County: high wind, winter weather, and high heat. Thunderstorms are not highlighted as a severe weather hazard on their own, as the primary impact of thunderstorms is the potential spread of wildfire, which is described in detail in Section 4.5.5.

The following are characteristics of severe weather events that can occur in Kern County.

High Wind

Damaging winds are classified as those exceeding 60 mph. Damage from such wind accounts for half of all severe weather reports in the lower 48 states and is more common than damage from tornadoes. Wind speeds can reach up to 100 mph and can produce a damage path extending for hundreds of miles. There are seven types of damaging winds:

- **Straight-line winds**—Any thunderstorm wind that is not associated with rotation; this term is used primarily to differentiate from tornado winds. Most thunderstorms produce some straight-line winds as a result of outflow generated by the thunderstorm downdraft.
- **Downdrafts**—A small-scale column of air that rapidly sinks toward the ground.
- **Downbursts**—A strong downdraft with horizontal dimensions larger than 2.5 miles resulting in an outward burst or damaging winds on or near the ground. Downburst winds may begin as a microburst and spread out over a wider area, sometimes producing damage similar to a strong tornado. Although usually associated with thunderstorms, downbursts can occur with showers too weak to produce thunder.
- **Microbursts**—A small concentrated downburst that produces an outward burst of damaging winds at the surface. Microbursts are generally less than 2.5 miles across and short-lived, lasting only 5 to 10 minutes, with maximum wind speeds up to 168 mph. There are both wet and dry microbursts. A wet microburst is accompanied by heavy precipitation. Dry microbursts, common in places like the high plains and the intermountain west, occur with little or no precipitation reaching the ground.



- **Gust front**—A gust front is the leading edge of rain-cooled air that clashes with warmer thunderstorm inflow. Gust fronts are characterized by a wind shift, temperature drop, and gusty winds out ahead of a thunderstorm. Sometimes winds push up air above them, forming a shelf cloud or detached roll cloud.
- **Derecho**—A derecho is a widespread thunderstorm wind caused when new thunderstorms form along the leading edge of the boundary formed by horizontal spreading of thunderstorm-cooled air. The word “derecho” is of Spanish origin and means “straight ahead.” Thunderstorms feed on the boundary and continue to reproduce. Derechos typically occur in summer when complexes of thunderstorms form over plains, producing heavy rain and severe wind. The damaging winds can last a long time and cover a large area.
- **Bow Echo**—A bow echo is a linear wind front bent outward in a bow shape. Damaging straight-line winds often occur near the center of a bow echo. Bow echoes can be 200 miles long, last for several hours, and produce extensive wind damage at the ground. (The National Severe Storms Laboratory, n.d.)

Extreme Cold / Freeze Events

Extreme cold and freeze events are most likely to occur in Kern County during the months of November-February. Prolonged exposure to the cold can cause frostbite or hypothermia, with infants and the elderly being the most susceptible. Extreme cold can freeze and burst pipes and impair communication facilities. Late or early freeze events can have a devastating effect on agriculture and the economy of the region. Freeze events in Kern County usually occur in the Central Valley and are becoming less exceptional as extreme weather conditions become more common due to climate change.

Hail

Hail occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into ice. Super-cooled water may accumulate on frozen particles near the backside of a storm as they are pushed forward across and above the updraft by the prevailing winds near the top of the storm. Eventually, the hailstones encounter downdraft air and fall to the ground.

Hailstones grow two ways: by wet growth or dry growth. In wet growth, a tiny piece of ice is in an area where the air temperature is below freezing, but not super cold. When the tiny piece of ice collides with a super-cooled drop, the water does not freeze on the ice immediately. Instead, liquid water spreads across tumbling hailstones and slowly freezes. Since the process is slow, air bubbles can escape, resulting in a layer of clear ice. Dry-growth hailstones grow when the air temperature is well below freezing, and the water droplet freezes immediately as it collides with the ice particle. The air bubbles are “frozen” in place, leaving cloudy ice.

Hailstones can have layers like an onion if they travel up and down in an updraft, or they can have few or no layers if they are “balanced” in an updraft. One can tell how many times a hailstone traveled to the top of the storm by counting its layers. Hailstones can begin to melt and then re-freeze together, forming large, irregularly-shaped, damaging hail.



High Heat / Heat Waves

Heat waves are periods of abnormally hot weather lasting days to weeks. The number of heat waves has been increasing in recent years across the Country and locally. Figure 4-11 displays historical and projected annual average maximum temperature increase in California from 1950 to 2099. Climate change will continue to cause extreme heat events more often. Studies show that by the end of this century, the number of days with temperatures reaching 100°F or more is projected to increase dramatically across the United States as a result of climate change. What the public now considers to be an exceptional event could become routine across much of the country. As temperatures rise and extreme heat events become longer, more severe, and more frequent, experts expect to see more health problems and deaths caused by heat (Center for Disease Control).

According to information provided by FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. In a normal year, about 175 Americans succumb to the demands of summer heat. According to the National Weather Service (NWS), among natural hazards, only the cold of winter—not lightning, hurricanes, tornados, floods, or earthquakes—takes a greater toll. (National Weather Service, 2020) In the 40-year period from 1936 through 1975, nearly 20,000 people were killed in the United States by the effects of heat and solar radiation. In the heat wave of 1980, more than 1,250 people died. (Disasters Are Us, n.d.)

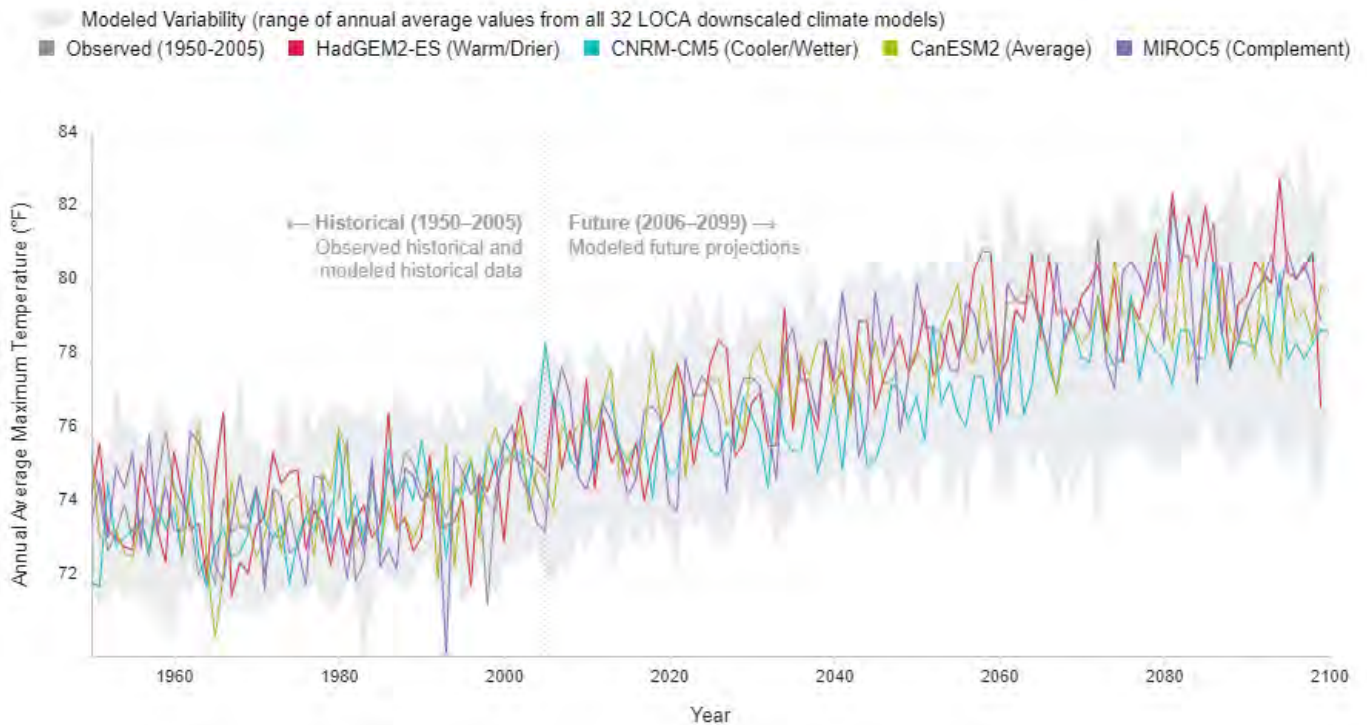
Heat disorders generally have to do with a reduction or collapse of the body's ability to shed heat by circulatory changes and sweating or a chemical (salt) imbalance caused by too much sweating. When heat gain exceeds the level the body can remove, or when the body cannot compensate for fluids and salt lost through perspiration, the temperature of the body's inner core begins to rise and heat-related illness may develop. Elderly persons, small children, chronic invalids, those on certain medications or drugs, and persons with weight and alcohol problems are particularly susceptible to heat reactions, especially during heat waves in areas where moderate climate usually prevails. (Canadian Centre for Occupational Health and Safety, 2020)

Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly take the lives of vulnerable populations. Heat waves do not cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios. While heat waves are obviously less dramatic, they are potentially more deadly. The worst single heat wave event in California occurred in Southern California in 1955, when an eight-day heat wave resulted in 946 deaths. (California Office of Emergency Services, 2008)



Annual Average Maximum Temperature

Data is shown for Kern County, California under the RCP 4.5 scenario in which emissions peak around 2040, then decline.



- Source: Cal-Adapt. Data: LOCA Downscaled Climate Projections (Scripps Institution of Oceanography), Gridded Historical Observed Meteorological Data (University of Colorado, Boulder).
- Four models have been selected by California's Climate Action Team as priority models for research contributing to California's Fourth Climate Change Assessment (Pierce et al., 2018). Projected future climate from these four models can be described as producing:
 - A warm/dry simulation (HadGEM2-ES)
 - A cooler/wetter simulation (CNRM-CM5)
 - An average simulation (CanESM2)
 - The model simulation that is most unlike the first three for the best coverage of different possibilities (MIROC5)

Figure 4-11 Historical & Projected Annual Average Maximum Temp Increase

Source: Cal-Adapt



Climate Change

The effects of climate change are varied and include warmer and more varied weather patterns, such as melting ice caps and poor air quality. As a result, climate change will likely worsen a number of natural hazards including severe weather. The effects of climate change on severe weather are most likely to create more frequent and prolonged periods of extreme heat. However, climate change will result in unpredictable temperature fluctuations that could lead to freeze events during the warmer months of the year which could have a devastating effect on agriculture. (United States Environmental Protection Agency, 2016)

4.5.1.1 Plans, Policies, and Regulatory Environment

There are very few formal regulations that pertain directly to severe weather events. The California Building Code,⁵ adopted by Kern County and the participating jurisdictions, is generally adequate to properly address development impacts from severe weather events.

Faulty Weather Protection in Kern County Code, § 1001.7

Kern County Code includes provision for severe weather preparedness having to do with substandard building conditions. Defective housing materials and general conditions demonstrating a lack of weather protection and requiring maintenance or repair include crumbling or loose plaster, ineffective waterproofing of exterior walls, roof or floors, and broken windows.

4.5.1.2 Past Events

Strong wind events and frost or freeze events have been the only type of severe weather events to occur in Kern County since the year 2000 (not high heat). Table 4-7 summarizes extreme weather events in Kern County since 2000, as recorded by the National Oceanic and Atmospheric Administration (NOAA). Strong wind events are most common, resulting in property damage every year since 2000.

Table 4-7: Severe Weather Damage Summary by Year 2000-2019

| Year | Total Property Damage Value (\$) | Total Crop Damage Value (\$) |
|---------------------------|-------------------------------------|---------------------------------|
| Strong Wind Events | | |
| 2002 | 12,000 | 0 |
| 2003 | 277,000 | 0 |
| 2004 | 218,000 | 0 |
| 2005 | 137,000 | 0 |
| 2006 | 376,000 | 112,500 |
| 2007 | 113,500 | 0 |
| 2008 | 106,900 | 9,000 |

⁵ Available at <https://www.dgs.ca.gov/BSC/Codes>.



| Year | Total Property Damage Value (\$) | Total Crop Damage Value (\$) |
|----------------------------|-------------------------------------|---------------------------------|
| 2009 | 12,800 | 0 |
| 2010 | 708,000 | 0 |
| 2011 | 9,000 | 0 |
| 2012 | 147,000 | 0 |
| 2013 | 61,000 | 0 |
| 2014 | 31,000 | 0 |
| 2017 | 100,000 | 0 |
| 2018 | 6,000 | 0 |
| 2019 | 381,000 | 0 |
| Total | 2,696,200 | 121,500 |
| Frost/Freeze Events | | |
| 2001 | 0 | 1,100,000 |
| 2006 | 0 | 5,420,000 |
| 2007 | 150,000 | 568,600,000 |
| Total | 150,000 | 575,120,000 |

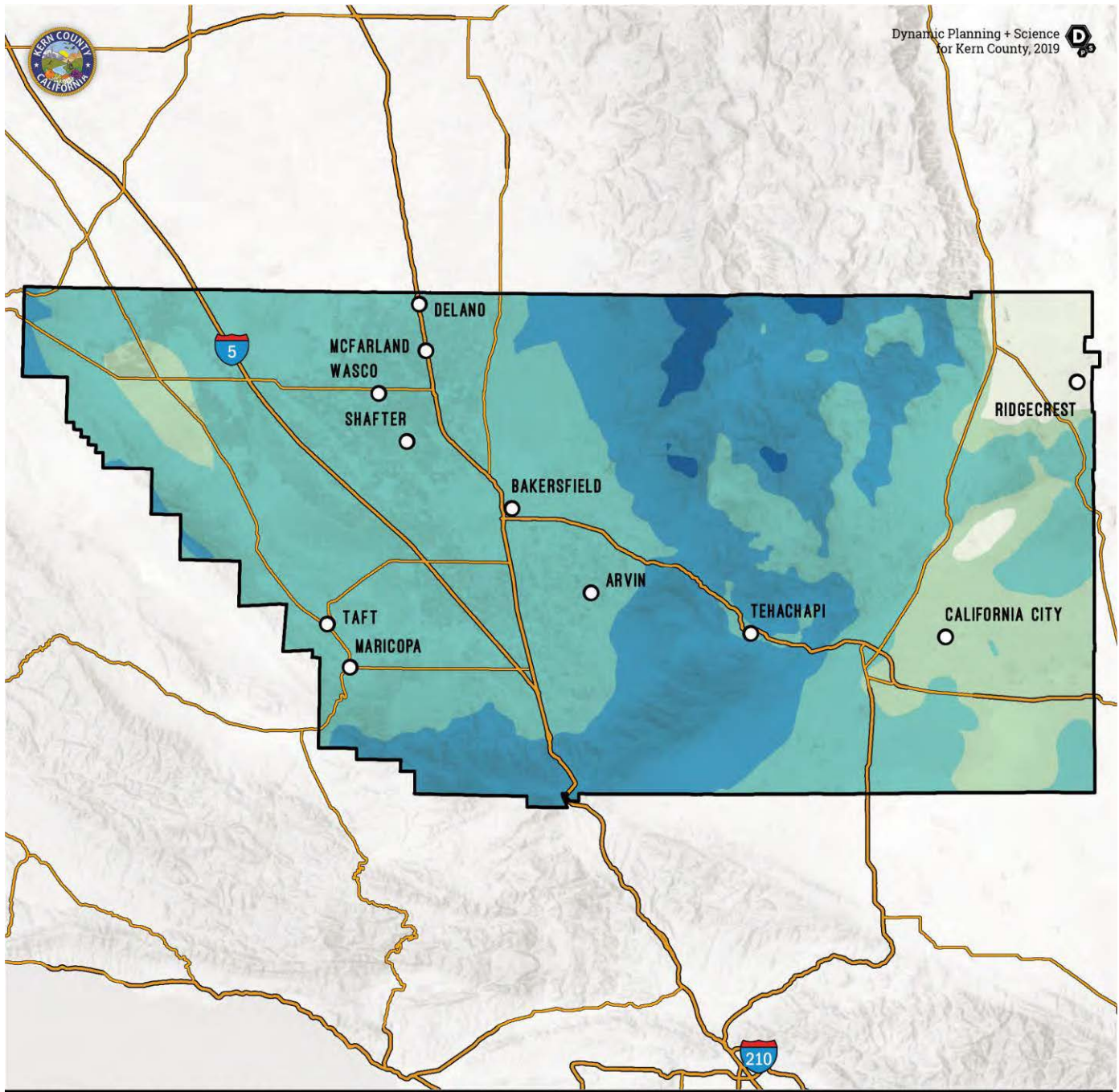
Source: NOAA Storm Events Database

4.5.1.3 Location

Severe weather events have the potential to happen anywhere in the planning area. Communities in the Central Valley are more susceptible to extreme weather and freeze events. Wind events are most damaging to areas that are heavily wooded. The following figures show average weather conditions for Kern County, including:

- Figure 4-12: Average Annual Precipitation,
- Figure 4-13: Normal Maximum Temperatures for July,
- Figure 4-14: Normal Minimum Temperatures for January, and
- Figure 4-15: Annual Average Wind Speed.

Table 4-8 explains further the classes of wind power density shown in Figure 4-15.



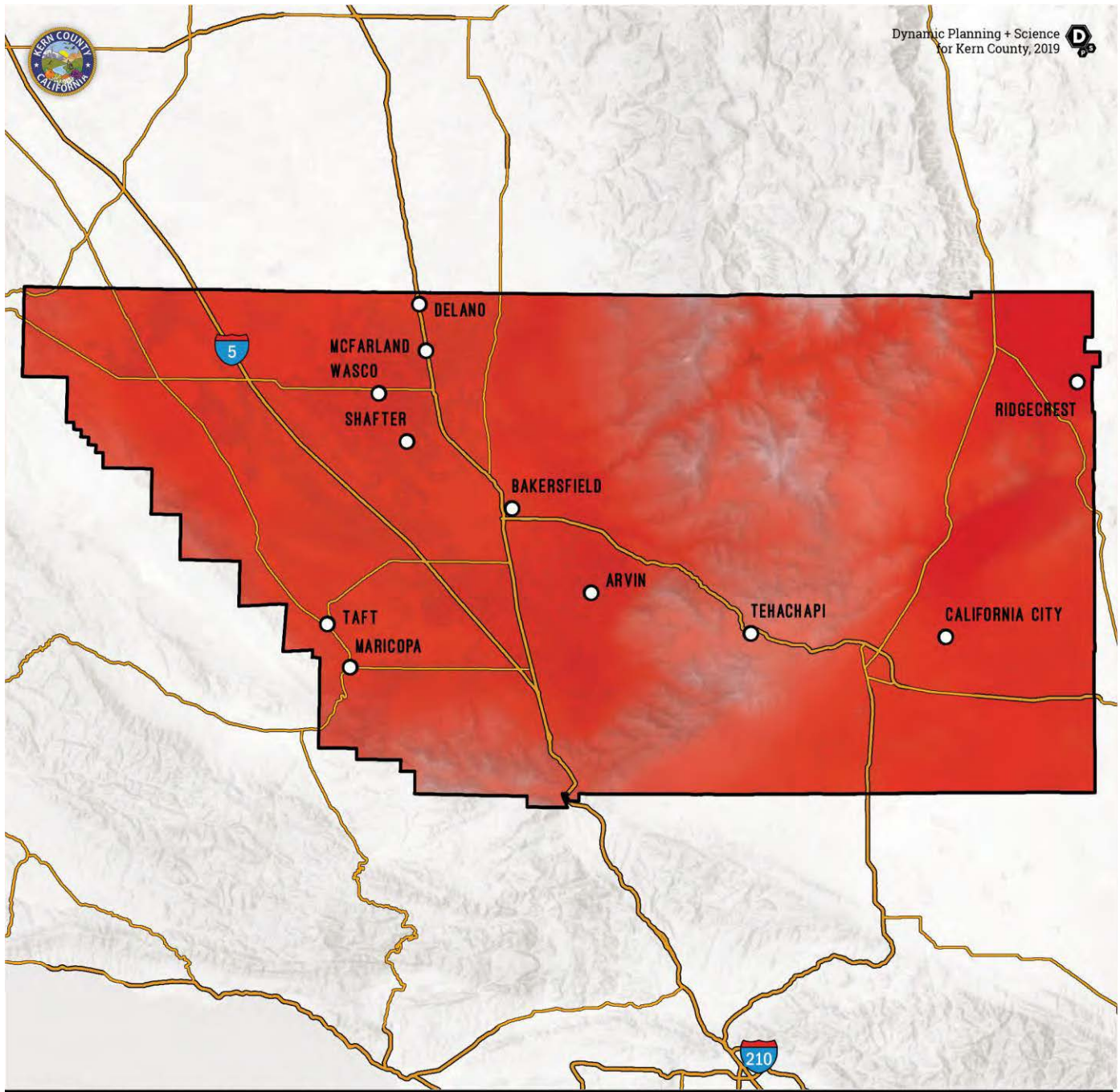
AVERAGE ANNUAL PRECIPITATION KERN COUNTY

*Data sources: USDA - 1981-2010 Annual Average Precipitation by State.

MAP LEGEND



Figure 4-12 Kern County - Average Annual Precipitation



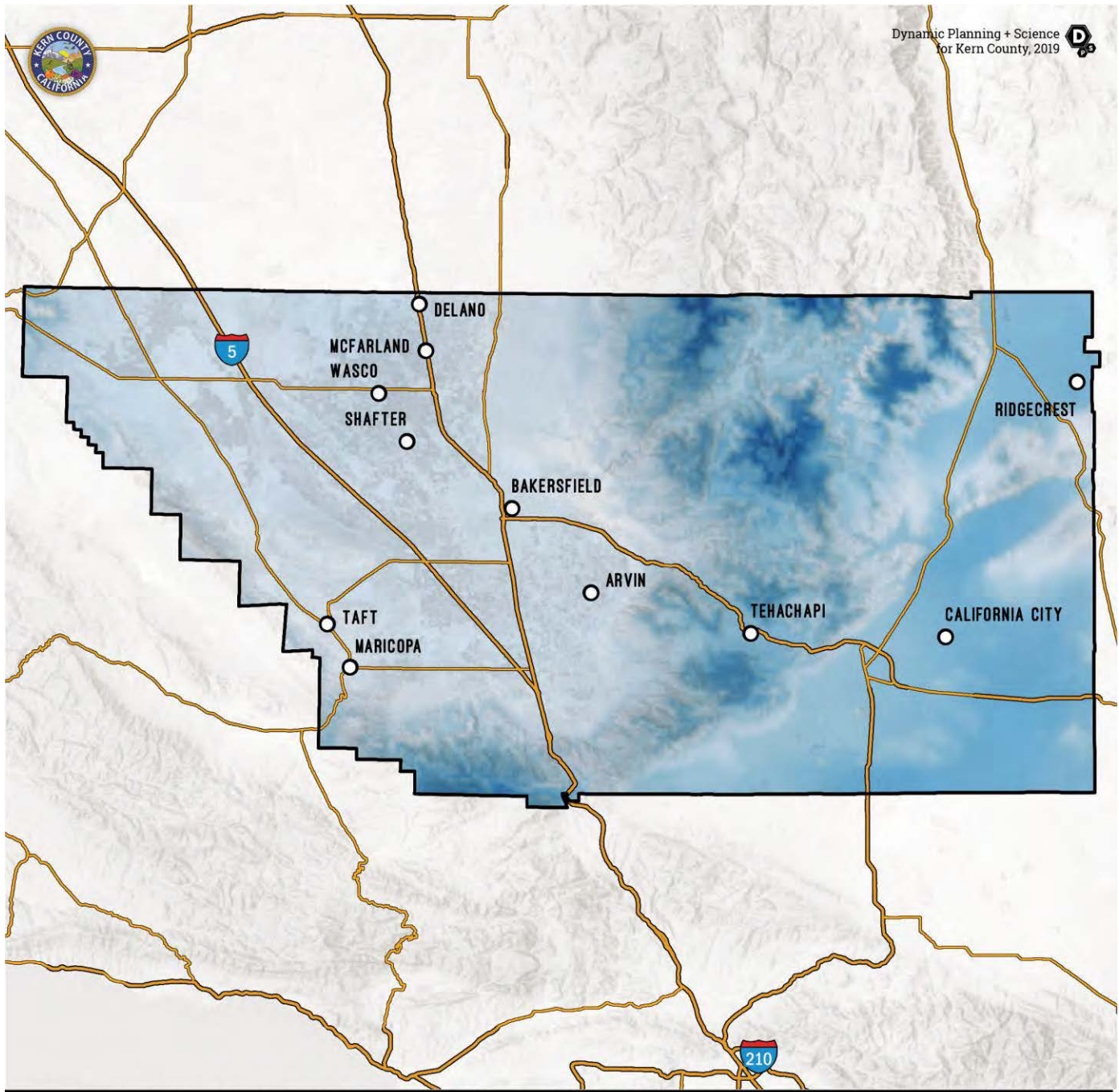
30-YR NORMAL MAXIMUM TEMPERATURE FOR JULY KERN COUNTY

*Data sources: PRISM 800m Resolution 30-YR Normals.

MAP LEGEND



Figure 4-13: 30-YR Normal Maximum Temperature for July



30-YR NORMAL MINIMUM TEMPERATURE FOR JANUARY KERN COUNTY

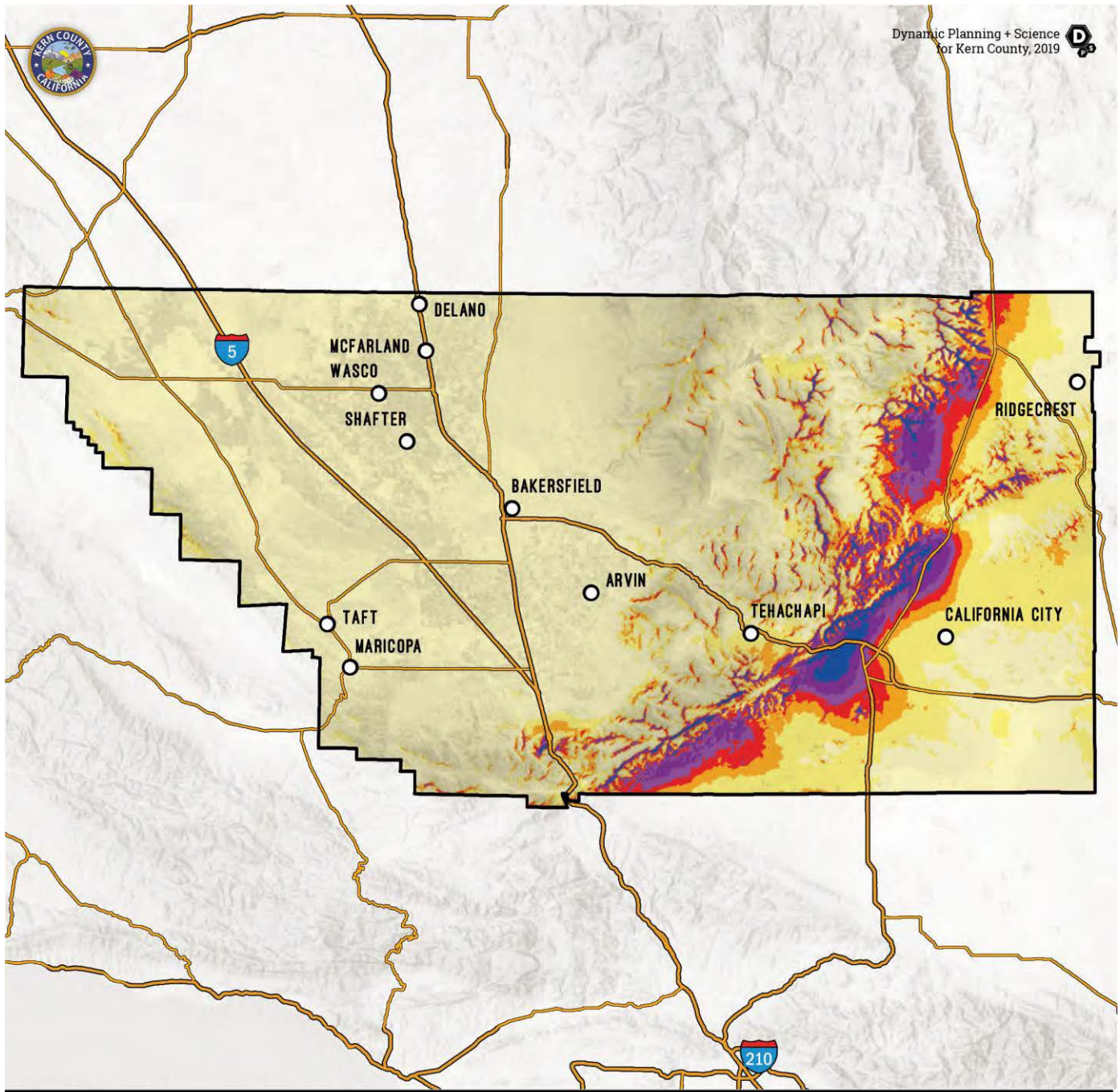
*Data sources: PRISM 800m Resolution 30-YR Normals.

MAP LEGEND

41°F

21°F

Figure 4-14: 30-YR Normal Minimum Temperature for January



ANNUAL AVERAGE WIND SPEED (POWER CLASS) KERN COUNTY

*Data sources: NREL.

MAP LEGEND



Figure 4-15: Annual Average Wind Speed (Power Class)

**Table 4-8: Classes of Wind Power Density at 10 m and 50 m^a**

| Wind Power Class | 10 m (33 ft) | | 50 m (164 ft) | |
|------------------|--|------------------------------|--|------------------------------|
| | Wind Power Density (W/m ²) | Speed ^b m/s (mph) | Wind Power Density (W/m ²) | Speed ^b m/s (mph) |
| 1 | 0 | 0 | 0 | |
| | 100 | 4.4 (9.8) | 200 | 5.6 (12.5) |
| 2 | 150 | 5.1 (11.5) | 300 | 6.4 (14.3) |
| 3 | 200 | 5.6 (12.5) | 400 | 7.0 (15.7) |
| 4 | 250 | 6.0 (13.4) | 500 | 7.5 (16.8) |
| 5 | 300 | 6.4 (14.3) | 600 | 8.0 (17.9) |
| 6 | 400 | 7.0 (15.7) | 800 | 8.8 (19.7) |
| 7 | 1000 | 9.4 (21.1) | 2000 | 11.9 (26.6) |

^a Vertical extrapolation of wind speed based on the 1/7 power law.

^b Mean wind speed is based on Rayleigh speed distribution of equivalent mean wind power density. Wind speed is for standard sea-level conditions. To maintain the same power density, speed increases 3%/1000 m (5%/5000 ft) elevation.

NOTE: Each wind power class should span two power densities. For example, Wind Power Class = 3 represents the Wind Power Density range between 150 W/m² and 200 W/m². The offset cells in the first column attempt to illustrate this concept.

4.5.1.4 Frequency/ Probability of Future Events

Severe weather events for Kern County since the year 2000, as shown in Table 4-7, have all been related to either wind or freeze events. Strong wind events since the year 2000 have caused a total of \$2.6 million worth of property damage in Kern County. Figure 4-15 displays average annual wind speeds by power class in Kern County and Table 4-8 describes wind power classes.

4.5.1.5 Severity and Extent

The most common problems associated with severe storms are immobility and loss of utilities. Fatalities are uncommon but can occur. Roads may become impassable due to flooding, downed trees, ice or snow, or a landslide. Crops can be damaged by below-freezing temperatures. Power lines may be downed due to high winds or ice accumulation, and services such as water or phone may not be able to operate without power. Utility companies will shutoff power (also known as, Public Safety Power Shutoffs) as a fire prevention measure in hot and dry periods.



Windstorms can be a problem in the planning area and could cause damage to utilities. It is important to note that the predicted wind speed given in wind warnings issued by the National Weather Service is for a one-minute average; gusts may be 25 to 30 percent higher.

Hail events can occur in Kern County. Events have occurred in the greater County and in the City of Taft with hail size ranging from .25 to .75 inches.

High heat events can occur throughout Kern County, and are projected to worsen with climate change. In 2018, the southern portion of California's central valley, and, in particular, the region including Los Angeles broke an all-time record of 111 degrees, surpassing the previous record of 109 degrees, set in 1939. (Washington Post, 2018)

4.5.1.6 Warning Time

Meteorologists can often predict the likelihood of a severe storm. This can give several days of warning time. However, meteorologists cannot predict the exact time of onset or severity of the storm. Some storms may come on more quickly and have only a few hours of warning time.

4.5.1.7 Secondary Hazards

The most significant secondary hazards associated with severe local storms are floods, falling and downed trees, landslides, downed power lines, and wildfire. Heavy rain can overwhelm both natural and man-made drainage systems, causing overflow and property destruction. Landslides occur when the soil on slopes becomes oversaturated and fails. Landslides are further outlined as slope failure in Section 4.5.7, while flooding is analyzed in Section 4.5.2.

4.5.1.8 Severe Weather Vulnerability Analysis

4.5.1.8.1 Population

It can be assumed that the entire planning area is exposed to some extent to severe weather events. Certain areas are more exposed due to geographic location and local weather patterns. Populations living at higher elevations with large stands of trees or power lines may be more susceptible to wind damage and black out.

Vulnerable populations such as the elderly, low income or linguistically isolated populations, people with life-threatening illnesses, and residents living in areas may become isolated from major roads in severe weather events. Power outages can be life threatening to those dependent on electricity for life support. These populations face isolation and exposure during severe weather events and could suffer more secondary effects of the hazard, and therefore vulnerable populations are of particular concern.

**4.5.1.8.2 Property**

All property is vulnerable during severe weather events, but properties in poor condition or in particularly vulnerable locations may risk the most damage. Those in higher elevations and on ridges may be more prone to wind damage. Those that are located under or near overhead lines or near large trees may be vulnerable to falling ice or may be damaged in the event of a collapse. Crops may be damaged by frost, especially if a frost event occurs after the growing season has already begun.

4.5.1.8.3 Critical Facilities and Infrastructure

All critical facilities exposed to flooding are also likely exposed to severe weather. Additional facilities on higher ground may also be exposed to wind damage or damage from falling trees. The most common problems associated with severe weather are loss of utilities. Downed power lines can cause blackouts, leaving large areas isolated. Phone, water, and sewer systems may not function. Roads may become impassable due to ice or snow or from secondary hazards such as landslides.

4.5.1.8.4 Lifelines

Loss of roads or power and communication lines are the primary lifeline failures resulting from severe weather and are mostly due to secondary hazards such as floods, falling and downed trees, landslides, and wildfire. Landslides caused by heavy prolonged rains can block roads. High winds can cause significant damage to trees and power lines, blocking roads with debris, incapacitating transportation, isolating population, and disrupting ingress and egress. Snowstorms in higher elevations can significantly impact the transportation system and the availability of public safety services. Of particular concern are roads providing access to isolated areas and vulnerable populations.

Prolonged obstruction of major routes due to landslides, snow, debris, or floodwaters can disrupt the shipment of goods and other commerce. Large, prolonged storms can have negative economic impacts for an entire region.

Severe windstorms, downed trees, and ice can create serious impacts on power and above-ground communication lines. Freezing of power and communication lines can cause them to break, disrupting electricity and communication. Loss of electricity and phone connection would leave certain populations isolated because residents would be unable to call for assistance.



4.5.1.8.5 Future Trends in Development

All future development will be affected by severe storms. The ability to withstand impacts lies in sound land use practices and consistent enforcement of codes and regulations for new construction. Participating jurisdictions have adopted the California Building Code, which corresponds to the International Building Code, to meet California mandates. This code is equipped to deal with the impacts of severe weather events. Land use policies identified in general plans within the planning area also address many of the secondary impacts, such as flood and landslide, of the severe weather hazard. With these tools, the participating jurisdictions are well equipped to deal with future growth and the associated impacts of severe weather.

4.5.1.8.6 Severe Weather Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Severe weather problem statements for Kern County are listed in Table 4-9; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. See Table 5-6 for a full list of mitigation actions and the corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-9 and Table 5-6.



Table 4-9 Severe Weather Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|-----------------|-----------------|---|----------------|--|--------------|
| ps-EW-KC-227 | Extreme Weather | Impact | PPRO - Property Protection , NRP - Natural Resource Protection , ES - Emergency Services , SP - Structural Projects | County of Kern | Heavy rains could create localized flooding issues around County infrastructure including buildings and roads, posing a threat to buildings and creating hazardous travel conditions The following culverts have been identified as undersized by Kern County and frequently create flooding issues after heavy rain events: LAKE ISABELLA BLVD, 200' S OF ELIZABETH NORRIS RD, LAKE ISABELLA ; FRAZIER MTN PARK RD, 2,200' E OF MT PINOS WY E, FRAZIER PARK; CALIENTE CREEK RD, BETWEEN MILLERSVILLE AND TWIN OAKS; COPUS RD, 3,000' W OF I-5 FWY | ma-FL-KC-98 |
| ps-EW-KC-228 | Extreme Weather | Threat | PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | Strong winds can blow over trees and utility lines, posing a hazard to traffic and pedestrians | ma-AH-KC-179 |
| ps-EW-KC-229 | Extreme Weather | Threat | PRV - Prevention | County of Kern | Increased impervious surfaces can lead to the urban heat island effect and increased runoff during heavy rains events that may overwhelm storm drain facilities that have received insufficient storm water maintenance | ma-EW-KC-301 |
| ps-EW-KC-338 | Extreme Weather | Threat | PE&A - Public Education & Awareness | County of Kern | Winter weather events can interrupt travel on County roads leading to hazardous driving conditions and road closures | ma-EW-KC-435 |



4.5.2 Flood Hazard Profile



Flooding is one of the three primary hazards in California, along with earthquake and wildfire, and represents the second most destructive source of hazard, vulnerability, and risk statewide. (California Office of Emergency Services, 2018) Flooding is a priority hazard for Kern County as well.

Connections between a river and its floodplain are most apparent during and after major flood events. A **floodplain** is the area adjacent to a river, creek, or lake that becomes inundated during a flood. Floodplains may be broad, as when a river crosses an extensive flat landscape, or narrow, as when a river is confined in a canyon. These areas form a complex physical and biological system that supports a variety of natural resources and provides natural flood and erosion control. When a river is separated from its floodplain with levees and other flood control facilities, its natural, built-in benefits can be lost, altered, or significantly reduced. (Federal Emergency Management Agency)

There are four types of flood events in the Kern County area: riverine, flash, urban stormwater, alluvial fan, and dam failure. Regardless of the type, the cause is primarily the result of severe weather and excessive rainfall, either in the flood area or upstream reach. (The National Severe Storms Laboratory, n.d.)

Riverine flooding occurs when a watercourse exceeds its 'bank-full' capacity and is the most common type of flood event. Riverine flooding occurs as a result of prolonged rainfall that is combined with saturated soils from previous rain events, or combined with snowmelt, and is characterized by high peak flows of moderate duration and by a large volume of runoff. Riverine flooding occurs in river systems whose tributaries drain large geographic areas and can include many watersheds and sub-watersheds. The duration of riverine floods varies from a few hours to many days. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, soil moisture content, channel capacity, seasonal variation in vegetation, snow depth, and water-resistance of the surface due to urbanization. (*Id*)

In Kern County, riverine flooding can occur anytime during the period from November through April. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions

The term "flash flood" describes localized floods of great volume and short duration, generally in less than four hours. In contrast to riverine flooding, this type of flood usually results from a heavy rainfall in a relatively small drainage area. Precipitation of this sort usually occurs in the spring and summer. (Kern County MJHMP, 2014)

Urbanization may increase peak flow runoff as well as the total volume of stormwater runoff from a site. The increase is dependent upon the type of soil and its topography in relation to the proposed development. Comparison of the peak flow and volume impacts to the watershed should be analyzed whenever development is proposed to ensure that any increases are accommodated. (United States Geological Survey, 2016)



Flooding may result as a secondary impact from an earthquake, and may cause failure of dams, canal banks, or areas where landslides block drainage channels, streams, and/or rivers. *See Section 0 for the Earthquake Hazard Profile.*

Dam failures also often result in flash flooding. However, dam failures are discussed separately in this plan. *See Section 4.5.3.*

Floodplain Definitions

100-YR Floodplain

The boundaries of the 100 year (100-YR) floodplain coincide with an annual risk of 1% and are a FEMA study product consisting of both floodway and flood fringe.

500-YR Floodplain

The boundaries of the floodplain coincide with an annual risk of 0.2% and are a FEMA study product. The 500-YR floodplain includes the 100-YR.

Floodway

This includes the channel of the tributary and the land adjacent to it. This zone needs to remain free from obstruction so the 100-YR floodplain can be conveyed downstream.

Flood Fringe

This is the remaining portion of the 100-YR floodplain, excluding the floodway. This zone can be obstructed or developed if criteria are met.

Special Flood Hazard Area (SFHA)

An area having special flood, mudflow, or flood-related erosion hazards and shown on a Flood Insurance Rate Map (FIRM). The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced.

Floodplain Ecosystems

Floodplains can support ecosystems that are rich in quantity and diversity of plant and animal species. A floodplain can contain 100 or even 1,000 times as many species as a river. Wetting of the floodplain soil releases an immediate surge of nutrients left over from the last flood and resulting from the rapid decomposition of organic matter that had accumulated. Microscopic organisms thrive, and larger species enter a rapid breeding cycle. Opportunistic feeders, particularly birds, move in to take advantage. The production of nutrients peaks and falls away quickly; however, the surge of new growth endures for some time. This makes floodplains particularly valuable for agriculture. Species growing in floodplains are markedly different from those that grow outside floodplains. For instance, trees in floodplains and riparian areas tend to be very tolerant of root disturbance and very quick-growing compared to non-riparian trees.

Floodplains that are undisturbed or have been restored to a natural state provide many benefits to both human and natural systems. In their natural vegetative state, undisturbed floodplains provide the following benefits:



- Slow the rate at which incoming surface runoff reaches the main body of water, slowing down the impact of flood events.
- Maintain water quality by allowing surface runoff to drop sediment into the natural soil, preventing it from depositing in streams and rivers.
- Recharge groundwater. The slowing of runoff allows additional time for the runoff to recharge existing groundwater aquifers.
- Provide habitat for large and diverse populations of plants and animals.

Floodplains are often compromised by human development. Because they border water bodies, floodplains have historically been popular sites to establish settlements. Human activities tend to concentrate in floodplains because water is readily available, land is fertile and suitable for farming, transportation by water is easily accessible, and land is flatter and easier to develop.

But human activity in floodplains frequently interferes with the natural function of floodplains. It can affect the distribution and timing of drainage, thereby increasing flood problems. Human development can create local flooding problems by altering or confining drainage channels. This increases flood potential in two ways: it reduces the stream's capacity to contain flows, and it increases flow rates or velocities downstream during all stages of a flood event. Human activities can interface effectively with a floodplain as long as steps are taken to mitigate the activities' adverse impacts on floodplain functions.

4.5.2.1 Plans, Policies, and Regulatory Environment

National Flood Insurance Program (NFIP)

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. Kern County and the cities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Shafter, Taft, Tehachapi, and Wasco all participate in NFIP.

For most participating communities, FEMA has prepared a detailed Flood Insurance Study (FIS). The study presents water surface elevations for floods of various magnitudes, including the 1-percent annual chance flood (the 100-year flood) and the 0.2-percent annual chance flood (the 500-year flood).

Base-flood elevations and the boundaries of the 100- and 500-year floodplains are shown on Flood Insurance Rate Maps (FIRMs), which are the principal tool for identifying the extent and location of the flood hazard. FIRMs also designate and display the floodway which is the channel of the river or stream and adjacent land that must remain free from obstruction so that the 100-year flood can be conveyed downstream. FIRMs are the most detailed and consistent data source available, and for many communities they represent the minimum area of oversight under their floodplain management program. The most recent countywide FIRM was completed September 26th, 2008 and is a digital flood insurance rate map (DFIRM).



Participants in the NFIP must, at a minimum, regulate development in floodplain areas in accordance with NFIP criteria. Before issuing a permit to build in a floodplain, participating jurisdictions must ensure that three criteria are met:

- New buildings and those undergoing substantial improvements must, at a minimum, be elevated to protect against damage by the 100-YR flood;
- New floodplain development must not aggravate existing flood problems or increase damage to other properties; and
- New floodplain development must exercise a reasonable and prudent effort to reduce its adverse impacts on threatened salmonid species.

Structures permitted or built in the County before December 31, 1974, are called “pre-FIRM” structures, and structures built afterwards are called “post-FIRM.” Post-FIRM properties are eligible for reduced flood insurance rates. Such structures are less vulnerable to flooding since they were constructed after regulations and codes were adopted to decrease vulnerability. Pre-FIRM properties are more vulnerable to flooding because they do not meet code or are located in hazardous areas. The insurance rate is different for the two types of structures.

Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. All planning partners that participate in the NFIP have identified initiatives to maintain their compliance and good standing.

Community Rating System (CRS)

The CRS is a voluntary program within the NFIP that encourages floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premiums are discounted to reflect the reduced flood risk resulting from community actions that meet the three goals of the CRS: 1) reduce flood losses, 2) facilitate accurate insurance rating, and 3) promote awareness of flood insurance.

For participating communities, flood insurance premium rates are discounted in increments of 5 percent according to the community’s classification. For example, a Class 1 community would receive a 45 percent premium discount, and a Class 9 community would receive a 5 percent discount. Class 10 communities are those that do not participate in the CRS; they receive no discount. The CRS classes for local communities are based on 18 creditable activities related to public information, mapping and regulations, flood damage reduction, and flood preparedness.

CRS activities can help to save lives and reduce property damage. Communities participating in the CRS represent a significant portion of the nation’s flood risk; over 66 percent of the NFIP’s policy base are communities in the CRS. Communities receiving premium discounts through the CRS range from small to large and represent a broad mixture of flood risks, including both coastal and riverine flood risks. Table 4-10 lists NFIP and CRS statistics for the County.

**Table 4-10: Flood Insurance Statistics for Kern County**

| NFIP and CRS Status & Information | |
|---|------------------------------|
| County of Kern | |
| NFIP Status | Participating since 09/29/86 |
| CRS Class | 9 |
| Policies in Force | 3,168 |
| Policies in SFHA | 2,678 |
| Policies in non-SFHA | 490 |
| Total Claims Paid | 128 |
| Paid Losses | \$791,697 |
| Repetitive Loss Properties | 0 |
| Severe Repetitive Loss Properties | 0 |
| Repetitive Loss Payment by NFIP on Building | N/A |
| Repetitive Loss Payment by NFIP on Contents | N/A |

Note: The Privacy Act of 1974 (5 U.S.C. 522a) restricts the release of certain types of data to the public. Flood insurance policy and claims data are included in the list of restricted information. FEMA can only release such data to state and local governments, and only if the data are used for floodplain management, mitigation, or research purposes. Therefore, this plan does not identify the repetitive loss properties or include claims data for any individual property.

Cobey-Alquist Floodplain Management Act

The Cobey-Alquist Floodplain Management Act of 1965 provided state-level guidance and review of floodplain management, including the review of floodplain management plans, establishment of floodplain management regulations, and the use of designated floodways. The California Department of Water Resources (DWR) adopts regulations, maintains a statewide flood management data collection and planning program, manages a statewide grant program, and helps coordinate emergency flood response operations.

State Plan of Flood Control (SPFC) in the Central Valley

The SPFC describes authorized project levees and related facilities for which the State of California has accepted responsibility for maintenance. The Plan further describes the existing flood control works of the State-federal flood protection system in California's central valley, in addition to the lands, modes of operations and maintenance necessary for the system to function, conditions, and programs and plans for the system. (Department of Water Resources, 2010) (Legislative Analyst's Office, 2019)



Kern County General Plan

The 2004 Kern County General Plan includes many policies, implementation measures, and goals in the Land Use and Safety Elements that limit development occurring in floodplains and mitigate impacts from such development.

Policies around flooding include limited development in floodplains, generally forbidding structures that impede flow in floodplains, and preserving important flood channels and water courses from development more broadly. The Kern County General Plan is currently being updated and will consider this MJHMP Update as it continues to shape policies around flood mitigation and protection.

Floodplain Management Ordinance in Kern County Code, § 17.48

The Kern County Code addresses mitigation options for reducing flood losses through restricting or prohibiting development that may be dangerous due to flooding and erosion. These methods and provisions additionally stipulate that vulnerable uses be protected against flood damage during construction; the management of natural floodplains and stream channels in order to accommodate flood waters; the management of any development which might increase flood damage; and the management of flood barrier construction, which might increase flood hazards in other areas.

The County's regulations also prohibit the encroachment of new development that would increase any flood levels within the severe flood hazard area. Contingent on this first provision being satisfied, all new construction and other proposed development shall comply with all other applicable flood hazard reduction provisions of this chapter.

4.5.2.2 Major Flood Events

Table 4-11 shows the flood events that took place in Kern County since the year 2000 that caused either property or crop damage. (NOAA, 2019)

Table 4-11: Kern County Flood Events Since 2000

| Date | Flood Type | Property Damage Value (\$) | Crop Damage Value (\$) |
|------------|-------------|----------------------------|------------------------|
| 1/8/2002 | Flood | 25,000 | 0 |
| 11/8/2002 | Flood | 23,000 | 0 |
| 2/12/2003 | Flood | 50,000 | 0 |
| 7/31/2003 | Flash Flood | 5,000 | 0 |
| 12/25/2003 | Flood | 30,000 | 0 |
| 2/22/2004 | Flood | 5,000 | 0 |
| 10/26/2004 | Flood | 5,000 | 0 |
| 10/26/2004 | Flood | 5,000 | 0 |
| 1/9/2005 | Flood | 2,000,000 | 0 |
| 1/10/2005 | Flood | 500,000 | 0 |
| 1/10/2005 | Flood | 250,000 | 0 |



| Date | Flood Type | Property Damage Value (\$) | Crop Damage Value (\$) |
|------------|-------------|----------------------------|------------------------|
| 2/21/2005 | Flood | 0 | 300,000 |
| 2/22/2005 | Flood | 5,000 | 0 |
| 8/15/2005 | Flash Flood | 198,500 | 0 |
| 10/17/2005 | Flash Flood | 75,000 | 0 |
| 10/17/2005 | Flash Flood | 25,000 | 0 |
| 10/29/2007 | Flash Flood | 10,000 | 0 |
| 1/27/2008 | Flash Flood | 25,000 | 0 |
| 1/27/2008 | Flood | 5,000 | 0 |
| 1/27/2008 | Flood | 1,000 | 0 |
| 7/12/2008 | Flash Flood | 1,500,000 | 0 |
| 7/13/2008 | Flash Flood | 50,000 | 0 |
| 7/13/2008 | Flash Flood | 25,000 | 0 |
| 7/14/2008 | Flash Flood | 100,000 | 0 |
| 7/15/2008 | Flash Flood | 20,000 | 0 |
| 7/16/2008 | Flash Flood | 1,000 | 0 |
| 7/20/2008 | Flash Flood | 30,000 | 0 |
| 12/10/2009 | Flood | 25,000 | 0 |
| 1/18/2010 | Flood | 100,000 | 0 |
| 1/18/2010 | Flash Flood | 10,000 | 0 |
| 1/19/2010 | Flood | 35,000 | 0 |
| 10/1/2010 | Flood | 5,000 | 0 |
| 10/2/2010 | Flash Flood | 10,000 | 0 |
| 10/2/2010 | Flood | 5,000 | 0 |
| 10/6/2010 | Flash Flood | 100,000 | 0 |
| 10/6/2010 | Flood | 10,000 | 0 |
| 10/17/2010 | Flood | 5,000 | 0 |
| 12/19/2010 | Flood | 5,000,000 | 0 |
| 12/19/2010 | Flood | 50,000 | 0 |
| 12/20/2010 | Flash Flood | 5,000 | 0 |
| 12/22/2010 | Flood | 350,000 | 0 |
| 12/29/2010 | Flood | 1,000,000 | 0 |
| 1/2/2011 | Flood | 12,700,000 | 0 |
| 1/2/2011 | Flood | 800,000 | 0 |
| 2/26/2011 | Flood | 5,000 | 0 |
| 2/26/2011 | Flood | 2,500 | 0 |
| 3/20/2011 | Flood | 5,000 | 0 |
| 3/23/2011 | Flood | 2,000 | 0 |
| 3/23/2011 | Flood | 2,000 | 0 |
| 7/4/2011 | Flash Flood | 5,000 | 0 |
| 7/5/2011 | Flash Flood | 2,500 | 0 |
| 7/30/2011 | Flash Flood | 5,000 | 0 |

**COUNTY OF KERN****Kern Multi-Jurisdiction 2020 MJHP Update**

| Date | Flood Type | Property Damage Value (\$) | Crop Damage Value (\$) |
|-------------|-------------------|-----------------------------------|-------------------------------|
| 8/1/2011 | Flash Flood | 25,000 | 0 |
| 8/27/2011 | Flash Flood | 25,000 | 0 |
| 9/11/2011 | Flood | 25,000 | 0 |
| 3/17/2012 | Flood | 12,000 | 0 |
| 3/17/2012 | Flood | 6,000 | 0 |
| 4/13/2012 | Flood | 15,000 | 0 |
| 8/22/2012 | Flash Flood | 60,000 | 0 |
| 10/11/2012 | Flood | 25,000 | 0 |
| 3/8/2013 | Flood | 5,000 | 0 |
| 7/22/2013 | Flash Flood | 50,000 | 0 |
| 8/18/2013 | Flash Flood | 50,000 | 0 |
| 8/19/2013 | Flash Flood | 100,000 | 0 |
| 8/19/2013 | Flash Flood | 100,000 | 0 |
| 2/28/2014 | Flood | 20,000 | 0 |
| 12/31/2016 | Flash Flood | 10,000 | 0 |
| 1/5/2017 | Flood | 36,000 | 0 |
| 1/5/2017 | Flood | 15,000 | 0 |
| 1/5/2017 | Flood | 6,000 | 0 |
| 1/22/2017 | Flood | 150,000 | 0 |
| 3/6/2019 | Flash Flood | 50,000 | 0 |
| 3/6/2019 | Flash Flood | 20,000 | 0 |
| 3/6/2019 | Flash Flood | 10,000 | 0 |

Source: NOAA Storm Events Database

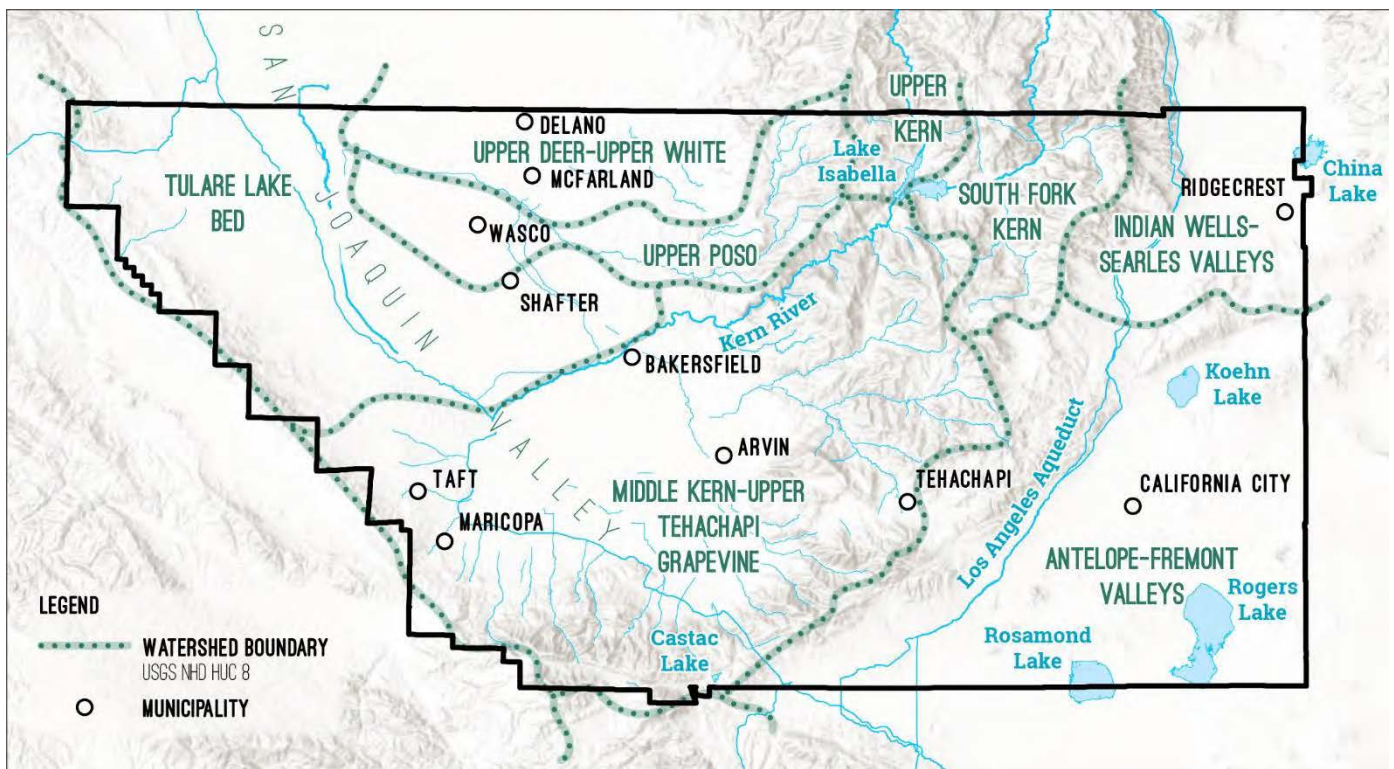


4.5.2.3 Location

Kern County, due to its large extent and varied geography, has several hundred potential flood sources. Figure 4-17 displays FEMA flood zones within Kern County. More detailed views of FEMA flood zones are available for participating jurisdictions through the Risk Assessment Mapping Platform (RAMP) on mitigatehazards.com. The types of floodplains within the County are diverse and include riverine floodplains (fast moving channelized flow), distributary flow floodplains (broad, slow moving, shallow flow), and alluvial fan floodplains (heavily sediment-laden, broad, shifting, and rapid moving flow).

Kern County's watersheds are effectively a closed basin system, with all drainage discharging to one of the following lake basins in the County: Tulare Lake, Kern Lake, Lake Isabella (manmade), Koehn Lake, Rogers Lake, Buena Vista Lake, Castac (Tejon) Lake, China Lake, and Rosamond Lake. These lakes temporarily enlarge during flood events. Rogers Lake, China Lake, and Rosamond Lake are "dry lakes," meaning that only under certain conditions do they fill with water. Figure 4-16 displays the watersheds in Kern County.

Most of the major streams are fed by melting snow from high in the Sierra Nevada. The Kern River is the major river in the County and has an average annual runoff of 700,000 acre feet. The Kern River flows from the Sierras northeast of Bakersfield, is dammed at Lake Isabella, and continues approximately 30 miles through the steep Kern River Canyon to the Valley, where it flows through Bakersfield. The river enters the Buena Vista lakebed twenty-one miles downstream of Bakersfield or flows to Tulare Lake via the Kern River Flood Canal. Flows can also be diverted into the California Aqueduct via the Kern River-California Aqueduct Intertie, built in 1977. (Kern County MJHMP, 2014)



**Figure 4-16 Watershed Map**

Valley Flood Sources

The Kern River is the source of flooding for the Central Valley in Kern County. Many small streams also cause flooding in the Valley where they discharge from steep canyons. While confined in the upland areas, the streams tend to spread onto alluvial fans with poorly defined drainages on the valley floor. Flow is further disrupted by cultivation and urbanization. This type of flooding occurs at the Little Poso Creek, Caliente Creek, Walker Basin Creek, Sycamore Canyon, Little Sycamore Canyon, Comanche Creek, Tejon Creek, El Paso Creek, Grapevine and Tecuya Creek, and in the vicinity of Taft.

Flooding is typically broad and shallow, two feet deep or less. All surface water originating in or passing through Central and Western Kern County infiltrates into the San Joaquin Valley aquifer or drains into Tulare and Buena Vista Lakes. Man-made drainages that could potentially lead to flooding include several diversion canals that siphon water from the Kern River that flow through the City of Bakersfield, as well as the California Aqueduct and Kern Water Bank Canal. Some of these canals have above-grade sections that can result in local flooding when the canals fail, much like a levee failure flood.

Poso Creek is a major water course that flows north westerly through Kern County. The watershed covers more than 250,000 acres. Precipitation on this watershed ranges from six to thirty inches annually. In years of high rainfall extensive flooding occurs along a 25 mile reach from Zerker Road to the Kern National Wildlife Refuge. For the flood years of 1969 and 1978 flood waters broke out of the Poso Creek Channel and inundated an area of 17,280 acres. Improvements were made under the Emergency Watershed Protection Act for repairs implemented in 1978 and 1979. The channel now is designed to carry 1,050 cfs. More flooding occurred in 1997 and 1998. A major project was undertaken to repair the levees with assistance from the NRCS through an Emergency Watershed Protection grant in 1997. However, the 1998 flooding was curtailed with assistance from two of the local water districts. (FEMA, 2008, p. 21)

Desert Flood Sources

The desert zone lies in the eastern portion of Kern County and has flood problems similar to the Valley, where intermittent streams shift across alluvial fans. Streets, roads, and railroads often divert flows and may increase flood problems. Most flood sources that affect the desert areas originate in local drainages in the eastern portion of Kern County; only Jawbone Canyon Wash originates in the Sierra Nevada range. (FEMA, 2008, p. 21)

Mountain Flood Sources

Floods in the Mountain region typically have flood flows that peak quickly and have high velocities. Floods can occur on streams that include Cuddy Creek, Upper Sycamore Creek, Antelope Creek, Blackburn Creek, Caliente Creek, Erskine and Kelso Creeks. Flows typically are more confined to narrow valleys, but alluvial fan flooding can occur in the vicinity of Lake Isabella. Life safety is a concern in this region due to the flash floods that could potentially impact travelers and those participating in outdoor recreation in the mountain valleys. (FEMA, 2008, p. 21)

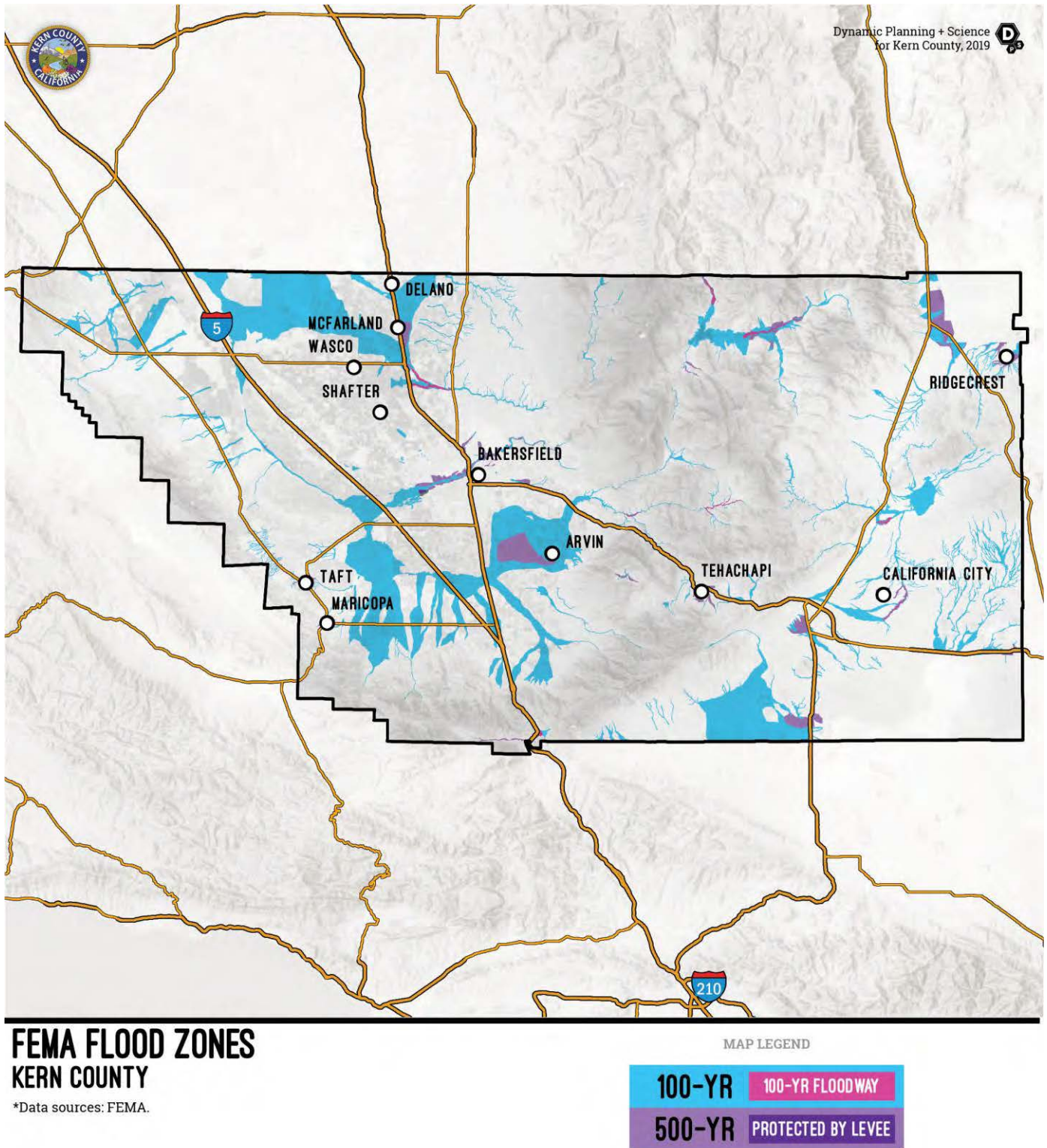


Figure 4-17: FEMA Flood Zone Exposure Map



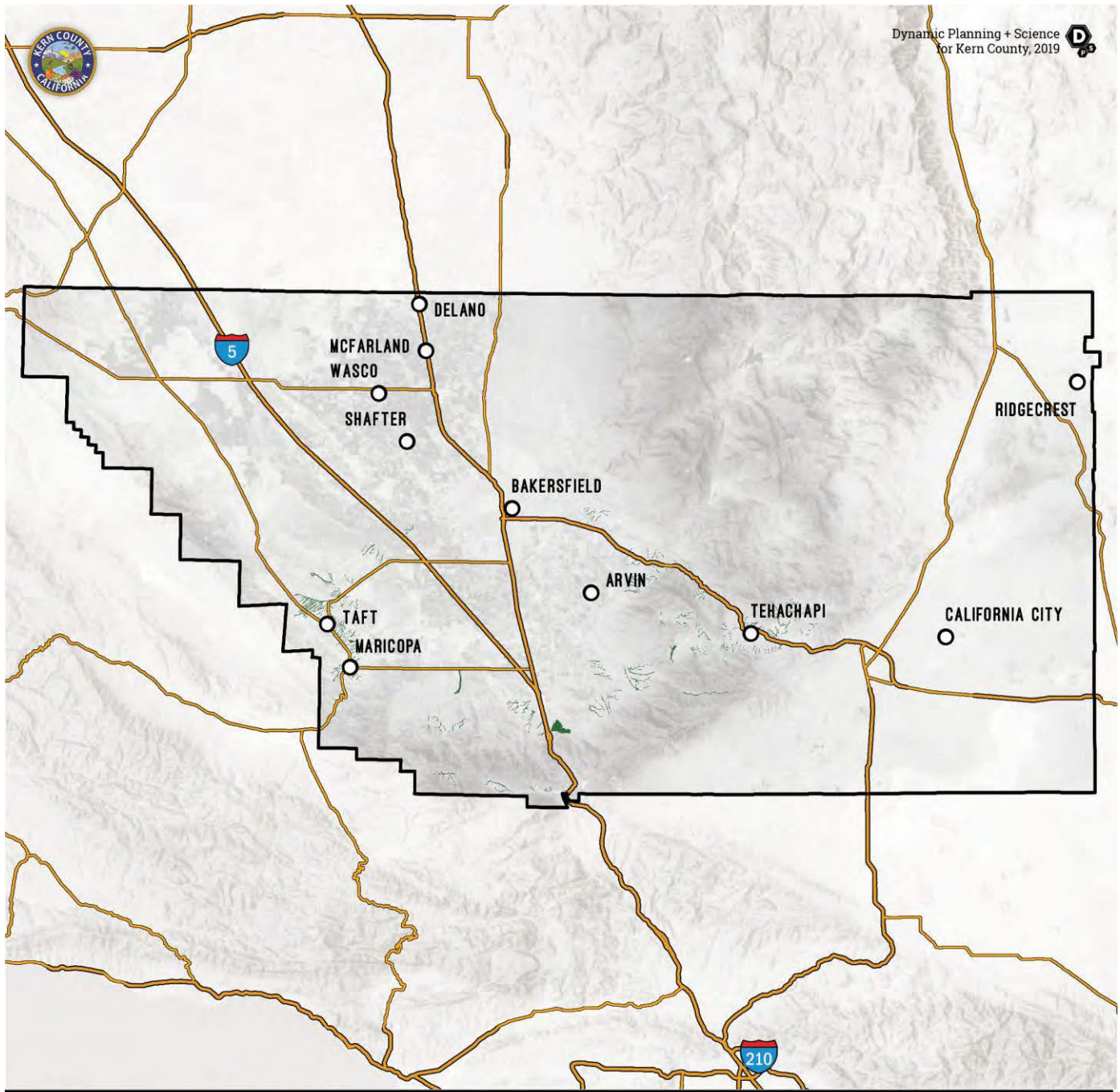
4.5.2.3.1 Flood Awareness Zones

Flood Awareness Zones have been developed by California DWR to map areas of additional flood threat throughout the state. The intent of the Awareness Floodplain Mapping project is to identify all pertinent flood hazard areas for areas that are not mapped under the Federal Agency Management Agency's (FEMA) National Flood Insurance Program (NFIP) and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. The awareness maps identify the 100-YR flood hazard areas using approximate assessment procedures. These floodplains are shown simply as flood prone areas without specific depths and other flood hazard data. Flood awareness zones for Kern County are shown in Figure 4-18.

4.5.2.4 Measuring Frequency and Severity

The frequency and severity of flooding are measured using a discharge probability, a statistical tool which defines the probability that a certain river discharge or flow level will be equaled or exceeded within a given year. Flood studies use historical records to determine the probability of occurrence for the different discharge levels. The flood frequency equals 100 divided by the discharge probability. For example, the 100-YR discharge has a 1-percent chance of being equaled or exceeded in any given year. The "annual flood" is the greatest flood event expected to occur in a typical year. These measurements reflect statistical averages only; it is possible for two or more floods with a 100-YR or higher recurrence interval to occur in a short time period. The same flood can have different recurrence intervals at different points on a river.

The extent of flooding associated with a 1-percent annual probability of occurrence (the base flood or 100-YR flood) is used as the regulatory boundary by many agencies. Also referred to as the special flood hazard area (SFHA), this boundary is a convenient tool for assessing vulnerability and risk in flood-prone communities. Many communities have maps that show the extent and likely depth of flooding for the base flood. Corresponding water-surface elevations describe the elevation of water that will result from a given discharge level, which is one of the most important factors used in estimating flood damage.



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DWR AWARENESS ZONES KERN COUNTY

*Data sources: DWR.

MAP LEGEND

AWARENESS ZONE

Figure 4-18 DWR Awareness Zones



4.5.2.5 Frequency/ Probability of Future Occurrences

Kern County will experience flooding in the future, with the probability of flooding in Kern County between 10 and 100% annually. The majority of the floods in Kern County have occurred from winter-through-spring rainfall, but several have been the result of heavy rain events during the months of July, August, and September. Flooding in Southern California is often associated with the El Nino weather phenomenon. El Nino is a term originally used to describe the appearance of warm (surface) water from time to time in the eastern equatorial Pacific region along the coasts of Peru and Ecuador. This ocean warming can strongly affect weather patterns all over the world. El Nino events are often associated with above normal precipitation in the southwestern United States. El Niños often occur during the Christmas season. La Niña is the opposite or “cold phase” of the El Niño cycle. It was once suggested that minor El Niño events occurred about every two to three years and major ones about every 8 to 11 years. Today, scientists note that El Niño has a return period of four to five years. When an El Niño event occurs, it often lasts from 12 to 18 months. (National Oceanic and Atmospheric Administration , 2020)

4.5.2.6 Severity and Extent

The main factors affecting flood damage are water depth and velocity. Deeper and faster flood flows can cause more damage. Shallow flooding with high velocities can cause as much damage as deep flooding with slow velocity. This is especially true when a channel migrates over a broad floodplain, redirecting high velocity flows and transporting debris and sediment. Flood severity is often evaluated by examining peak discharges; Table 4-12 lists peak flows used by FEMA to map Kern County floodplains.

Table 4-12: Summary of Discharges in Kern County

| | Drainage sq. Miles | Peak Discharge (cubic feet/second) | | | |
|--|-----------------------|------------------------------------|---------------------|---------------------|-----------------------|
| Flooding Source/Location | | 10% Annual Chance | 2% Annual Chance | 1% Annual Chance | 0.2% Annual Chance |
| Antelope Creek | | | | | |
| At Tehachapi Western Corporate Limit | 25.4 | 2,730 | 6,970 | 9,090 | 18,000 |
| At Western Corporate Limits | 4.8 | 650 | 1,150 | 1,380 | 1,900 |
| Blackburn Creek | | | | | |
| At Tehachapi Boulevard and Dennison Road | 10.1 | 2,410 | 5,780 | 7,450 | 11,850 |
| At Western Corporate Limits | 16.2 | 2,730 | 6,970 | 9,090 | 18,000 |
| Downstream of Tehachapi Boulevard | 28.2 | 3,310 | 8,250 | 12,030 | 23,000 |
| Near Highline Road | 4.5 | * | * | 5,290 | * |
| Caliente Creek | | | | | |
| Above Bealville Road Bridge | 186.1 | 1,800 | 7,550 | 19,800 | 56,000 |
| At State Highway 58 | 467.8 | 3,600 | 16,000 | 27,000 | 87,500 |
| Caliente Creek Near Loraine | | | | | |
| Upstream of Confluence of Weaver Creek | 20.0 | 325 | 1,800 | 3,350 | 12,300 |



| Flooding Source/Location | Drainage sq. Miles | Peak Discharge (cubic feet/second) | | | |
|--|-----------------------|------------------------------------|---------------------|---------------------|-----------------------|
| | | 10% Annual Chance | 2% Annual Chance | 1% Annual Chance | 0.2% Annual Chance |
| Downstream of Indian Creek Confluence | 124.0 | 1,650 | 9,050 | 16,900 | 61,000 |
| Upstream of Sand Canyon Confluence | 51.0 | 800 | 4,000 | 7,650 | 26,000 |
| Upstream of Unnamed Tributary Confluence | 47.0 | 770 | 3,800 | 7,100 | 24,000 |
| Cuddy Creek | | | | | |
| At Lebec Road | 46.4 | 850 | 3,900 | 7,750 | 25,000 |
| El Paso Wash | | | | | |
| At North Downs St. & Ridgecrest-Inyoken Rd. | 12.7 | 240 | 1,670 | 3,000 | 7,050 |
| Erschine Creek | | | | | |
| At State Highway 178 | 37.7 | 850 | 2,300 | 7,700 | 25,000 |
| Grapevine Canyon Creek | 11.0 | 520 | 4,330 | 9,200 | 42,000 |
| Grapevine Canyon Creek | 11.0 | 520 | 4,330 | 9,200 | 42,000 |
| Kelso Creek | | | | | |
| At State Highway 178 | 159.5 | 2,850 | 11,000 | 22,700 | 68,000 |
| Kern River | | | | | |
| At Gaging Station 5.8 Miles NE of Bakersfield Post Office | 2,407.0 | 2,800 | 7,000 | 10,200 | 28,700 |
| At Kernville Gaging Stations | 2,407.0 | 2,800 | 7,000 | 10,200 | 28,700 |
| At Stockdale Highway | * | 2,800 | 7,000 | 10,200 | 28,700 |
| Poso Creek | | | | | |
| At State Highway 58 | 368.0 | 2,900 | 11,500 | 19,000 | 52,000 |
| Upper Sycamore | | | | | |
| At Lower End of Valley Rd. | 14.9 | 260 | 990 | 2,900 | 10,000 |

* Data not available

Source: Table 5 Summary of Discharges from FEMA FIS Text, 2008

4.5.2.7 Warning Time

The type and rate of flooding experienced in Kern County varies. In general, warning times for floods can be between 24 and 48 hours to prepare communities to reduce flood damages. Seasonal notification for flooding can enhance awareness for citizens at risk, and, when communicated effectively, advance notification can reach target audiences on a large scale.



4.5.2.7.1 DWR Awareness Zones Notification

The Flood Risk Notification Program (FRN Program) is part of DWR's FloodSAFE California Initiative. The program's key goal is to increase flood risk awareness by effectively communicating that risk to individual property owners, the public, and local, state, and federal agencies. This includes encouraging people to understand the levee system that protects them; be prepared and aware of their flood risk; and take appropriate actions before, during, and after flooding to protect themselves, minimize damage to their property or personal possessions, and facilitate recovery.

To achieve this goal, the FRN Program:

- sends out an annual notice to property owners whose property is at risk of flooding,
- maintains accurate Levee Flood Protection Zone (LFPZ) maps ⁶ and an associated parcel information database,
- provides people with useful ways to assess risk and reduce flood loss,
- establishes outreach and educational projects with public involvement,
- expands its interactive Flood Risk Notification website, and
- collaborates with federal agencies, local agencies, and communities.

In September of 2010, DWR provided the first annual written notice of flood risks to each landowner whose property is protected by State Plan of Flood Control (SPFC) levees and is within an LFPZ. The notice informs recipients of their property's potential flood risks and potential sources of flooding and offers flood emergency planning and preparedness tips. It encourages recipients to take preventative actions such as purchasing flood insurance, elevating or "floodproofing" their buildings, and preventing blockage of channels, drains, and ditches.

4.5.2.8 Secondary Hazards

The most problematic secondary hazard for flooding is bank erosion, which in some cases can be more harmful than actual flooding. Flooding is also responsible for landslides when high flows over-saturate soils on steep slopes and cause them to fail. Hazardous materials spills are a secondary hazard of flooding if storage tanks rupture and spill into streams or storm sewers. (Department of Environmental Conservation, 2020)

Wildland fires within a watershed can exacerbate the flood hazard by virtue of increased rate and volume of runoff and attendant erosion and sediment discharge. (United States Geological Survey, 2020)

4.5.2.9 Climate Change Impacts

The effects of climate change are varied and include warmer and more varied weather patterns, melting ice caps, and poor air quality, for example. As a result, climate change will likely worsen a number of natural hazards including flooding. Climate change will shift rainfall patterns, making heavy rains more

⁶ These maps are different from Federal Emergency Management Agency regulatory maps.



frequent in many areas. An increase in heavy rain events will lead to more flooding including flash floods that happen suddenly as a result of heavy rain and localized flooding which involves pooling of water in low-lying areas. Heavy rain events can inundate and overwhelm stormwater drainage systems resulting in localized flooding where pooling of water can cause significant damage to buildings. Overwhelmed stormwater drainage facilities also create hazardous conditions on roadways where water pools in low lying areas creating dangerous driving conditions. (United States Environmental Protection Agency, 2020)

4.5.2.10 Flood Vulnerability Analysis

Both an exposure analysis and Hazus loss estimation analysis were conducted to develop the flood vulnerability analysis for Kern County. Flood exposure numbers were generated using the inventories outlined in 4.5.2.10.1 County inventories were overlaid with FEMA delineated flood plains to determine exposure. These risk assessment exposure analysis values do not include Hazus-generated results.

Hazus flood vulnerability data was generated using a Level 2 Hazus-MH 4.2 analysis. Hazus is a FEMA software product that uses a GIS to analyze 100-year depth grids derived from FEMA 100-year "A" zones with Base Flood Elevations (BFE) to estimate loss. Parcel data defined in 4.5.2.10.1 was imported into Hazus as User Defined Facilities (UDF) and serves as the basis for replacement and content cost estimations as well as associated loss. Where flood vulnerability is mentioned absent of Hazus, exposure analysis figures are used. Figure 4-20 displays a snapshot of flood exposure and damage estimation in Unincorporated Kern County.

4.5.2.10.1 Flood Exposure

The tables and graphs in this section detail population, property, and infrastructure that are exposed to flooding in Unincorporated Kern County. Flood exposure is categorized by exposure to different flood hazard zones including the floodway, flood fringe, 100-year floodplain, and 500-year floodplain. The tables and graphs also include a category of 100-year total which is a combined total of floodway, flood fringe, and 100-year floodplain categories. The 500-year sans 100-year category includes only the 500-year floodplain, and the 500-year total includes all of the categories combined. Refer to section 4.5.2 for floodplain definitions to better understand these flood hazard areas.

Population

Population counts of those living in the floodplain were generated by analyzing County assessor and parcel data that intersect with the 100-YR and 500-year floodplains identified on FIRMs. Using GIS, U.S. Census Bureau information was used to intersect the floodplain and an estimate of population was calculated by weighting the population within each census block and track with the percentage of flood risk area. Using this approach, Table 4-13 and displays the results of this analysis showing how much of the population of Unincorporated Kern County is exposed to flood hazard zones.



Population Exposure

Population Count in the 100-Year and 500-YR Floodplains

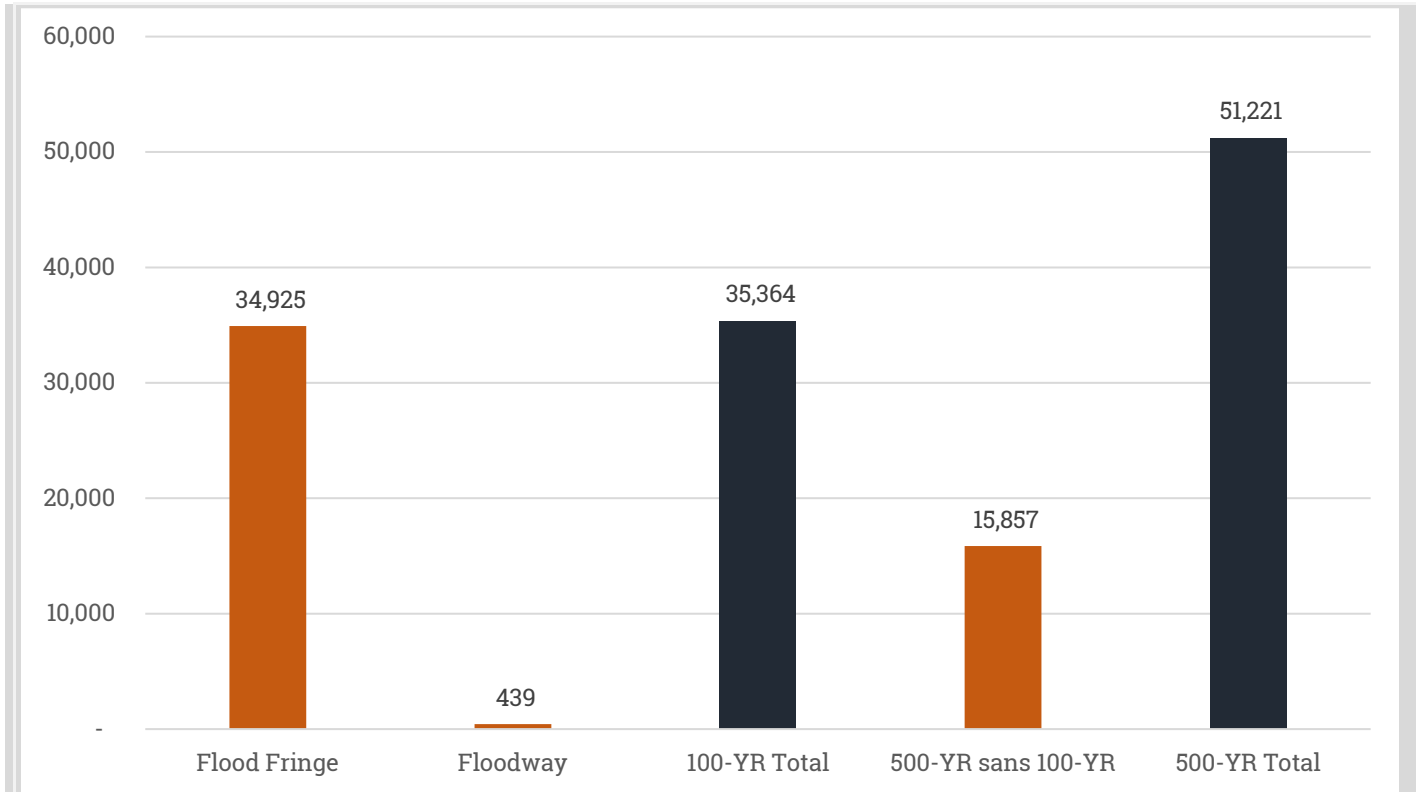


Figure 4-19 Population Exposure to Flood (Unincorporated County)

Table 4-13: Summary Population Exposure to Flood (Unincorporated County)

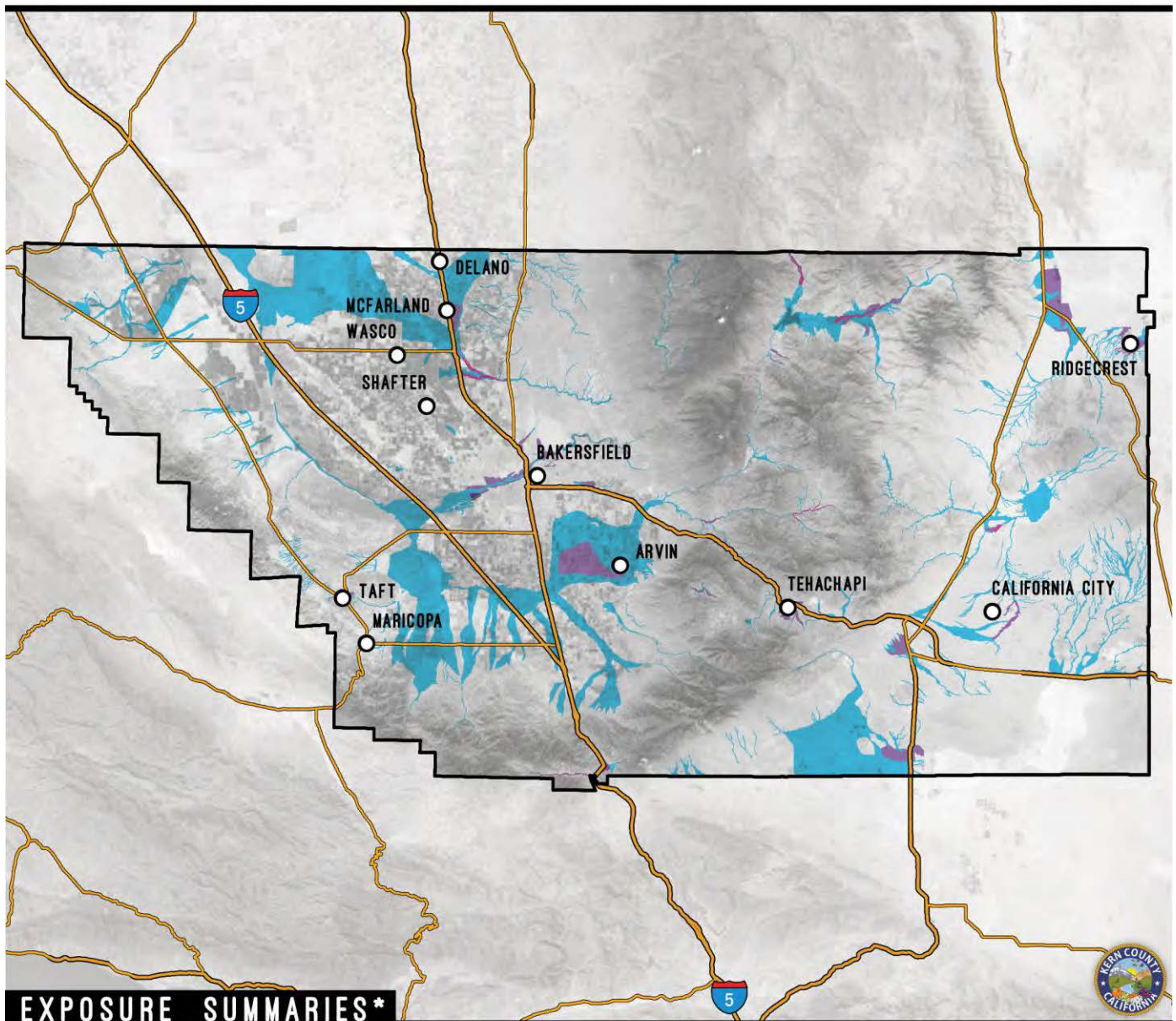
| | Total Population |
|-----------------------|------------------|
| Unincorporated County | 299,935 |

| Flood Hazard Zone | Population Count | % of Total |
|--------------------|------------------|------------|
| Flood Fringe | 34,925 | 11.64% |
| Floodway | 439 | 0.15% |
| 100-YR Total | 35,364 | 11.79% |
| 500-YR sans 100-YR | 15,857 | 5.29% |
| 500-YR Total | 51,221 | 17.08% |



FEMA FLOOD ZONE VULNERABILITY & EXPOSURE SNAPSHOT

KERN COUNTY



EXPOSURE SUMMARIES*

POPULATION

COUNT
51,220 17%

PARCEL

COUNT
14,968 16%

PARCEL VALUE

IMPROVEMENT
\$1,497,380,907 14%
CONTENT
\$748,831,453 14%

CRITICAL INFRASTRUCTURE

| COUNT | | | |
|-------|-----|-------|-----|
| 11 | 22% | | |
| 139 | 19% | | |
| 1,104 | 20% | 2,962 | 20% |

MAP LEGEND

100-YR

100-YR FLOODWAY

500-YR

PROTECTED BY LEVEE

*Exposure summaries include 100-year and 500-year flood zone areas. Hazard data source: FEMA.
(%) - Percent of respective category totals for jurisdiction.

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Figure 4-20: FEMA Flood Zone Exposure and Snapshot Map

**Structures and Parcel Value**

Table 4-14 summarizes parcels in Unincorporated Kern County that are exposed to flood hazard areas. The beginning of Section 4.5.2 includes definitions of the various flood hazard areas.

Table 4-14: Parcels Exposed to NFIP Flood Zones (Unincorporated County)

| | Total Parcels | | Total Market Value (\$) | Total Content Value (\$) | Total Value (\$) | |
|-----------------------|---------------|--|-------------------------|--------------------------|------------------|--|
| Unincorporated County | 91,455 | | \$10,906,675 | \$ 5,453,338 | \$ 16,360,013 | |

| Flood Hazard Zone | Parcel Count | % of Total | Market Value Exposure (\$) | Content Value Exposure (\$) | Total Exposure (\$) | % of Total |
|---------------------|---------------|--------------|----------------------------|-----------------------------|---------------------|--------------|
| Flood Fringe | 7,823 | 8.6% | \$678,412 | \$ 339,206 | \$ 1,017,618 | 6.2% |
| Floodway | 143 | 0.2% | \$ 11,380 | \$ 5,690 | \$ 17,070 | 0.1% |
| 100-YR Total | 7,966 | 8.7% | \$ 689,792 | \$ 344,896 | \$ 1,034,688 | 6.3% |
| 500-YR sans 100-YR | 7,002 | 7.7% | \$ 807,307 | \$ 403,653 | \$ 1,210,960 | 7.4% |
| 500-YR Total | 14,968 | 16.4% | \$ 1,497,099 | \$ 748,549 | \$2,245,648 | 13.7% |

Currency in Thousands

Note: The table above does not display loss estimation results; the table exhibits total value at risk based upon the hazard overlay and Kern County Assessor data.

Critical Facilities and Infrastructure

Table 4-15 summarizes the critical facilities and infrastructure located in the flood fringe, floodway, and 100-year and 500-year floodplains of Kern County.

Table 4-15: Critical Facility Points in the Floodplain

| Infrastructure Type | Flood Fringe | Floodway | 100-YR Total | 500-YR sans 100-YR | 500-YR Total |
|----------------------------|--------------|----------|--------------|--------------------|--------------|
| Essential Facility | 6 | - | 6 | 5 | 11 |
| EOC | - | - | - | - | - |
| Fire Station | 6 | - | 6 | 2 | 8 |
| Hospital | - | - | - | - | - |
| Police Station | - | - | - | - | - |
| Sheriff Station | - | - | - | 3 | 3 |
| High Potential Loss | 79 | - | 79 | 60 | 139 |
| Adult Residential facility | 2 | - | 2 | 1 | 3 |
| Child Care Center | 11 | - | 11 | 9 | 20 |
| Dam | 5 | - | 5 | - | 5 |
| Family Child Care Home | 9 | - | 9 | 9 | 18 |
| Foster Family Agency | - | - | - | - | - |
| Historic Building | - | - | - | 1 | 1 |
| Home Care Organization | - | - | - | - | - |



| Infrastructure Type | Flood Fringe | Floodway | 100-YR Total | 500-YR sans 100-YR | 500-YR Total |
|------------------------------------|--------------|-----------|--------------|--------------------|--------------|
| Library | 6 | - | 6 | 2 | 8 |
| Residential Child Care | 1 | - | 1 | - | 1 |
| Residential Elder Care | - | - | - | 1 | 1 |
| School | 14 | - | 14 | 14 | 28 |
| County Insured Asset* | 20 | - | 20 | 13 | 33 |
| Cooling Center | - | - | - | 1 | 1 |
| Healthcare Facility | 2 | - | 2 | 2 | 4 |
| Special Needs Facility | 9 | - | 9 | 7 | 16 |
| City Hall | - | - | - | - | - |
| Historic Site | - | - | - | - | - |
| Transportation and Lifeline | 968 | 14 | 982 | 122 | 1,104 |
| Airport | - | - | - | 2 | 2 |
| Bridge | 129 | 12 | 141 | 12 | 153 |
| Power Plant | 22 | 1 | 23 | 1 | 24 |
| Substation | 17 | 1 | 18 | 7 | 25 |
| Transmission Line Tower | 741 | - | 741 | 98 | 839 |
| NG Facility | 13 | - | 13 | 2 | 15 |
| Wind Turbine | 42 | - | 42 | - | 42 |
| Bus Facility | 1 | - | 1 | - | 1 |
| Potable Water Facility | 1 | - | 1 | - | 1 |
| Waste Water Facility | 1 | - | 1 | - | 1 |
| Oil Facility | 1 | - | 1 | - | 1 |
| Railroad Facility | - | - | - | - | - |
| Grand Total | 1,053 | 14 | 1,067 | 187 | 1,254 |

*These insured assets may include critical infrastructure already represented in other Infrastructure Types. For more information on these insured assets, see the Damage Estimation at Section 4.5.2.10.2.

Linear Utilities

It is important to determine who may be at risk if infrastructure is damaged by flooding. Roads or railroads that are blocked or damaged can isolate residents and can prevent access throughout the county, including for emergency service providers needing to get to vulnerable populations or to make repairs. Bridges washed out or blocked by floods or debris also can cause isolation. Water and sewer systems can be flooded or backed up, causing health problems. Underground utilities can be damaged. Levees can fail or be overtopped, inundating the land that they protect. Table 4-16 shows critical facilities (linear) in the floodplain.

**Table 4-16: Lifelines in the Floodplain (Unincorporated County)**

| Lifelines (miles) - Flood Risk Exposure | | | | | |
|---|----------------|--------------|----------------|--------------------|----------------|
| Infrastructure Type (linear) | Flood Fringe | Floodway | 100-YR Total | 500-YR sans 100-YR | 500-YR Total |
| Levee | 304.90 | - | 304.90 | 4.01 | 308.91 |
| NG Pipeline | 158.28 | 0.39 | 158.67 | 11.30 | 169.97 |
| Railroad | 79.34 | 0.89 | 80.23 | 15.34 | 95.57 |
| Street | 1600.74 | 22.18 | 1622.92 | 334.39 | 1957.31 |
| 4WD trail | 7.58 | - | 7.58 | 0.14 | 7.72 |
| 4WD trail, major | - | - | - | 0.08 | 0.08 |
| Alley | 0.94 | - | 0.94 | 0.55 | 1.49 |
| Cul-de-sac | 0.46 | - | 0.46 | 0.13 | 0.59 |
| Driveway | 17.62 | 0.35 | 17.97 | 3.10 | 21.06 |
| Interstate | 43.27 | 2.02 | 45.29 | 10.24 | 55.53 |
| Local road | 636.93 | 11.63 | 648.57 | 124.06 | 772.63 |
| Local road, major | 574.65 | 3.12 | 577.77 | 124.84 | 702.60 |
| Primary highway | 41.93 | 0.04 | 41.97 | 8.84 | 50.81 |
| Ramp | 8.11 | 0.59 | 8.70 | 3.60 | 12.30 |
| Road, parking area | 3.37 | - | 3.37 | - | 3.37 |
| Service road | 0.53 | - | 0.53 | 2.17 | 2.70 |
| State/county highway | 231.44 | 4.30 | 235.74 | 54.57 | 290.31 |
| State/county highway, major | - | - | - | - | - |
| Thoroughfare, major | 33.83 | 0.13 | 33.96 | 1.82 | 35.79 |
| Walkway | 0.08 | - | 0.08 | 0.23 | 0.31 |
| Transmission Line | 387.13 | 5.78 | 392.91 | 37.08 | 429.99 |
| Grand Total | 2530.39 | 29.25 | 2559.64 | 402.12 | 2961.76 |

Roads

Kern County Public Works (KCPW) maintains a list of roads throughout the County to avoid during a flood event. That list can be viewed by contacting the Kern County Public Works directly. It is also available on the Kern County Public Works website. KCPW also has real-time closure notifications provided at <https://kernpublicworks.com/transportation/road-status-closures>

Water and Sewer Infrastructure

Water and sewer systems can be affected by flooding. Floodwaters can back up drainage systems, causing localized flooding. Culverts can be blocked by debris from flood events, also causing localized urban flooding. Floodwaters can get into drinking water supplies, causing contamination. Sewer systems can be backed up, causing wastewater to spill into homes, neighborhoods, rivers, and streams.



4.5.2.10.2 Flood Damage Estimation

This section provides estimations of damages to County insured assets and residential buildings in the 100-year and 500-year flood zones. This section first looks at overall damages for County insured assets and residential buildings in the 100-year flood zone, then looks specifically at potential damage to various County insured assets according to type (e.g., administrative buildings, equipment and services, or recreation). This section then repeats this information for the 500-year flood zone.

Damage estimations, as calculated by Hazus, estimate losses to structures from flooding by analyzing the depth of flooding and type of structure. Using historical flood insurance claim data, Hazus estimates the percentage of damage to structures and their contents by applying established damage functions to an inventory. For this analysis, all non-vacant parcels with current market values were used instead of the default inventory data provided with Hazus. Table 4-17 and Figure 4-21 show the 100-year flood loss estimation (based on depth) in NFIP flood zones by occupancy type. Figure 4-22 and Table 4-19 shows the 500-year flood loss estimation (based on depth) in NFIP flood zones by occupancy type.

The County's insurance data was obtained and formatted for use in Hazus for a detailed damage estimation of County-owned insured assets. This combined government dataset has additional information including number of floors, building value, content value, and construction type that greatly enhances Hazus results. Table 4-18 displays damage estimation for County insured assets located in the 100-year flood zone, and Table 4-20 displays the same in the 500-year flood zone.



Damage Estimation for 100 yr. Floodplain

Table 4-17 and Figure 4-21 display damage estimation summaries for the 100-year floodplain in Unincorporated Kern County by occupancy type.

Table 4-17: 100 YR Flood Damage Estimation by Occupancy Type

| Building Type | Building Damage (\$) | Building Damage (% of total loss) | Content Damage (\$) | Content Damage (% of total loss) | Total Damage (\$) | Proportion of Loss (%) |
|----------------------------------|-----------------------|--------------------------------------|----------------------|-------------------------------------|----------------------|------------------------|
| County Insured Assets | | | | | | |
| Government Service [†] | \$ 117,332 | 0.1% | \$ 69,557 | 0.0% | \$ 186,888 | 0.1% |
| Emergency Response ^{††} | \$ - | 0.0% | \$ - | 0.0% | \$ - | 0.0% |
| Residential | | | | | | |
| Single Family | \$ 138,281,371 | 72.2% | \$ 41,169,002 | 21.5% | \$179,450,373 | 93.7% |
| Mobile Home | \$ 2,659,571 | 1.4% | \$ 876,594 | 0.5% | \$3,536,165 | 1.8% |
| Multi Family Duplex | \$ 4,249,036 | 2.2% | \$ 2,584,794 | 1.3% | \$ 6,833,830 | 3.6% |
| Multi Family 3-4 Units | \$ 901,543 | 0.5% | \$ 550,297 | 0.3% | \$ 1,451,840 | 0.8% |
| Multi Family 5-9 Units | \$ 33,282 | 0.0% | \$13,313 | 0.0% | \$ 46,595 | 0.0% |
| Multi Family 10-19 Units | \$ - | 0.0% | \$ - | 0.0% | \$ - | 0.0% |
| Multi Family 20-49 Units | \$ - | 0.0% | \$ - | 0.0% | \$ - | 0.0% |
| Total | \$ 146,242,134 | 76.4% | \$ 45,263,557 | 23.6% | \$191,505,691 | |

[†]Government Services includes: admin, airport, animal, building, bus, correctional, equipment, golf course, health, leased, library, misc, museum, office, park, recreation, relay, shop, storage, vacant, veterans, warehouse, water, yard

^{††}Emergency Response includes Sherriff Offices and Fire Departments

Note: Total Inventory Values

1 - Building Replacement Costs = \$11,868,231,028.60

2 - Content Replacement Costs = \$5,673,439,613.70

3 - Total Value = \$17,541,670,642.30

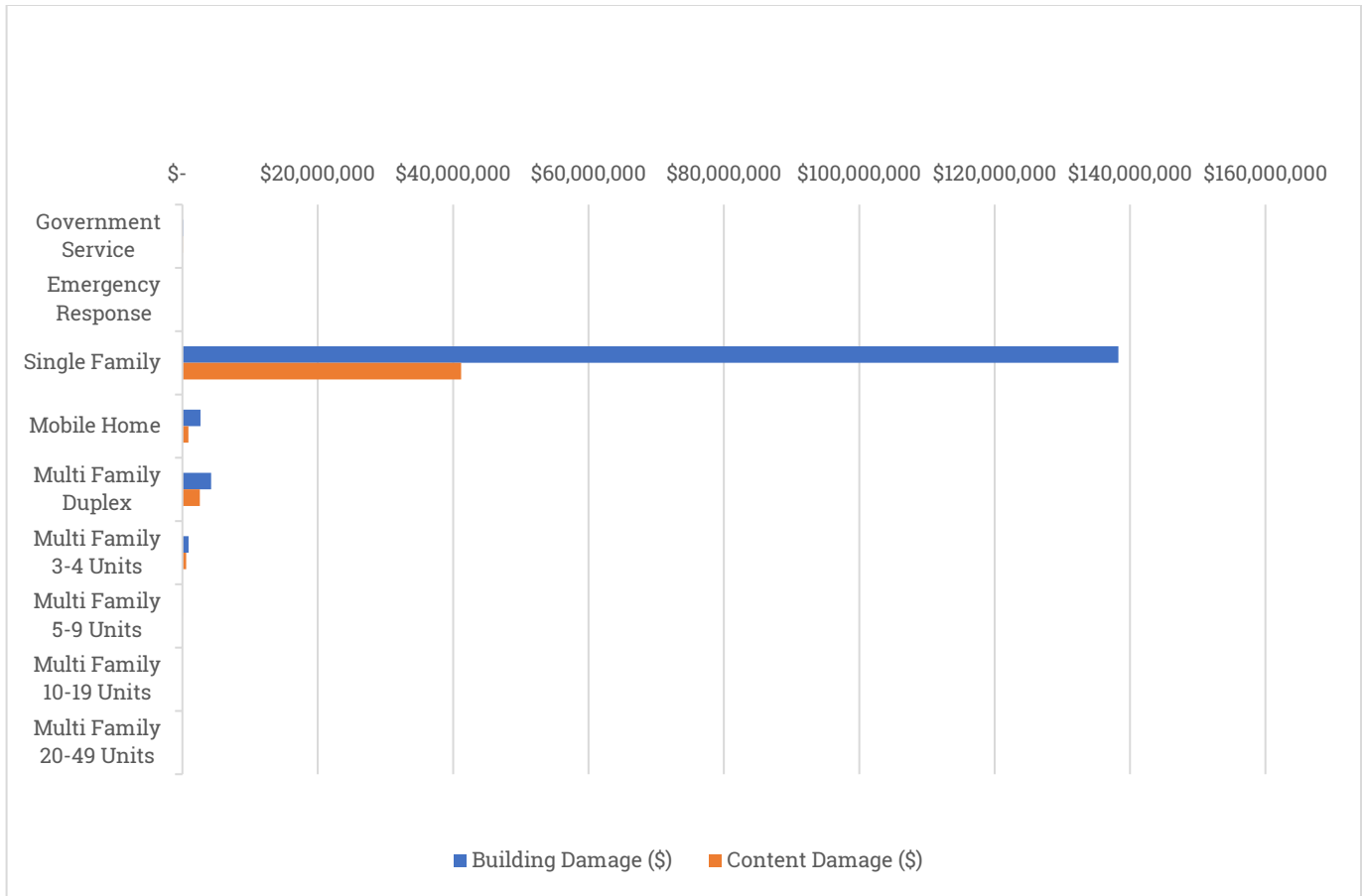


Figure 4-21 100-YR Flood Damage Estimation by Occupancy

Table 4-18 displays damage estimation for County insured assets located in the 100-year flood zone.

Table 4-18 100 YR Flood Damage Estimation of County Insured Assets

| Asset Type | Bldg. Count | Bldg. Cost USD | Content Cost USD | Bldg. Dmg. % | Content Dmg. % | Bldg. Loss % | Content Loss % | Total Value Loss USD | Total Loss as % of Values |
|------------------------------------|-------------|--------------------|------------------|--------------|----------------|------------------|-----------------|----------------------|---------------------------|
| Administrative & Office | 2 | \$2,265,678 | \$2,000 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Admin | 2 | \$2,265,678 | \$2,000 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Equipment & Storage | 2 | \$796,212 | \$12,274 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Yard | 2 | \$796,212 | \$12,274 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Other Assets | 3 | \$1,396,511 | \$620,194 | 2.8% | 20.1% | \$117,332 | \$69,557 | \$186,888 | 9.3% |
| Leased | 3 | \$1,396,511 | \$620,194 | 2.8% | 20.1% | \$117,332 | \$69,557 | \$186,888 | 9.3% |
| Recreation | 3 | \$1,227,733 | \$18,257 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Park | 1 | \$135,359 | \$1,000 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Recreation | 2 | \$1,092,374 | \$17,257 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Services | 8 | \$5,612,671 | \$418,183 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |



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| Asset Type | Bldg. Count | Bldg. Cost USD | Content Cost USD | Bldg. Dmg. % | Content Dmg. % | Bldg. Loss % | Content Loss % | Total Value Loss USD | Total Loss as % of Values |
|--------------------|-------------|---------------------|--------------------|--------------|----------------|------------------|-----------------|----------------------|---------------------------|
| Fire | 4 | \$2,893,100 | \$306,260 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Library | 2 | \$2,620,412 | \$2,000 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Sheriff | 2 | \$99,159 | \$109,923 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Grand Total | 18 | \$11,298,805 | \$1,070,908 | 0.5% | 3.3% | \$117,332 | \$69,557 | \$186,888 | 1.5% |

Damage Estimation for 500 yr. Floodplain

Table 4-19 and Figure 4-22 display the damage estimation summaries for the 500 yr. floodplain in Unincorporated Kern County by occupancy type.

Table 4-19: Damage Estimation Summary for 500 yr. Floodplain

| Building Type | Building Damage (\$) | Building Damage (% of total loss) | Content Damage (\$) | Content Damage (% of total loss) | Total Damage (\$) | Proportion of Loss (%) |
|----------------------------------|-----------------------|-----------------------------------|----------------------|----------------------------------|-----------------------|------------------------|
| County Insured Assets | | | | | | |
| Government Service [†] | \$ 460,297 | 0.1% | \$ 56,267 | 0.0% | \$ 516,563 | 0.3% |
| Emergency Response ^{††} | \$ 33,985 | 0.0% | \$8,682 | 0.0% | \$ 42,667 | 0.0% |
| Residential | | | | | | |
| Single Family | \$251,352,817 | 75.7% | \$ 68,051,451 | 35.5% | \$ 319,404,268 | 166.8% |
| Mobile Home | \$ 2,613,035 | 0.8% | \$1,116,376 | 0.6% | \$ 3,729,412 | 1.9% |
| Multi Family Duplex | \$ 3,570,518 | 1.1% | \$ 2,041,086 | 1.1% | \$ 5,611,604 | 2.9% |
| Multi Family 3-4 Units | \$ 1,825,942 | 0.5% | \$ 1,037,288 | 0.5% | \$ 2,863,229 | 1.5% |
| Multi Family 5-9 Units | \$ 822 | 0.0% | \$ 329 | 0.0% | \$ 1,151 | 0.0% |
| Multi Family 10-19 Units | \$ 38,416 | 0.0% | \$ 26,380 | 0.0% | \$ 64,796 | 0.0% |
| Multi Family 20-49 Units | \$ - | 0.0% | \$ - | 0.0% | \$ - | 0.0% |
| Total | \$ 259,895,832 | 78.2% | \$ 72,337,858 | 21.8% | \$ 332,233,690 | |

[†]Government Services includes: admin, airport, animal, building, bus, correctional, equipment, golf course, health, leased, library, misc, museum, office, park, recreation, relay, shop, storage, vacant, veterans, warehouse, water, yard

^{††}Emergency Response includes Sherriff Offices and Fire Departments

Note: Total Inventory Values

1 - Building Replacement Costs = \$11,868,231,028.60

2 - Content Replacement Costs = \$5,673,439,613.70

3 - Total Value = \$17,541,670,642.30

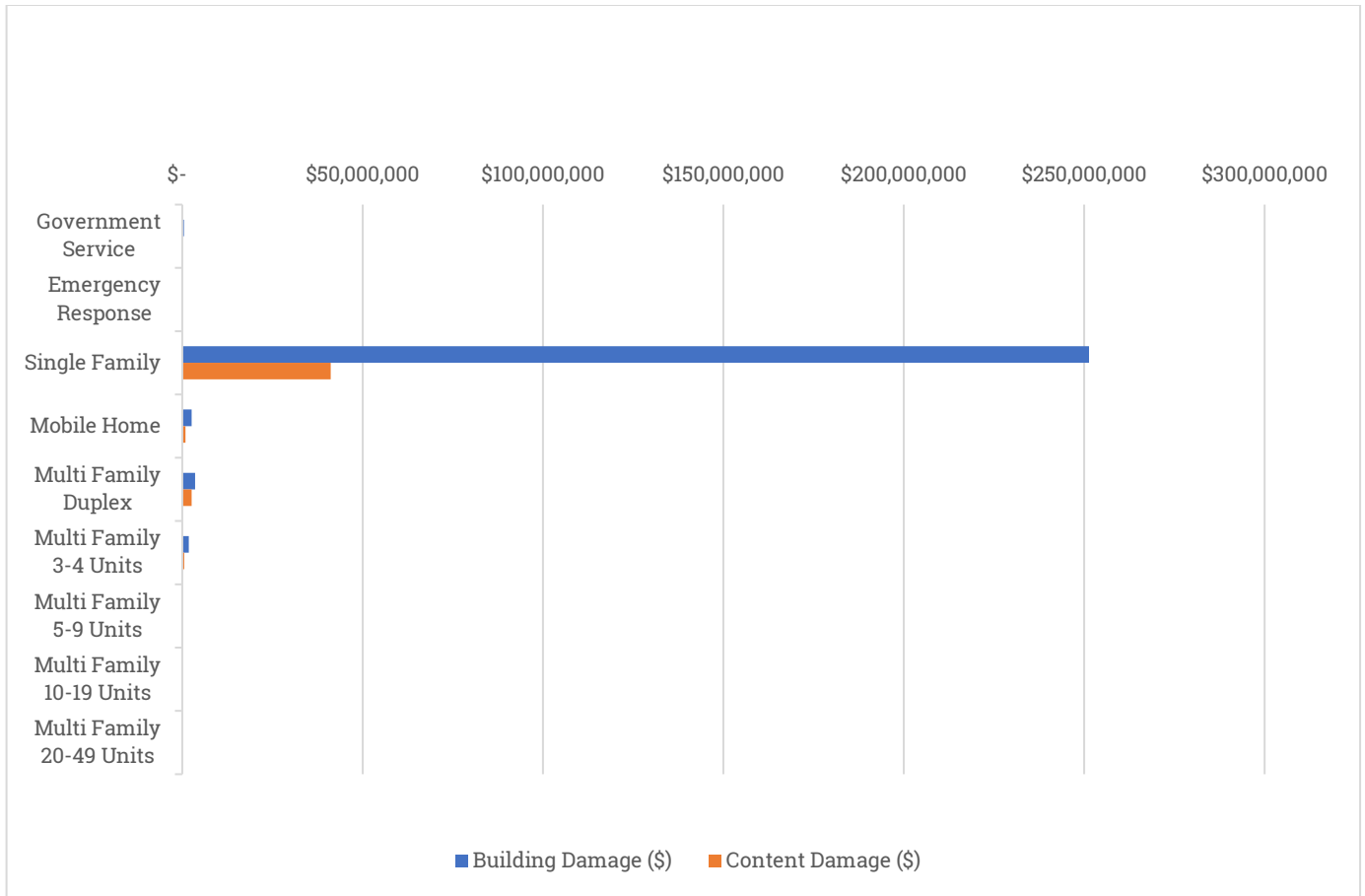


Figure 4-22 500 YR Flood Damage Estimation by Occupancy Type



Table 4-20 displays damage estimation for County facilities located in the 500-year flood zone.

Table 4-20 500-YR Flood Damage Estimation of County Facilities

| Row Labels | Bldg. Count | Bldg. Cost USD | Content Cost USD | Bldg. Dmg. % | Content Dmg. % | Bldg. Loss % | Content Loss % | Total Value Loss USD | Total Loss as % of Values |
|--------------------------------|-------------|--------------------|------------------|--------------|----------------|-----------------|-----------------|----------------------|---------------------------|
| Equipment & Storage | 1 | \$579,319 | \$36,616 | 4.9% | 29.3% | \$28,285 | \$10,726 | \$39,011 | 6.3% |
| Storage | 1 | \$579,319 | \$36,616 | 4.9% | 29.3% | \$28,285 | \$10,726 | \$39,011 | 6.3% |
| Other Assets | 2 | \$2,000 | \$480,268 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| Leased | 2 | \$2,000 | \$480,268 | 0.0% | 0.0% | \$0 | \$0 | \$0 | 0.0% |
| | | | | | | \$289,83 | | | |
| Recreation | 3 | \$3,414,586 | \$49,963 | 8.7% | 58.3% | 7 | \$45,333 | \$335,170 | 9.7% |
| Recreation | 3 | \$3,414,586 | \$49,963 | 8.7% | 58.3% | 7 | \$45,333 | \$335,170 | 9.7% |
| | | | | | | \$176,16 | | | |
| Services | 4 | \$5,634,901 | \$207,245 | 3.1% | 8.9% | 0 | \$8,889 | \$185,049 | 3.2% |
| Fire | 3 | \$1,513,954 | \$206,245 | 2.9% | 5.0% | \$33,985 | \$8,682 | \$42,667 | 2.5% |
| | | | | | | \$142,17 | | | |
| Library | 1 | \$4,120,947 | \$1,000 | 3.5% | 20.7% | 5 | \$207 | \$142,382 | 3.5% |
| | | | | | | \$494,28 | | | |
| Grand Total | 10 | \$9,630,806 | \$774,092 | 4.3% | 24.0% | 1 | \$64,949 | \$559,230 | 5.4% |

4.5.2.11 Future Trends in Development

Levees in Kern County provide the community with some degree of protection from flooding. Kern County has a comprehensive floodplain management ordinance (Kern County Code § 17.48) to restrict and mitigate impacts from future development occurring within floodplains and floodways. The County has also undertaken several studies on reducing flood risk and converted those follow up projects into mitigation actions. For example, see Caliente Creek Feasibility Study and Conceptual Plan.

The Kern County Water Agency (KCWA) has limited flood control responsibilities through Improvement District No. 1 in the Rosedale area of Bakersfield and Improvement District No. 3 to provide flood protection to Weldon Valley residents east of Isabella Reservoir. (KCWA, 2018)

The County and its planning partners are equipped to handle future growth within flood hazard areas. The County and all other municipal planning partners have General Plans that address frequently flooded areas in their Safety Elements. All partners have committed to linking their General Plans to this MJHMP. This will create an opportunity for wise land use decisions as future growth impacts flood hazard areas.



4.5.2.12 Flood Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Flood problem statements for the County are listed in Table 4-21; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. See Table 5-6 for a full list of mitigation actions and the corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-21 and Table 5-6.

Table 4-21 Flood Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|--------|-----------------|---|-----------------------|---|--|
| ps-FL-KC-173 | Flood | Impact | PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | Floods and their impacts will vary by community, and will likely only affect certain areas of the County during specific timeframes. | ma-FL-KC-110, ma-FL-KC-70 |
| ps-FL-KC-174 | Flood | Impact | PPRO - Property Protection , NRP - Natural Resource Protection | County of Kern | While many of the floods are shallow sheet flow events, they have resulted in property damage, road washouts, and transportation disruptions. | ma-FL-KC-284 |
| ps-FL-KC-175 | Flood | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | County bridges are affected by scouring during flooding. Reference the County Poor Health Bridges Report for bridges of poor quality that require attention- https://www.dropbox.com/s/kkb4c685iwlefsd/Poor%20Health%20Bridges%20Report.pdf?dl=1 | ma-FL-KC-285 |
| ps-FL-KC-176 | Flood | Victim | PRV - Prevention | County of Kern | Problems still occur in areas that have no mapped floodplain or where floodplain maps are inaccurate. | ma-FL-KC-110, ma-FL-KC-70 |
| ps-FL-KC-177 | Flood | Victim | PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Approx . 35k residents live within or near the 100 YR Floodplain. Approx. 400 live within proximity to floodway. | ma-FL-KC-70, ma-FL-KC-110, ma-FL-KC-283 |



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| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|--------|-----------------|--|-----------------------|--|--|
| ps-FL-KC-178 | Flood | Victim | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | High Potential Loss Facilities within 100-YR Flood Zone: 11 - Child Care Centers 9 – In-Home Child Care Facilities 9 – Special Needs Facilities | ma-FL-KC-110, ma-FL-KC-70 |
| ps-FL-KC-179 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Based on input from the Golden Hills Community Service District, 2,100-7,500 persons could be impacted by floods in this area. Certain areas of the District's water system and roads in two road maintenance districts could be affected. Areas could be isolated from emergency services and experience loss of power service, power, and natural gas. | ma-FL-KC-110, ma-FL-KC-70, ma-FL-KC-284 |
| ps-FL-KC-180 | Flood | Threat | PPRO - Property Protection , SP - Structural Projects | County of Kern | South Lake – The area along the southeast shore of Lake Isabella has several residential developments constructed on active alluvial fans. | ma-FL-KC-70, ma-FL-KC-283, ma-FL-KC-110 |
| ps-FL-KC-181 | Flood | Threat | PPRO - Property Protection , SP - Structural Projects | County of Kern | Lynch Canyon/Mountain Mesa – This residential and commercial area, along the south shore of Lake Isabella, is constructed on an active alluvial fan. | ma-FL-KC-283, ma-FL-KC-70, ma-FL-KC-110 |
| ps-FL-KC-182 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Cache Creek – Pg. 4 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltkd9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-183 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Little Dixie Wash – Pg. 4 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltkd9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-184 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Ridgecrest Washes – Pg. 4 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltkd9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |



| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|--------|-----------------|--|-----------------------|---|--|
| ps-FL-KC-185 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | According to the Wheeler Ridge-Maricopa Water Storage District and Kern County Roads Department the following public roads have flood problems, some of which could use improvements to prevent recurrent damage: David Rd at Grapevine Creek and El Paso Creek Sebastion Rd at Grapevine Creek and El Paso Creek Laval Rd at Grapevine Creek Red Rock Randsburg Rd near Red Rock Canyon State Park Copus and Valpredo Rds near the junction of Highway 99 and Interstate 5 Wheeler Ridge Road and Rancho Road near El Paso and Tejon Creek Frazier Mtn Park Rd and bridges along Cuddy Creek has erosion concerns | ma-FL-KC-99 |
| ps-FL-KC-204 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Sandy Creek (Taft/Ford City area) –Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-284, ma-FL-KC-285 |
| ps-FL-KC-206 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | The Southern Stream Group – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-99, ma-FL-KC-202 |
| ps-FL-KC-207 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Poso Creek – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 Also has potential to break across HWY 99 and create backwater flooding issues as a result of debris and flow impediment. | ma-FL-KC-82, ma-FL-KC-244 |
| ps-FL-KC-208 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Caliente Creek – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-99, ma-FL-KC-202, ma-FL-KC-304 |



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|---------------------|--------|-----------------|---|-----------------------|--|-----------------------------------|
| ps-FL-KC-209 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Upper Caliente Creek – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-AH-KC-153, ma-FL-KC-304 |
| ps-FL-KC-210 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | North Fork of the Kern River (Kernville) – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-211 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Lower Kern River/Buena Vista Lake – Pg. 3 of Kern Co. Flood Hazard Mitigation Plan details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-212 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Onyx – Pg. 4 of Kern Co. Flood Hazard Mitigation Plan, details issues w/ this waterway. Kelso Creek also has a role in this problem area. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-213 | Flood | Threat | PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Kelso Creek – Pg. 4 of the Kern Co. Flood Hazard Mitigation Plan, details issues w/ this waterway. https://www.dropbox.com/s/544jltdk9vf6sy4/Kern%20County%20Flood%20Hazard%20Mitigation%20Plan%20%281998%29.pdf?dl=1 | ma-FL-KC-303 |
| ps-FL-KC-214 | Flood | Impact | PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection , SP - Structural Projects | County of Kern | Properties in the area of Kelso Creek have a total value of approx. \$7.5 million, and many properties are not floodproofed to the County's standards. Flooding could affect more than 200 residents in the area. Portions of Kelso Creek Road are at risk with an average cost of repairs of approximately \$80,000 each time it floods. | ma-FL-KC-70, ma-FL-KC-283 |



4.5.3 Dam Failure Hazard Profile

Dam failures in the United States typically occur in one of four ways:

- Overtopping of the primary dam structure, which accounts for 34 percent of all dam failures, can occur due to inadequate spillway design, settlement of the dam crest, blockage of spillways, and other factors.
- Foundation defects due to differential settlement, slides, slope instability, uplift pressures, and foundation seepage can also cause dam failure. These account for 30 percent of all dam failures.
- Failure due to piping and seepage accounts for 20 percent of all failures. These are caused by internal erosion due to piping and seepage, erosion along hydraulic structures such as spillways, erosion due to animal burrows, and cracks in the dam structure.
- Failure due to problems with conduits and valves, typically caused by the piping of embankment material into conduits through joints or cracks, constitutes 10 percent of all failures. (Federal Emergency Management Agency, 2019)



Many dam failures in the United States have been secondary results of other disasters, such as earthquakes, landslides, extreme storms, massive snowmelt, equipment malfunction, structural damage, foundation failures, and sabotage. Poor construction, lack of maintenance and repair, and deficient operational procedures are preventable or correctable by a program of regular inspections. Terrorism and vandalism are serious concerns that all operators of public facilities must plan for; these threats are under continuous review by public safety agencies. (*Id.*) Dam inundation zones are shown in Figure 4-24.

Levees

Levees are a common form of flood protection throughout the Kern County. Figure 4-25 displays the levee system in Kern County. A levee is built parallel to a body of water in order to protect life and property on the other side by channeling the water away during flooding.

Levees do not provide full protection from flooding. They are designed to provide a specific level of flood protection and large flood events can cause levees to be overtopped or fail. Levee failure is most likely during large flood events where a large surge of water leads to erosion of the soil that constitutes the levee itself.

4.5.3.1 Plans, Policies, and Regulatory Environment

1972 National Dam Safety Act

The potential for catastrophic flooding due to dam failures led to passage of the 1972 National Dam Safety Act, Pub. Law No. 92-367. The National Dam Safety Program requires a periodic engineering analysis of every major dam in the country. The goal of this FEMA-monitored effort is to identify and mitigate the risk of dam failure so as to protect the public lives and property.



FERC Dam Safety Program

The Federal Energy Regulatory Commission (FERC) has the largest dam safety program in the United States. FERC cooperates with a large number of federal and state agencies to ensure and promote dam safety and, more recently, homeland security. There are 3,036 dams that are part of regulated hydroelectric projects in the FERC program. Two-thirds of these are more than 50 years old. (Federal Energy Regulatory Commission, 2011) As dams age, concern about their safety and integrity grows, so oversight and regular inspection are important. FERC staff inspects hydroelectric projects on an unscheduled basis to investigate the following:

- Potential dam safety problems
- Complaints about constructing and operating a project
- Safety concerns related to natural disasters
- Issues concerning compliance with the terms and conditions of a license.

Every five years, an independent consulting engineer, approved by the FERC, must inspect and evaluate projects with dams higher than 10 meters (32.8 feet), or with a total storage capacity of more than 2,000 acre-feet. (*Id.*)

FERC staff monitors and evaluates seismic research in geographic areas where there are concerns about seismic activity. This information is applied in investigating and performing structural analyses of hydroelectric projects in these areas. FERC staff also evaluates the effects of potential and actual large floods on the safety of dams. During and following floods, FERC staff visits dams and licensed projects, determines the extent of damage, if any, and directs any necessary studies or remedial measures the licensee must undertake. The FERC publication *Engineering Guidelines for the Evaluation of Hydropower Projects* guides the FERC engineering staff and licensees in evaluating dam safety. The publication is frequently revised to reflect current information and methodologies.

The FERC requires licensees to prepare emergency action plans and conducts training sessions on how to develop and test these plans. The plans outline an early warning system if there is an actual or potential sudden release of water from a dam due to failure. The plans include operational procedures that may be used, such as reducing reservoir levels and reducing downstream flows, as well as procedures for notifying affected residents and agencies responsible for emergency management. These plans are frequently updated and tested to ensure that everyone knows what to do in emergency situations. (*Id.*)

U.S. Army Corps of Engineers Dam Safety Program

The U.S. Army Corps of Engineers ("Corps") is responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. The Corps has inventoried such dams and surveyed each state and federal agency's capabilities, practices, and regulations regarding design, construction, operation, and maintenance of the dams. The Corps develops guidelines for inspection and evaluation of dam safety.



California Division of Safety of Dams

California's Division of Safety of Dams, a division of the Department of Water Resources, monitors the dam safety program at the state level. When a new dam is proposed, Division staff inspects the site. The Division reviews dam applications and building plans to ensure that the dam is designed to meet minimum requirements and that the design is appropriate for known geologic conditions. It also inspects construction to ensure that the work is done in accordance with the approved plans. The Division inspects constructed dams on an annual basis to ensure that it is performing as intended and is not developing problems. Roughly a third of these inspections include in-depth instrumentation reviews. The Division periodically reviews the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California. (Cal. Dep't of Water Resources, 2019)

Senate Bill 92: Dam Safety

Senate Bill 92 was signed into law on June 27th, 2017 and it provides new requirements focused on dam safety. Specifically, it requires dam owners to submit inundation maps to the Department of Water Resources. After they have been approved, the dam owner must then submit an emergency action plan (EAP) to Cal OES. These need to be approved by Cal OES, and resubmitted every 10 years. (California Office of Emergency Services, 2020)

Kern County General Plan

The 2004 Kern County General Plan includes many policies, implementation measures, and goals in the Land Use and Safety Elements that limit development occurring in inundation zones and mitigate impacts from such development.

Policies around dam failure include limited development in inundation zones, generally forbidding structures to be built without emergency response and evacuation plans or without inundation mitigation capabilities. The Kern County General Plan is currently being updated and will consider this MJHMP Update as it continues to shape policies around dam failure mitigation and protection.



4.5.3.2 Past Events

No dams have failed in Kern County to date. As the risk assessment for Kern County illustrates, the chances of a dam failure area low, but the consequences of such are quite severe.

The most recent concerning dam failure in California was the 2017 collapse of a spillway on the Oroville Dam in Butte County, California. Oroville Dam is the largest facility within the State Water Project in California; the dam stores 3.5 million acre-feet of water, and serves as important flood control for the Feather River. In 2017, after substantial runoff from the Sierra Nevadas, Lake Oroville was full, and the spillway was opened to release extra water downstream.



Figure 4-23. Oroville Dam Spillway after 2017 failure.

Source: <https://www.watereducation.org/aquapedia/oroville-dam>

“Spillways” are dam safety features that allow water to overtop the dam if the reservoir fills too quickly. Spillway overflow events, often referred to as “design failures,” result in increased discharges downstream and increased flooding potential.

The force of the release gouged a large crater in the concrete spillway and required the California Department of Water Resources (DWR) to halt water releases via that conduit. The high lake level then created fear that erosion would compromise the integrity of the auxiliary spillway and flood the city of Oroville and surrounding communities. Thousands were evacuated, and eventually runoff receded without further issue. Ultimately, an independent analysis concluded that poor design and construction and inadequate state oversight contributed to the collapse of the concrete spillway. (Water Education Foundation, 2020)

The Oroville Dam spillway failure triggered inspection of 93 dam spillways across California through the new Spillway Re-evaluation Program. (Cal. Dep't of Water Resources, 2019)



4.5.3.3 Location

According to California Department of Water Resources Division of Dam Safety and USACE National Inventory of Dams (NID), there are 25 dams in Kern County, shown in Table 4-23. These dams are rated for hazard potential according to the descriptors in Table 4-22. FEMA developed the classification system shown in for potential dam failures. California DWR Division of Safety of Dams (DSOD) includes a fourth category "Extremely High". This hazard potential classification system categorizes dams based on the probable loss of human life and the impacts on economic, environmental, and lifeline interests. Improbable loss of life exists where persons are only temporarily in the potential inundation area.

Figure 4-24 shows inundation zones for select dams in Kern County. Areas of the County most threatened by dam inundation are those within the Central Valley.

Figure 4-25 displays the levee system in Kern County. During large flood events, a levee failure could impact populations, properties, and infrastructure within levee inundation zones.

Table 4-22: FEMA & DSOD Hazard Potential Classification

| Hazard Potential Classification | Loss of Human Life | Economic, Environmental, Lifeline Losses |
|---------------------------------|---|---|
| Low | None expected | Low and generally limited to owner |
| Significant | None expected | Yes |
| High | Probable. One or more expected | Yes (but not necessary for this classification) |
| Extremely High | One or more and inundating an area of 1,000+ population | Inundation of facilities/infrastructure, posing significant threat to public safety determined case-by-case by DSOD |

Source: Federal Guidelines for Dam Safety- Hazard Potential Classification Systems for Dams, April 2004, DSOD Jurisdictional Dams

Table 4-23: Dams in Kern County

| DWR ID | NID ID | Dam Name | Owner | Year Built | Hazard |
|------------|---------|-------------------------------|--|------------|--------|
| No. 1083-2 | CA01213 | Antelope | Tehachapi Cummings County Water District | 1987 | H+ |
| No. 738-6 | CA01498 | Bap Pond 5 | Rio Tinto | 2008 | L |
| No. 738-7 | CA01552 | Bap Pond 6 | Rio Tinto | 2012 | L |
| No. 738-8 | CA10410 | Bap Pond 7 | Rio Tinto | Unknown | L |
| No. 738-5 | CA01430 | Bap Ponds 1, 2, 3, 4 | Rio Tinto | 2003 | L |
| No. 1051-0 | CA00884 | Berrenda Mesa | Berrenda Mesa Water District | 1967 | S |
| No. 737-0 | CA00722 | Big Four Ranch | Kern-Tulare Water District | 1970 | S |
| No. 1083-3 | CA01310 | Blackburn | Tehachapi Cummings County Water District | 1991 | H |
| No. 738-4 | CA01190 | Borax Solar Evaporation Ponds | Rio Tinto | 1984 | L |



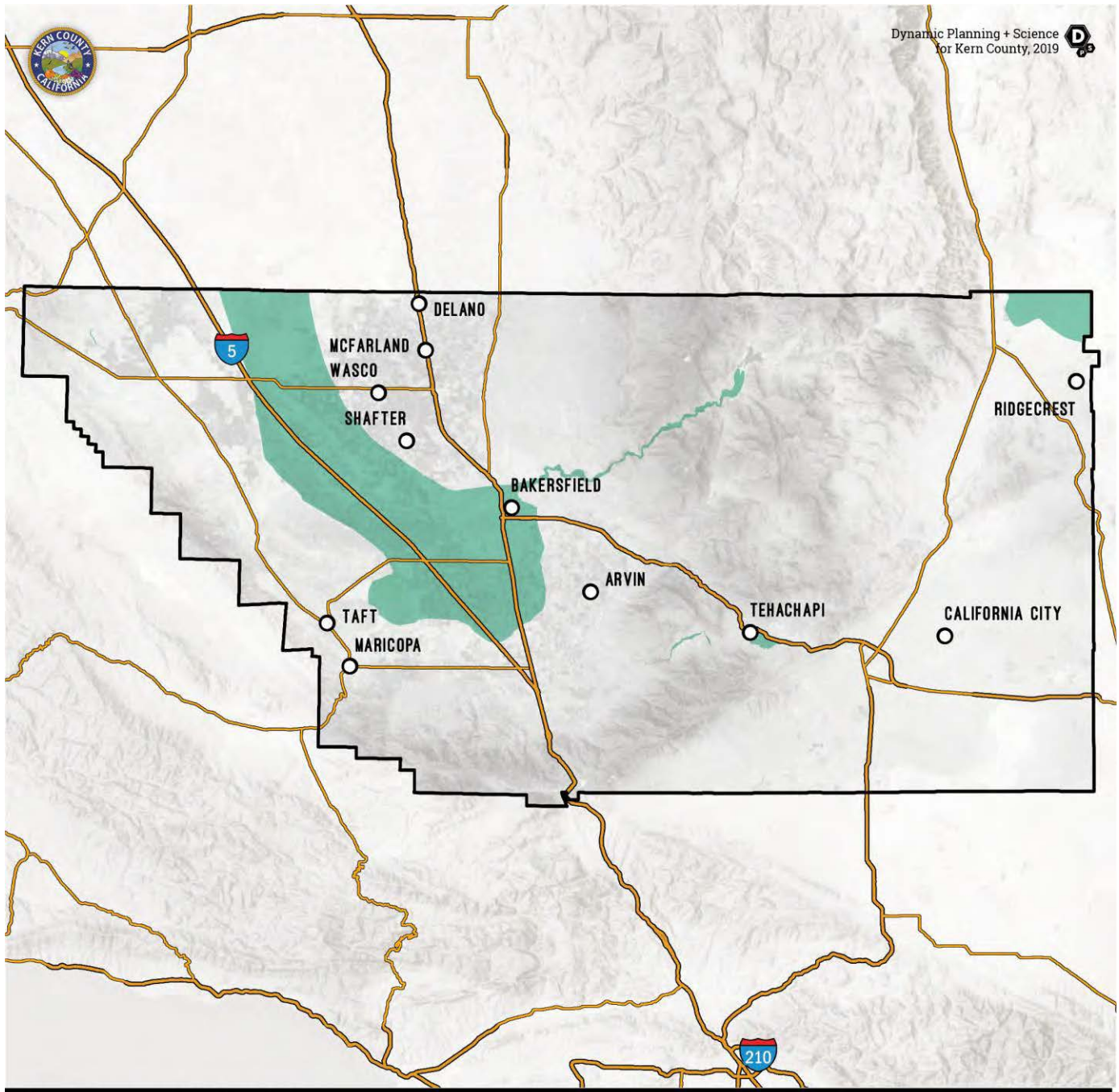
COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

| DWR ID | NID ID | Dam Name | Owner | Year Built | Hazard |
|------------|---------|--------------------------|--|------------|--------|
| No. 738-0 | CA01099 | Boron Tails Pond | Rio Tinto | 1975 | L |
| No. 738-3 | CA01178 | Boron Tails Pond 6 | Rio Tinto | 1980 | L |
| No. 732-0 | CA00717 | Buena Vista | J.G. Boswell Company & Tenneco West | 1890 | S |
| No. 735-2 | CA00721 | Buena Vista | Kern County Parks and Recreation | 1973 | S |
| No. 104-2 | CA00429 | Diversion No. 1 | Southern California Edison | 1906 | H |
| | CA01558 | Fresh Water Impoundment | Oil-Dri Corporation of America | Unknown | H |
| | CA01559 | Fresh Water Pond | CALMAT | Unknown | H |
| No. 2011-2 | CA01181 | Irrigation Reservoir | City of Bakersfield | 1980 | H |
| | CA10106 | Isabella Dam | CESPK | 1953 | H |
| No. 1083-0 | CA00587 | J.C. Jacobsen | Tehachapi Cummings County Water District | 1973 | H |
| No. 735-0 | CA00720 | Kern River County Park | Kern County Parks and Recreation | 1959 | H |
| | CA01614 | Kern River No. 1 Forebay | Southern California Edison | Unknown | S |
| | CA01595 | Rio Bravo Canal | Olcese Water District | 1988 | S |
| | CA01595 | Rio Bravo Diversion | Olcese Water District | 1989 | L |
| No. 734-0 | CA00718 | Tejon Storage 1 | Tejon Ranch Company | 1946 | L |
| No. 734-2 | CA00729 | Tejon Storage 2 | Tejon Ranch Company | 1956 | L |

Note: Hazard Definitions: L – Low; S – Significant; H – High; H+ – Extremely High

Source: DWR Jurisdictional Dams & USACE National Inventory of Dams



DAM INUNDATION ZONES KERN COUNTY

*Data sources: Cal OES.

MAP LEGEND

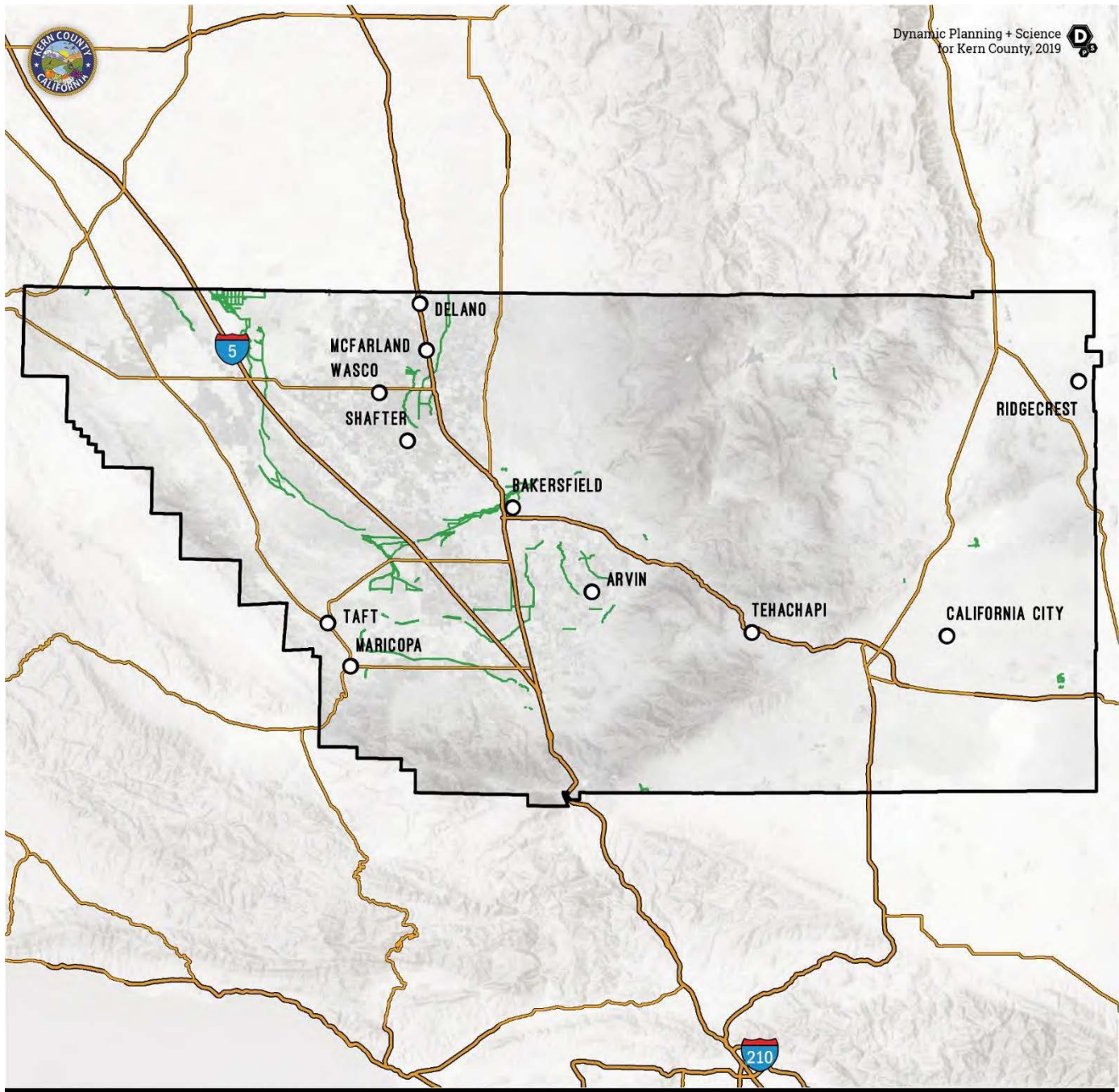
INUNDATION ZONE

Figure 4-24: Dam Inundation Exposure



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update



LEVEES - NFHL (FEMA) KERN COUNTY

*Data sources: FEMA

MAP LEGEND

— COUNTY OF KERN

— LEVEE - NFHL

Figure 4-25 Kern County Levee System



4.5.3.4 Severity and Extent

Dam failure can be catastrophic to all life and property downstream. The potential loss of life and property is difficult to qualify. For example, the FEMA hazard potential classification system in Table 4-22 does not contemplate the improbable loss of life of the occasional recreational user of the river and downstream lands, passer-by, or non-overnight outdoor user of downstream lands. In any classification system, all possibilities cannot be defined. High usage areas of any type should be considered appropriately. Judgment and common sense must ultimately be a part of any decision on classification. Further, no allowances for evacuation or other emergency actions by the population should be considered because emergency procedures should not be a substitute for appropriate design, construction, and maintenance of dam structures.

4.5.3.5 Frequency/ Probability of Future Occurrences

The probability of any type of dam failure is low in today's regulatory and dam safety oversight environment. Dam failure events usually coincide with events such as earthquakes, landslides, and excessive rainfall and snowmelt.

4.5.3.6 Warning Time

Warning time for dam failure depends on the cause of failure. In an event of extreme precipitation or massive snowmelt, evacuations can be planned with sufficient time. In the event of a structural failure due to earthquake, there may be no warning time. A dam's structural type also affects warning time. Earthen dams do not tend to fail instantaneously. Once a breach is initiated, discharging water erodes the breach until the reservoir water is depleted, or the breach resists further erosion. Concrete gravity dams also tend to have an initial partial breach. The time of breach formation ranges from a few minutes to a few hours. Several participating jurisdictions have established protocols in their emergency operations plans for warning and response to imminent dam failure within the flood warning. These protocols are tied to emergency action plans created by the dam owner.

Developing Emergency Action Plans (EAPs) for all high and significant hazard potential dams for Kern County is critical to reducing the risks of loss of life and property damage from dam failures. The EAP contains procedures and information to assist the dam owner in issuing early warning and notification messages to emergency management authorities. The EAP also contains inundation maps to identify the areas subject to flooding in the unlikely event of dam failure.



EAPs are critical in identifying areas downstream from dams requiring warning and evacuation in the event of dam failure. Documented cases have demonstrated that warning and evacuation time for EAPs can dramatically influence the loss of life. Loss of life can vary from 0.02 percent of the persons-at-risk when the warning time is 90 minutes to 50 percent when less than 15 minutes, (Graham, Assessing the Threat to Life from Dam Failure, 1988) One USGS report states that the average number of fatalities per dam failure is 19 times greater when there is little to no warning. (U.S. Geological Survey, 1985) Dam breach inundation studies usually assume one of two failure scenarios:

- Flows from a dam failure during “fair weather” or “sunny day” conditions with the reservoir at the normal pool level and receiving normal inflow (usually insignificant). A fair weather failure is generally considered to have the most potential for loss of human life, primarily due to the element of surprise.
- Flows from a dam failure during flood conditions or the inflow design flood. Failure during flood conditions is considered to show the upper limit of inundation and to have less potential for loss of human life because the downstream population is “on alert.” The flood conditions scenario is more expensive to analyze due to the additional cost for the necessary watershed and spillway studies.

Inundation mapping shows a continuous “line of inundation” identifying the area potentially at risk in event of dam failure. It starts at the dam and continues downstream to a point where the breach flood no longer poses a risk to life and property damage, such as a large river or reservoir with the capacity of storing the flood waters. The need to consider the “domino effect” should be made on a case-by-case basis if the assumed failure of a dam would cause the failure of any downstream dams.



4.5.3.7 Secondary Hazards

Dam failure can cause severe downstream flooding, depending on the magnitude of the failure. Other potential secondary hazards of dam failure are landslides around the reservoir perimeter, bank erosion on the rivers, and destruction of downstream habitat.

4.5.3.8 Dam Failure Vulnerability Assessment

The primary danger associated with dam failure is high velocity flooding downstream of the dam and limited warning times for evacuation. Vulnerability varies by community and depends on the particular dam profile and the nature and extent of the failure. Vulnerable populations are present directly below the dam and may include those who are incapable of escaping the area within the allowable time frame. This population includes the elderly and young who may be unable to self-evacuate from the inundation area. Vulnerable populations also include those who would not have adequate warning from a television or radio emergency warning system. Dam inundation zones created by Cal OES were used in conjunction with the inventory listed in Table 4-23 to develop at risk populations and loss estimations for dam failure.

4.5.3.8.1 Exposure Analysis

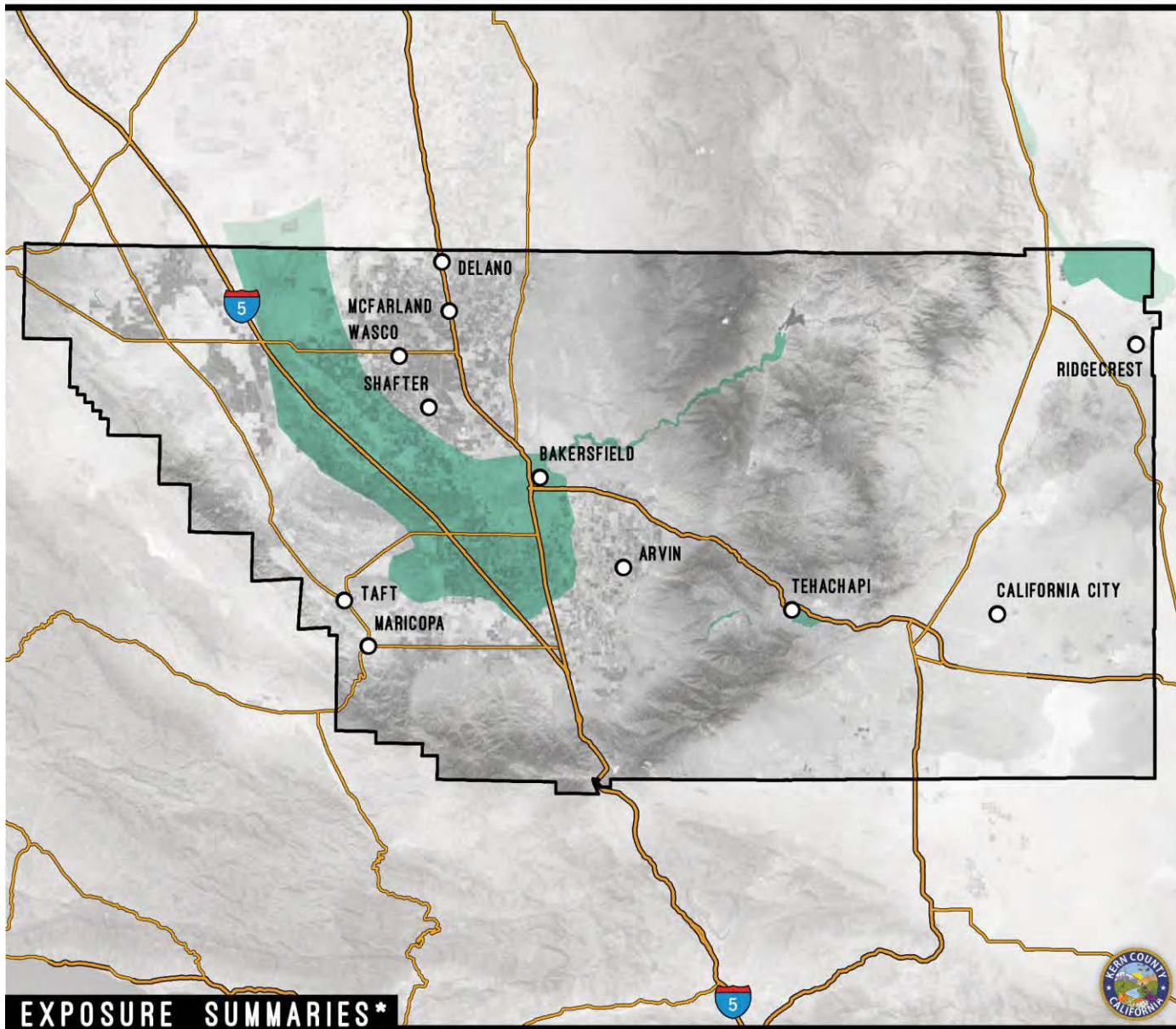
4.5.3.8.2 Population

Vulnerable populations are all populations downstream from dam failures that are incapable of escaping the area within the allowable time frame. This population includes the elderly and young who may be unable to get themselves out of the inundation area. The vulnerable population also includes those who would not have adequate warning from a television, radio emergency warning system, have not registered with reverse 911, or do not have cell phones that can receive amber alerts. The potential for loss of life is affected by the capacity and number of evacuation routes available to populations living in areas of potential inundation. The entire population in a dam failure inundation zone is exposed to the risk of a dam failure. The estimated population exposed to dam inundation is summarized in Figure 4-26 and Table 4-24.



DAM INUNDATION VULNERABILITY & EXPOSURE SNAPSHOT

KERN COUNTY



EXPOSURE SUMMARIES*

POPULATION

COUNT
100,612 34%

PARCEL

COUNT
24,411 27%

MAP LEGEND

INUNDATION ZONE

PARCEL VALUE

IMPROVEMENT
\$3,356,526,800 31%
CONTENT
\$1,678,343,900 31%

CRITICAL INFRASTRUCTURE

COUNT
Essential Facilities 10 20%
High Potential Loss 207 29%
Transportation & Lifeline 1,258 22% 2,605 17%
LINEAR MILEAGE

*Exposure summaries include all dam inundation areas. Hazard data source: Cal OES.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science
for Kern County, 2019

Figure 4-26: Dam Failure Vulnerability Snapshot Map



Table 4-24: Population Exposure to Dam Failure (Unincorporated County)

| | Total Population |
|-----------------------|------------------|
| Unincorporated County | 299,935 |

| Dam Inundation Zone | Population Count | % of Total |
|---------------------|------------------|---------------|
| Antelope Kern | 1,101 | 0.37% |
| Berrenda Mesa | - | 0.00% |
| Blackburn | 1,393 | 0.46% |
| South Haiwee | 184 | 0.06% |
| Isabella | 98,408 | 32.81% |
| JC Jacobsen | 62 | 0.02% |
| Total* | 100,621 | 33.55% |

*Total population is not equal to sum of all dam inundation zones due to dissolved overlapping inundation areas.

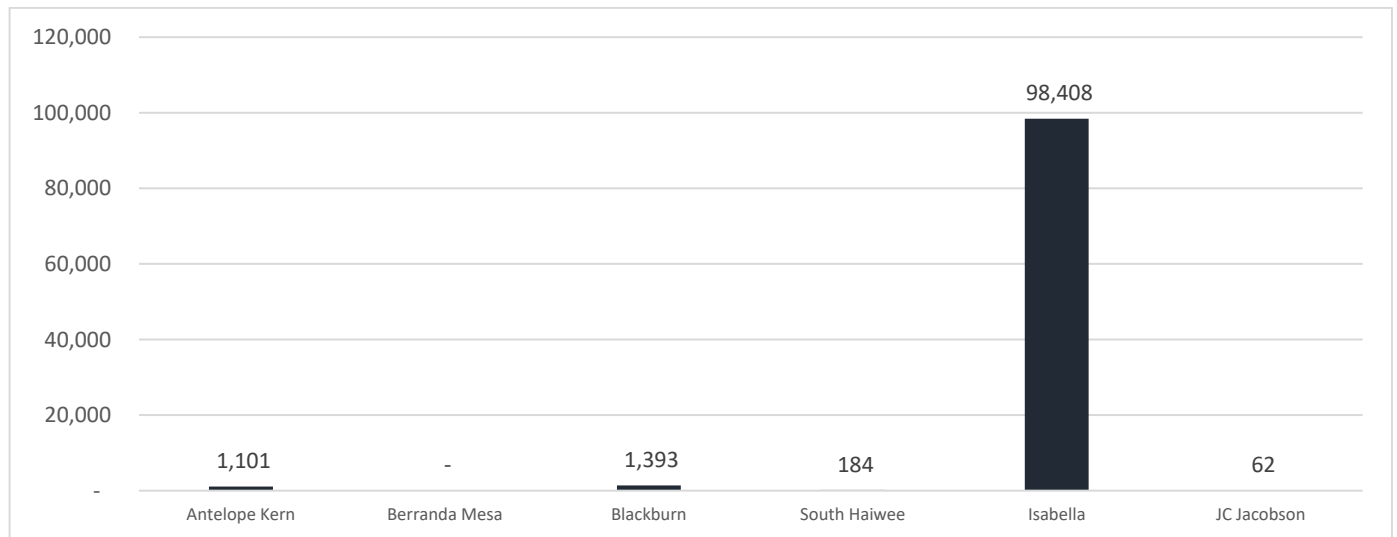


Figure 4-27 Population Exposure to Dam Inundation by Zone

4.5.3.8.3 Property

Vulnerable properties are those closest to the dam inundation area. These properties would experience the largest, most destructive surge of water. Low-lying areas where water would collect are also vulnerable. Transportation routes, discussed below, are also vulnerable to dam inundation and have the potential to be eliminated or compromised, creating isolation issues. Vulnerable populations may not be able to withstand a large water surge. Utilities such as overhead power, cable, and phone lines could also be vulnerable. Loss of these utilities could create additional isolation issues for the inundation areas. Table 4-25 below displays parcel values exposed to dam inundation.



Table 4-25: Parcel Values at Risk from Dam Inundation (Unincorporated County)

| | Total Parcels | Total Market Value (\$) | Total Content Value (\$) | Total Value (\$) |
|-----------------------|------------------|----------------------------|-----------------------------|------------------|
| Unincorporated County | 91,455 | \$ 10,906,675 | \$ 5,453,338 | \$ 16,360,013 |

| Dam Inundation Zone | Parcel Count | % of Total | Market Value Exposure (\$) | Content Value Exposure (\$) | Total Exposure (\$) | % of Total |
|-----------------------------|-----------------|--------------|-------------------------------|--------------------------------|---------------------|--------------|
| Antelope Kern | 22 | 0.0% | \$5,407.08 | \$ 2,703.54 | \$ 8,110.61 | 0.05% |
| Berrenda Mesa | 1 | 0.0% | \$ - | \$- | \$ - | 0.00% |
| Blackburn | 19 | 0.0% | \$ 2,173.95 | \$ 1,086.97 | \$ 3,260.92 | 0.02% |
| South Haiwee | - | 0.0% | \$ - | \$- | \$ - | 0.00% |
| Isabella | 24,363 | 26.6% | \$ 3,347,387.22 | \$ 1,673,693.61 | \$5,021,080.83 | 30.69% |
| JC Jacobsen | 9 | 0.0% | \$ 1,547.71 | \$ 773.85 | \$ 2,321.56 | 0.01% |
| Dam Inundation Area* | 24,411 | 26.7% | \$ 3,356,366 | \$ 1,678,183 | \$ 5,034,549 | 30.8% |

Currency in Thousands

**Totals are not equal to sum of all dam inundation zones due to dissolved overlapping inundation areas.*

4.5.3.8.4 Critical Facilities & Lifelines

Low-lying areas are vulnerable to dam inundation, especially transportation routes. This includes all roads, railroads, and bridges in the flow path of water, which could be eliminated or compromised in a dam inundation event. The most vulnerable critical facilities are those in poor condition that would have difficulty withstanding a large surge of water. Utilities such as overhead power lines and communication lines could also be vulnerable. Loss of these utilities could create additional compounding issues for emergency management officials attempting to conduct evacuation and response actions. Table 4-26 and Table 4-27 summarizes critical infrastructure exposed to dam failure in Kern County.

Table 4-26: Critical Infrastructure Points in Dam Inundation Zones (Unincorporated County)

| Infrastructure Type | TOTAL FEATURE COUNT | Antelope Kern | Berrenda Mesa | Blackburn | South Haiwee | Isabella | JC Jacobsen |
|----------------------------|------------------------|---------------|---------------|-----------|--------------|----------|-------------|
| Essential Facility | 10 | - | - | - | - | 10 | - |
| EOC | - | - | - | - | - | - | - |
| Fire Station | 8 | - | - | - | - | 8 | - |
| Hospital | 1 | - | - | - | - | 1 | - |
| Police Station | - | - | - | - | - | - | - |
| Sheriff Station | 1 | - | - | - | - | 1 | - |
| High Potential Loss | 1 | - | - | - | - | 1 | - |
| Adult Residential facility | 21 | - | - | - | - | 21 | - |
| Child Care Center | 33 | - | - | - | - | 33 | - |



| Infrastructure Type | TOTAL FEATURE COUNT | Antelope Kern | Berrenda Mesa | Blackburn | South Haiwee | Isabella | JC Jacobsen |
|------------------------------------|---------------------|---------------|---------------|-----------|--------------|-------------|-------------|
| Dam | 5 | - | - | - | - | 5 | - |
| Family Child Care Home | - | - | - | - | - | - | - |
| Foster Family Agency | - | - | - | - | - | - | - |
| Historic Building | - | - | - | - | - | - | - |
| Home Care Organization | - | - | - | - | - | - | - |
| Library | 3 | - | - | - | - | 3 | - |
| Residential Child Care | - | - | - | - | - | - | - |
| Residential Elder Care | 12 | - | - | - | - | 12 | - |
| School | 40 | - | - | - | - | 40 | - |
| County Insured Asset* | 28 | - | - | - | - | 28 | - |
| Cooling Center | 2 | - | - | - | - | 2 | - |
| Healthcare Facility | 11 | - | - | - | - | 11 | - |
| Special Needs Facility | 52 | - | - | - | - | 52 | - |
| City Hall | - | - | - | - | - | - | - |
| Historic Site | - | - | - | - | - | - | - |
| Transportation and Lifeline | - | - | - | - | - | - | - |
| Airport | - | - | - | - | - | - | - |
| Bridge | 107 | - | - | 4 | - | 103 | - |
| Power Plant | 19 | - | - | - | - | 19 | - |
| Substation | 23 | - | - | - | - | 23 | - |
| Transmission Line Tower | 1070 | - | - | - | 13 | 1055 | 2 |
| NG Facility | 29 | - | - | - | - | 29 | - |
| Wind Turbine | - | - | - | - | - | - | - |
| Bus Facility | - | - | - | - | - | - | - |
| Potable Water Facility | - | - | - | - | - | - | - |
| Waste Water Facility | - | - | - | - | - | - | - |
| Oil Facility | 9 | - | - | - | - | 9 | - |
| Railroad Facility | 1 | - | - | - | - | 1 | - |
| Grand Total | 1475 | - | - | 4 | 13 | 1456 | 2 |

* These insured assets may include critical infrastructure already represented in other Infrastructure Types.



Table 4-27: Miles of Critical Infrastructure (Linear) in Dam Inundation Zones (Unincorporated County)

| Infrastructure Type (linear) | TOTAL DAM EXPOSURE | Antelope Kern | Berranda Mesa | Blackburn | South Haiwee | Isabella | JC Jacobson |
|------------------------------|--------------------|---------------|---------------|-------------|--------------|---------------|-------------|
| Levee | 267.96 | - | - | - | - | 268.0 | - |
| NG Pipeline | 242.46 | - | - | - | - | 241.1 | 1.4 |
| Railroad | 54.22 | 2.6 | - | 0.0 | - | 51.6 | - |
| Street | 1613.76 | 6.9 | - | 17.8 | 127.9 | 1457.6 | 5.0 |
| 4WD trail | 2.39 | - | - | - | 2.3 | 0.0 | - |
| 4WD trail, major | - | - | - | - | - | - | - |
| Alley | 0.64 | - | - | - | - | 0.6 | - |
| Cul-de-sac | 1.15 | - | - | - | 0.4 | 0.8 | - |
| Driveway | 21.97 | - | - | - | - | 22.0 | - |
| Interstate | 123.44 | 3.0 | - | 4.5 | - | 115.9 | - |
| Local road | 513.79 | 1.3 | - | 5.3 | 26.5 | 479.2 | 2.0 |
| Local road, major | 424.38 | 1.3 | - | 5.1 | 18.2 | 397.8 | 2.8 |
| Primary highway | 12.07 | - | - | - | - | 12.1 | - |
| Ramp | 21.66 | - | - | - | 0.0 | 21.6 | - |
| Road, parking area | 0.35 | - | - | - | - | 0.3 | - |
| Service road | 1.41 | - | - | - | - | 1.4 | - |
| State/county highway | 311.81 | 1.3 | - | 2.8 | - | 307.6 | 0.2 |
| State/county highway, major | 0.02 | - | - | - | - | 0.0 | - |
| Thoroughfare, major | 177.96 | - | - | - | 80.5 | 97.5 | - |
| Walkway | 0.69 | - | - | - | - | 0.7 | - |
| Transmission Line | 426.55 | 0.9 | - | 4.4 | 5.2 | 415.8 | 0.5 |
| Grand Total | 3792.15 | 10.3 | - | 22.1 | 133.1 | 2434.0 | 6.8 |

4.5.3.8.5 Future Trends in Development

Flooding due to a dam failure event is likely to exceed the special flood hazard areas regulated through local floodplain ordinances. The County and participating jurisdictions should consider the dam failure hazard when permitting development in mapped dam inundation zones and downstream of high hazard and significant hazard dams in the County. Low hazard dams could become significant or high hazard dams if development occurs below them.



4.5.3.9 Dam Failure Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Dam failure hazard problem statements are listed in Table 4-28; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-6 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-28 and Table 5-6.

Table 4-28 Dam Failure Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|---------------|------------------------|--|-----------------------|--|-------------------|
| ps-DF-KC-252 | Dam Failure | Victim | PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , ES - Emergency Services , SP - Structural Projects | County of Kern | There are approx. 100,000 people and 24,000 parcels within the dam inundation zone in the unincorporated county | ma-DF-KC-384 |
| ps-DF-KC-253 | Dam Failure | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , ES - Emergency Services , SP - Structural Projects | County of Kern | There are approx. 213 critical infrastructure facilities and 2.5 miles of transportation and lifelines within the dam inundation zone in the unincorporated county | ma-DF-KC-384 |
| ps-DF-KC-254 | Dam Failure | Victim | PPRO - Property Protection , PE&A - Public Education & Awareness , ES - Emergency Services , SP - Structural Projects | County of Kern | Cascading effects of dam inundation could include loss of power and blocked access for evacuation routes | ma-DF-KC-384 |



4.5.4 Earthquake Hazard Profile

Earthquake is the sudden shaking of the ground caused by the passage of seismic waves through Earth's rocks. Seismic waves are produced when some form of energy stored in Earth's crust is suddenly released, usually when masses of rock straining against one another suddenly fracture and "slip." Earthquakes associated with this type of energy release are called tectonic earthquakes. The energy also can be released by elastic strain, gravity, chemical reactions, or even the motion of massive bodies. Earthquakes occur most often along geologic *faults*, narrow zones where rock masses move in relation to one another. (United States Geological Survey, n.d.)



Earthquakes have different properties depending on the type of fault that causes them. See Figure 4-28. The usual fault model has a "strike" (that is, the direction from north taken by a horizontal line in the fault plane) and a "dip" (the angle from the horizontal shown by the steepest slope in the fault). The lower wall of an inclined fault is called the footwall. Lying over the footwall is the hanging wall. When rock masses slip past each other parallel to the strike, the movement is known as strike-slip faulting. Movement parallel to the dip is called dip-slip faulting. In dip-slip faults, if the hanging-wall block moves downward relative to the footwall block, it is called "normal" faulting; the opposite motion, with the hanging wall moving upward relative to the footwall, produces reverse or thrust faulting. (Id)

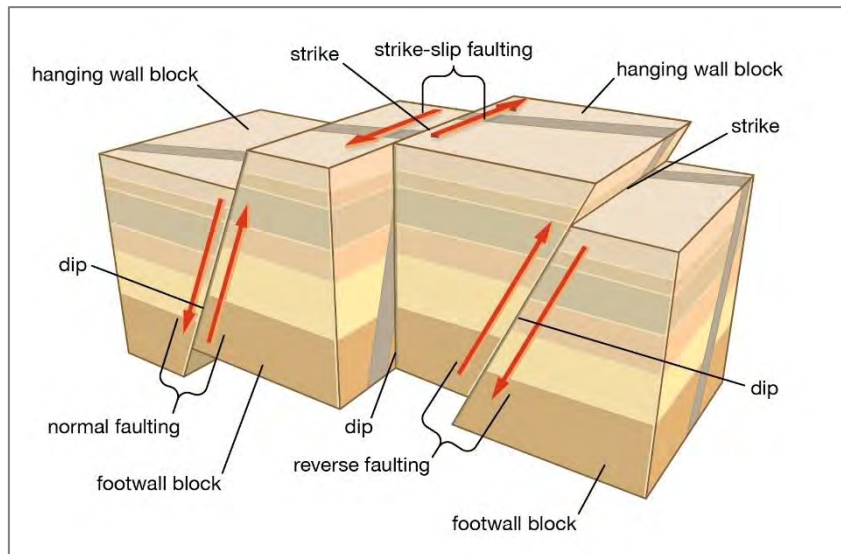


Figure 4-28: Earthquake Faulting

As a fault rupture progresses along or up the fault, rock masses are flung in opposite directions and thus spring back to a position where there is less strain. (Id)

Soil Liquefaction

Soil liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. Soil liquefaction and related phenomena have been responsible for tremendous amounts of damage in historical earthquakes around the world. Soil liquefaction occurs when material that is ordinarily a solid behaves like a liquid. Saturated or partially-saturated soil substantially loses strength and stiffness in response to an applied stress such as shaking during an earthquake or other sudden change in stress condition. The phenomenon is most often observed in saturated, loose, low-density or uncompacted, sandy soils. Loose sand tends to compress when a load is applied. Dense sands, by contrast, tend to expand in volume or 'dilate'. If the soil is saturated by water, which often occurs when



soil is below the water table or sea level, then water fills the pore spaces between soil grains. (United States Geological Survey, n.d.)

Artificial Induction

Earthquakes are sometimes caused by human activities, including the injection of fluids into deep wells, pumping of ground water, the excavation of mines, and the filling of large reservoirs. In fluid injection, the slip is thought to be induced by premature release of elastic strain, as in the case of tectonic earthquakes, after fault surfaces are lubricated by the liquid. (Encyclopedia Britannica, 2020)

Earthquake Classifications

Earthquakes are typically classified in one of two ways: by the amount of energy released, measured as magnitude; or by the impact on people and structures, measured as intensity. (United States Geological Survey, n.d.)

Magnitude

The most common method for measuring earthquakes is magnitude, which measures the strength of earthquakes. While majority of scientists currently use either the Mw Scale or Modified Mercalli Intensity (MMI) Scale to measure an earthquake, the Richter scale is the most well-known measurement for earthquake magnitude. The magnitude of an earthquake is related to the total area of the fault that ruptured, as well as the amount of offset (displacement) across the fault. As shown in Table 4-29, there are seven earthquake magnitude classes, ranging from great to micro. A magnitude class of great can cause tremendous damage to infrastructure, compared to a micro class, which results in minor damage to infrastructure. *(Id)*

| Earthquake Magnitude Classes | | |
|------------------------------|---------------------------------|-------------------------|
| Magnitude Class | Magnitude Range (M = Magnitude) | Description |
| Great | $M > 8$ | Tremendous damage |
| Major | $7 \leq M < 7.9$ | Widespread heavy damage |
| Strong | $6 \leq M < 6.9$ | Severe damage |
| Moderate | $5 \leq M < 5.9$ | Considerable damage |
| Light | $4 \leq M < 4.9$ | Moderate damage |
| Minor | $3 \leq M < 3.9$ | Rarely causes damage. |
| Micro | $M < 3$ | Minor damage |

Table 4-29: Moment Magnitude Scale



Intensity

The effects of an earthquake in a particular location are measured by intensity. Earthquake intensity decreases with increasing distance from the epicenter of the earthquake. The Modified Mercalli Intensity value assigned to a specific site after an earthquake has a more meaningful measure of severity to the nonscientist than the magnitude because intensity refers to the effects experienced at that place. (United States Geological Survey)

The **lower** numbers of the intensity scale generally deal with the manner in which the earthquake is felt by people. The **higher** numbers of the scale are based on observed structural damage. Structural engineers usually contribute information for assigning intensity values of VIII or above. Table 4-30 is an abbreviated description of the levels of Modified Mercalli intensity. (*Id*)

Table 4-30: Modified Mercalli intensity level descriptions

| Intensity | Shaking | Description/Damage |
|-------------|-------------|--|
| I | Not felt | Not felt except by a very few under especially favorable conditions. |
| II | Weak | Felt only by a few persons at rest, especially on upper floors of buildings. |
| III | Weak | Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated. |
| IV | Light | Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. |
| V | Moderate | Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop. |
| VI | Strong | Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. |
| VII | Very strong | Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken. |
| VIII | Severe | Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. |
| IX | Violent | Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations. |
| X | Extreme | Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. |

Source: USGS, Abridged from The Severity of an Earthquake, USGS General Interest Publication 1989-288-913



Ground Motion

Earthquake hazard assessment is also based on expected ground motion. This involves determining the annual probability that certain ground motion accelerations will be exceeded, then summing the annual probabilities over the time period of interest. The most commonly-mapped ground motion parameters are the horizontal and vertical peak ground accelerations (PGA) for a given soil or rock type. Instruments called accelerographs record levels of ground motion due to earthquakes at stations throughout a region. These readings are recorded by state and federal agencies that monitor and predict seismic activity. (Pacific Northwest Seismic Network)

Maps of PGA values form the basis of seismic zone maps that are included in building codes such as the International Building Code. Building codes that include seismic provisions specify the horizontal force due to lateral acceleration that a building should be able to withstand during an earthquake. PGA values are directly related to these lateral forces that could damage “short period structures” such as single-family dwellings. Longer-period response components determine the lateral forces that damage larger structures with longer natural periods such as apartment buildings, factories, high-rises, bridges. Table 4-31 lists damage potential and perceived shaking by PGA factors, compared to the Mercalli scale. (USGS)

Table 4-31: Modified Mercalli Scale and Peak Ground Acceleration

| Modified Mercalli Scale | Perceived Shaking | Potential Structure Damage | | Estimated PGA (%g) |
|-------------------------|-------------------|----------------------------|----------------------|-----------------------|
| | | Resistant Buildings | Vulnerable Buildings | |
| I | Not Felt | None | None | <0.17% |
| II-III | Weak | None | None | 0.17% - 1.4% |
| IV | Light | None | None | 1.4% - 3.9% |
| V | Moderate | Very Light | Light | 3.9% - 9.2% |
| VI | Strong | Light | Moderate | 9.2% - 18% |
| VII | Very Strong | Moderate | Moderate/Heavy | 18% - 34% |
| VIII | Severe | Moderate/Heavy | Heavy | 34% - 65% |
| IX | Violent | Heavy | Very Heavy | 65% - 124% |
| X - XII | Extreme | Very Heavy | Very Heavy | >124% |

Note: PGA measured in percent of g, where g is the acceleration of gravity

Sources: USGS, 2008; USGS, 2010

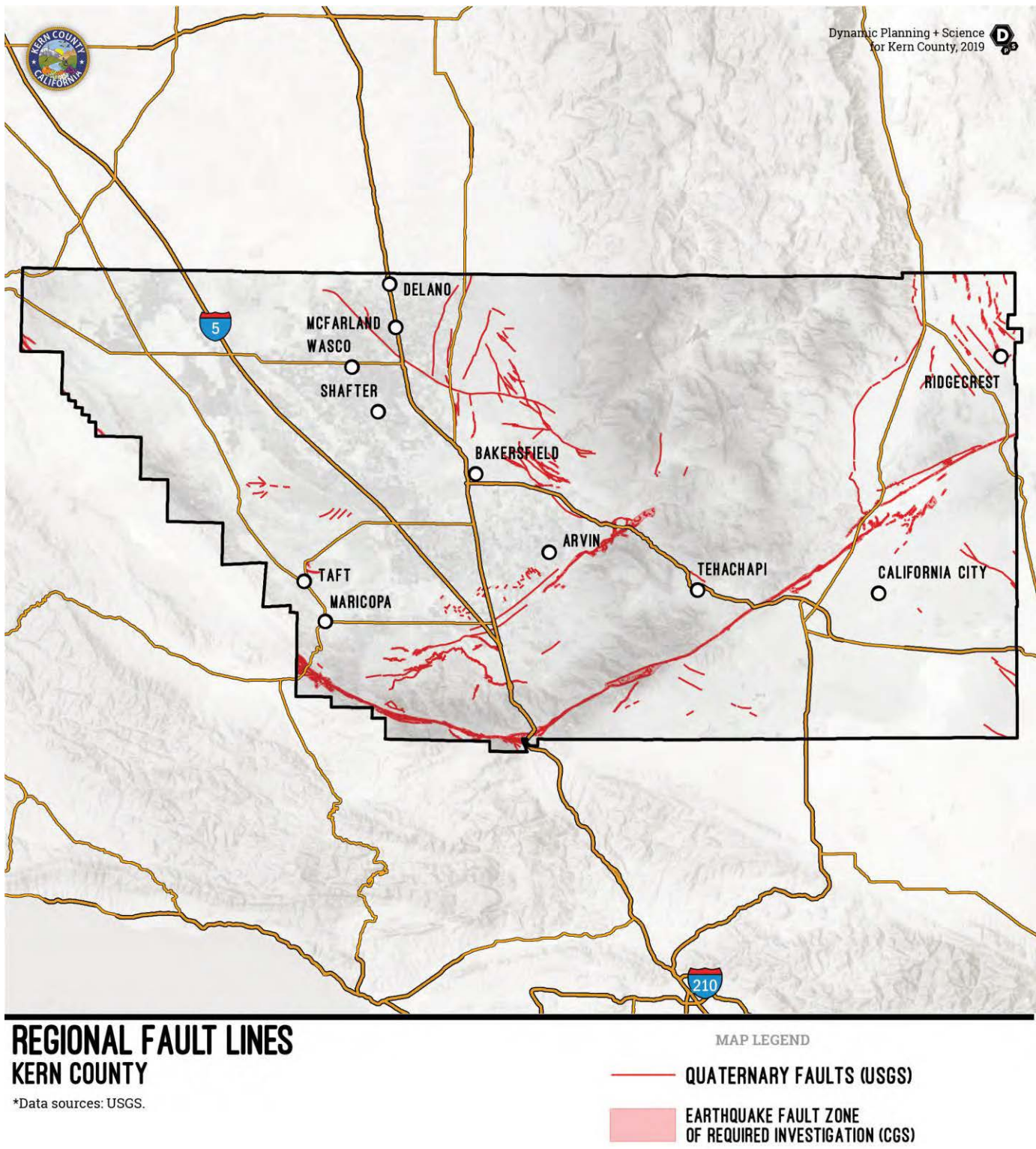


Figure 4-29: Zones of Required Investigation

Quaternary faults are those active faults that have been recognized at the surface and which have evidence of movement in the past 1.6 million years - the duration of the Quaternary Period.



4.5.4.1 Plans, Policies, and Regulatory Environment

Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act (1972)

The 1971 San Fernando Earthquake resulted in the destruction of numerous structures built across its path. This led to passage of the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This Act prohibits the construction of buildings for human occupancy across active faults in the State of California. Similarly, extensive damage caused by ground failures during the 1989 Loma Prieta Earthquake focused attention on decreasing the impacts of landslides and liquefaction. This led to the creation of the Seismic Hazards Mapping Act, which increases construction standards at locations where ground failures are probable during earthquakes. Figure 4-29 displays these zones of required investigation in Kern County.

2019 California Building Standards Code

The 2019 California Building Code, adopted by Kern County in January 2020, includes materials requirements, construction methods, and maintenance standards for earthquake protection and resiliency.

Kern County General Plan

The 2004 Kern County General Plan includes many policies, implementation measures, and goals in the Safety Element that limit development occurring in earthquake fault lines and mitigate impacts from such development.

Policies around earthquakes include limited development near earthquake fault lines, generally forbidding structures for human occupancy that are located near active fault lines and determining the liquefaction potential of different sites more broadly. The Kern County General Plan is currently being updated and will consider this MJHMP Update as it continues to shape policies around earthquake mitigation and protection.



4.5.4.2 Past Events

Numerous earthquakes have occurred in and near Kern County over the last twenty years. *See* Table 4-32 for earthquake events 4.5 magnitude or greater since 2000. Ridgecrest experienced 6.4 and 7.1 magnitude earthquakes on July 4th and 5th of 2019 which was the largest earthquake in southern California since 1999. The July 2019 earthquake resulted in significant damage to homes in the Ridgecrest area where some homes were ripped off foundations. No deaths or major building damage resulted from the July 2019 earthquake. ([KSBY News, 2019](#))

Table 4-32: Earthquakes in Kern County 4.5 Magnitude or Greater Since 2000

| Date | Location | Magnitude |
|-----------|---|-----------|
| 1/25/2003 | 20km NE of Arvin | 4.9 |
| 9/29/2004 | 25km SSW of Bodfish | 5.0 |
| 4/16/2005 | 20km ESE of Maricopa | 4.6 |
| 9/22/2005 | 14km NW of Grapevine | 4.7 |
| 2/24/2016 | 6km SSW of Wasco | 4.9 |
| 7/4/2019 | 200km NE of Los Angeles near Ridgecrest | 6.4 |
| 7/5/2019 | 11 km from 7/4/2019 earthquake (in San Bernardino County) | 7.1 |

Source: USGS

4.5.4.3 Location

The Alquist-Priolo Act established earthquake fault zones in California. These Alquist-Priolo Earthquake Fault Zones encompass surface traces of active faults that have a potential for future surface fault rupture and are mapped across California. These zones have been established by the State Geologist and indicate an active fault within the zone. The fault may pose a risk to existing or future structures from a surface fault rupture. The major faults include the San Andreas fault system running north and south on the western portion of the County, several smaller faults of the Sierra Nevadas to the west of the San Andreas fault, and the Garlock and Ridgecrest faults to the east. Figure 4-29 shows the location of fault zones as well as the underlying quaternary faults near the County.



4.5.4.4 Frequency/ Probability of Future Occurrences

This plan utilizes two mapping tools for understanding the frequency and probability of an earthquake occurring at different faults in and around Kern County: 1) the Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)(see Figure 4-30) and 2) the Earthquake Shaking Potential based on the USGS National Seismic Hazard Model (see Figure 4-31). Both mapping tools are described in more detail below.

Importantly, these probabilistic maps were used to determine the earthquake scenario used for the vulnerability analysis. While the Risk Assessment Mapping Platform (RAMP) contains exposure and damage estimations around the 7.2 M White Wolf scenario, this plan focuses on the South San Andreas Mojave North scenario, because it is the scenario with the highest likelihood of severe shaking and of producing a magnitude 6.7 earthquake within 30 years. See Figure 4-32 for an overview map of the scenario and Section 4.5.4.4.3 for further explanation on why this scenario was chosen.

According the California State Hazard Mitigation Plan, earthquakes large enough to cause moderate damage to structures—those of 5.5 Magnitude (M.) or larger—occur three to four times a year statewide. Strong earthquakes of 6 to 6.9 M. strike on an average of once every two to three years. Major earthquakes of 7 to 7.9 M. occur in California about once every 10 years.

4.5.4.4.1 30-Year Earthquake Probability (UCERF3)

Probability of earthquake events is based on the approximate location of earthquake faults within and outside the Kern County region. The Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)⁷ is a comprehensive model of earthquake occurrence for California. It represents the best available science for authoritative estimates of the magnitude, location, and likelihood of potentially damaging earthquakes in California. According to UCERF3 and as shown in Figure 4-30, the San Andreas fault as a 10% to 100% probability of occurrence within 30 years, the highest probability affecting the County. A study by the USGS indicates that the Big Bend section of the San Andreas fault near Tejon Pass is overdue for a strong or major earthquake. (Scharer, 2017) On average, an earthquake occurs in this area every 100 years, with the most recent 7.9 Fort Tejon earthquake occurring in 1857. (Id.) The Garlock Central and West faults have close to a 5% chance of an occurrence within thirty years, with many other faults having less than a 1% chance of annual occurrence.

⁷ Quaternary faults are those active faults that have been recognized at the surface and which have evidence of movement in the past 1.6 million years - the duration of the Quaternary Period.

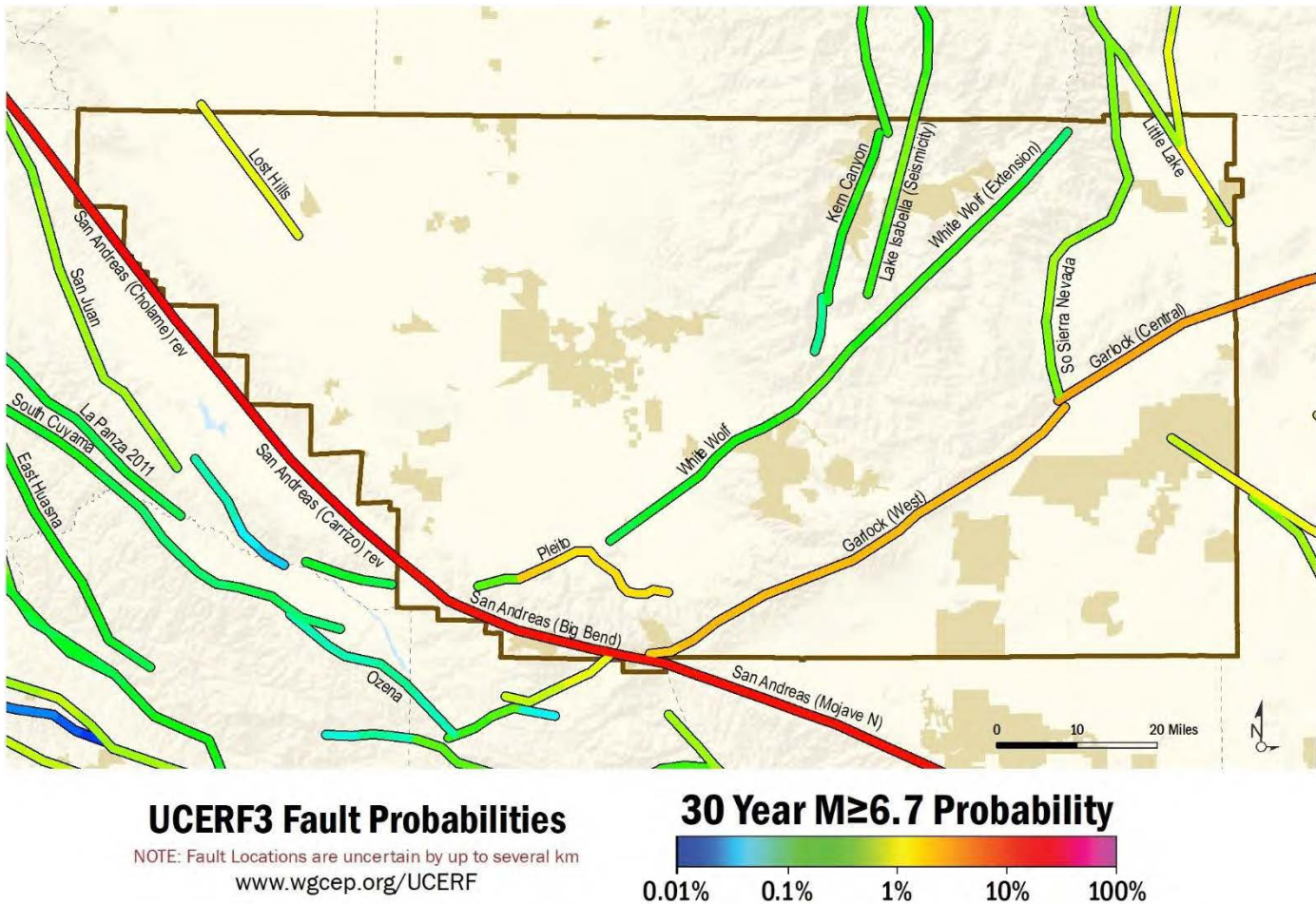


Figure 4-30 Fault Probability Map for Kern County

4.5.4.4.2 Earthquake Shaking Potential

The Earthquake Shaking Potential Map, Figure 4-31, shows potential seismic shaking from anticipated future earthquakes. It is probabilistic in the sense that the analysis takes into consideration the uncertainties in the size and location of earthquakes and the resulting ground motions that can affect a particular site. (CGS, 2020) It is also useful in understanding the probability of severe shaking in different locations throughout the County, as discussed in Section 4.5.4.5.

The map is expressed in terms of probability of exceeding a certain ground motion. The map shows a 2% probability of exceeding one second of ground motion in 50 years. Earthquake shaking potential in California is calculated based on the USGS National Seismic Hazard Model and in partnership with California Geological Survey (CGS). Earthquake shaking potential also considers historic earthquakes, slip rates on major faults, deformation throughout the region, and the potential for amplification of seismic waves by near-surface geologic materials. (CGS, 2020)



The map depicts a range of lower hazard to higher hazard probability, where higher hazard areas are those regions near major, active faults that will on average experience stronger earthquake shaking more frequently. This intense shaking can damage even strong, modern buildings. Lower hazard areas are those regions that are distant from known, active faults that will experience lower levels of shaking less frequently. In most earthquakes, only weaker, masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking in those locations. (D. Brantum, 2016)

The shaking potential is calculated as the level of ground motion that has a 2% chance of being exceeded in 50 years, which is the same as the level of ground-shaking with about a 2500-year average repeat time. Relatively long-period (1.0 second) earthquake shaking is shown. Long-period shaking affects tall, relatively flexible buildings, but also correlates well with overall earthquake damage. Although the greatest hazard is in areas of highest intensity as shown in Figure 4-31, no region is immune from potential earthquake damage. (*Id*)

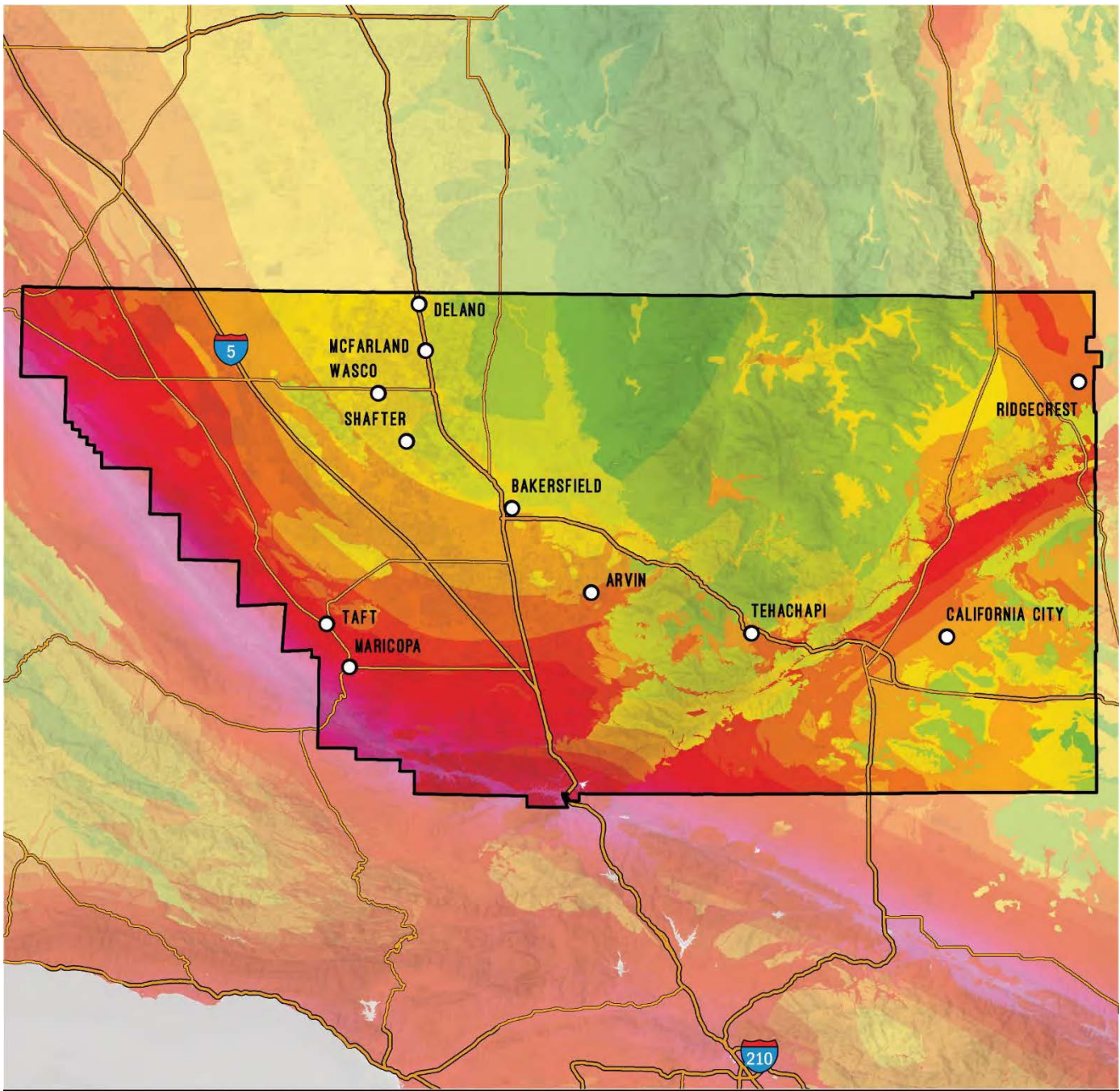
The potential for earthquake ground shaking, as defined by the U.S. National Seismic Hazard Model, is used by engineers to design buildings for larger ground motions than what we think will occur during a 50-year interval, which will make buildings safer than if they were only designed for the ground motions that we expect to occur in the next 50 years. (USGS, 2018 United States (Lower 48) Seismic Hazard Long-term Model, 2020)

4.5.4.4.3 S. San Andreas Mojave N. Earthquake Scenario

The South San Andreas Mojave North earthquake scenario was chosen from a range of regional, scenario-based shakemaps available from USGS for the vulnerability analysis. The shakemap data consist of peak ground velocity, peak ground acceleration, peak spectral accelerations in an earthquake scenario. The San Andreas fault has the highest probability of an earthquake greater than 6.7 M. within Kern County, with a greater than 10% annual probability. See Figure 4-30. Likewise, the most significant shaking potential depicted in the ShakeMap in Figure 4-31 centers around the San Andreas fault system

The RAMP mapping tool also displays the 7.2 M White Wolf scenario which would occur along the white wolf fault line, displayed in Figure 4-30. The White Wolf scenario was one of the scenarios included in the 2014 MJHMP and also matches the 7.7 M Bakersfield earthquake of 1952. (United States Geological Survey, 1984) This plan chose to highlight the South San Andreas Mojave scenario in the vulnerability analysis over the White Wolf scenario because it has a higher probability of occurring and has a higher shaking potential, as displayed in Figure 4-30 and Figure 4-31.

Section 4.5.4.8.1 analyzes the County's exposure to this scenario and Section 4.5.4.8.2 details damage estimation to residential properties and County facilities for this scenario.

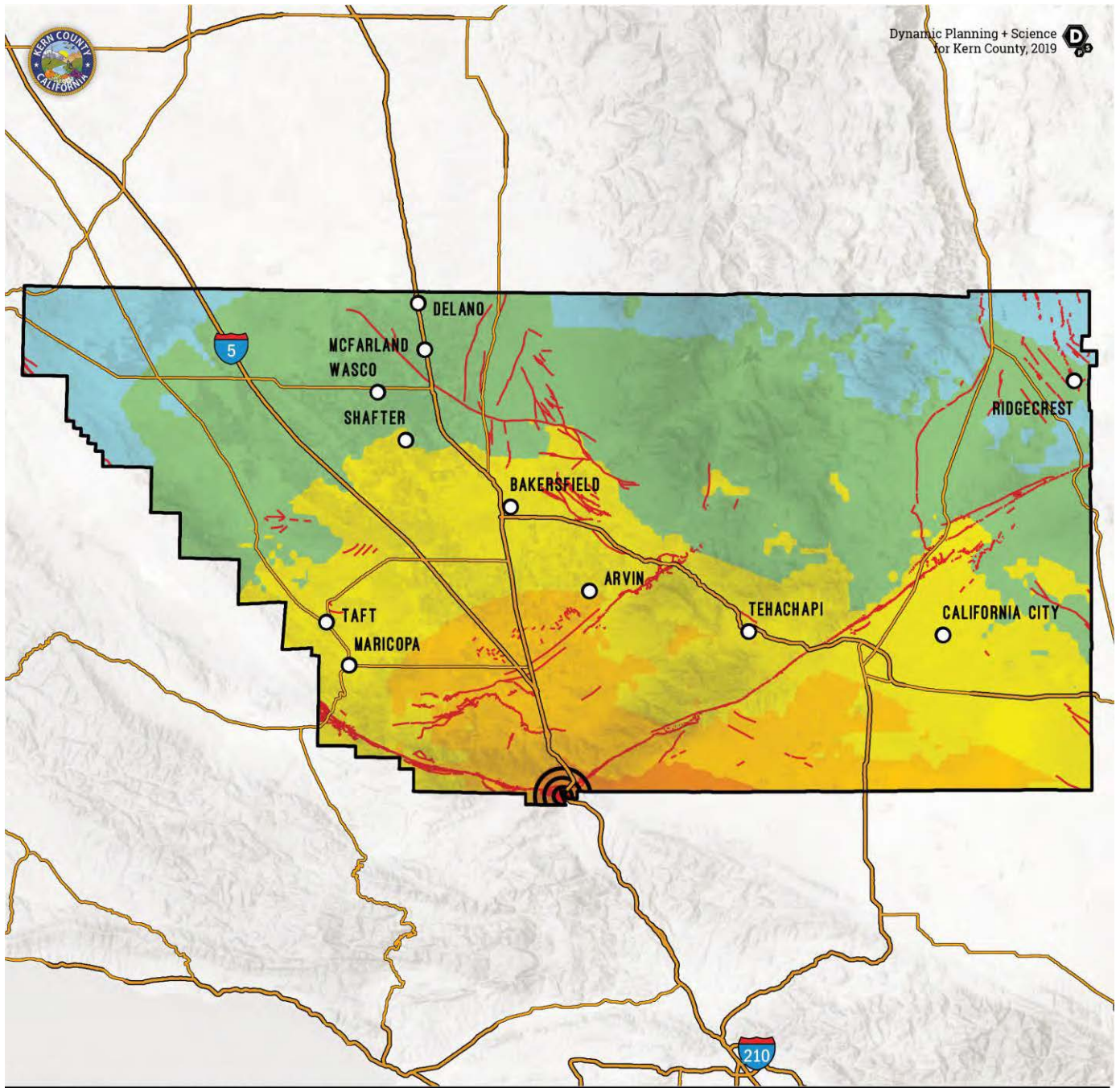


EARTHQUAKE SHAKING POTENTIAL KERN COUNTY

*Data sources: California Geological Survey MS48 (Revised 2016)
Earthquake Shaking Potential for California



Figure 4-31: Earthquake Shaking Potential



EQ - S. SAN ANDREAS MOJAVE N. KERN COUNTY

*Data sources: USGS.



Figure 4-32. Earthquake Scenario, S. San Andreas Mojave N.



4.5.4.5 Severity and Extent

As we know from past events, even a “moderate” earthquake occurring in or near the Kern County region could result in deaths, casualties, property and environmental damage, and disruption of normal services and activities. The severity of the event could be aggravated by collateral emergencies such as fires, hazardous material spills, utility disruptions, landslides, transportation emergencies, and the possible failure of the Kern County dams.

Neither the occurrence of an earthquake nor the severity can be predicted. Instead, scientists can only calculate the probability that a significant earthquake will occur in a specific area within a certain number of years.

The probabilistic Earthquake Shake Potential Map, Figure 4-31, illustrates the areas of the County most likely to experience an earthquake exceeding one second of ground motion in 50 years, which aids in understanding locations in Kern County with the greatest probability of experiencing a severe earthquake. The greatest probability of a severe earthquake focuses around the San Andreas fault. This is merely a probability, as the same map also illustrates that most of the County is susceptible to moderate-to-severe earthquakes depending on the location, intensity, and magnitude of the earthquake.

4.5.4.6 Warning Time

There is currently no reliable way to predict the day or month that an earthquake will occur at any given location. Research is being done with warning systems that use the low energy waves that precede major earthquakes. Seconds and minutes of advance warning can allow people and systems to take actions to protect life and property from destructive shaking. Even a few seconds of warning can enable protective actions specific to various sectors of the population, such as:

- **Public:** Citizens, including schoolchildren, drop, cover, and hold on; turn off stoves, safely stop vehicles.
- **Businesses:** Personnel move to safe locations, automated systems ensure elevator doors open, production lines are shut down, sensitive equipment is placed in a safe mode.
- **Medical services:** Surgeons, dentists, and others stop delicate procedures.
- **Emergency responders:** Open firehouse doors, personnel prepare and prioritize response decisions.
- **Power infrastructure:** Protect power stations and grid facilities from strong shaking.

4.5.4.7 Secondary Hazards

Earthquakes can create the secondary hazards of soil liquefaction and tsunamis. Tsunamis are not applicable to Kern County. Other hazards can also occur from earthquakes and are profiled in other parts of this plan, such as dam failure or wildfires.

Soil Liquefaction

Soil liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the pore spaces between granules to collapse. Pore-water pressure may also increase sufficiently to cause the soil to behave like a fluid for a brief period and cause deformations.



Soil liquefaction can cause severe damage to property, including damaging pipes, compromising building foundations, and bucking roads and airport runways. Soil liquefaction problems could be present in areas built on unconsolidated river soils.

4.5.4.8 Earthquake Vulnerability Analysis

Earthquakes are a considerable threat to life and property in Kern County. A moderate to severe seismic incident on any fault zones in close proximity to the County is expected to cause:

- Extensive property damage, particularly to pre-1930's unreinforced masonry structures,
- Possible fatalities and injuries,
- Damage to water and sewage systems,
- Disruption of communications systems,
- Broken gas mains and petroleum pipelines,
- Disruption of transportation arteries, and
- Competing requests for regional aid resources.

Community needs would quickly exceed the response capability of the County's emergency management organization, requiring mutual assistance from volunteer and private agencies, the Governor's Office of Emergency Services, and the Federal Emergency Support Functions.

In any earthquake, the primary consideration is saving lives. Time and effort must also be given to providing for people's mental health by reuniting families, providing shelter to the displaced persons, and restoring basic needs and services. A major effort will be needed to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

After any earthquake there will be a loss of income both in private and public sectors. Individuals can lose wages due to businesses inability to function because of damaged goods or facilities. Due to business losses, Kern County and the cities in the planning area will lose revenue. Economic recovery from even a minor earthquake is critical.

4.5.4.8.1 Earthquake Exposure

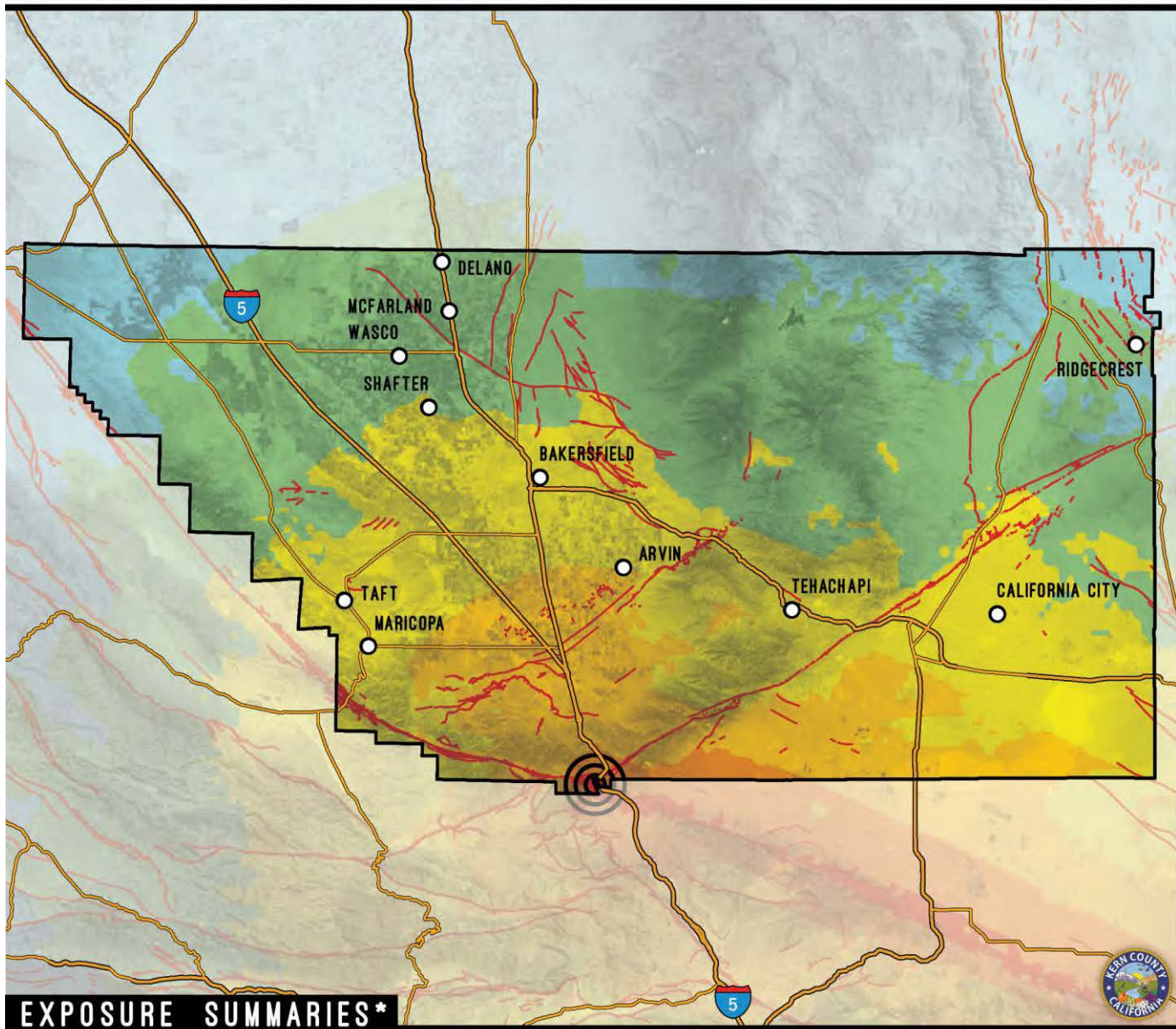
The exposure analysis for Kern County centers on an earthquake scenario produced from the South San Andreas Mojave North Faultline. As discussed in Section 4.5.4.4, this scenario is the highest probability for a severe earthquake and severe shaking in Kern County.

An exposure analysis was conducted to develop earthquake vulnerability data throughout Kern County using the methods outlined in Section 4.4. To develop earthquake exposure data for the County, asset inventories for people, property, and critical facilities were superimposed with earthquake shaking intensity data from the USGS.



EQ - S. SAN ANDREAS MOJAVE N. VULNERABILITY & EXPOSURE

KERN COUNTY



EXPOSURE SUMMARIES*

| POPULATION | | PARCEL | | PARCEL VALUE | | CRITICAL INFRASTRUCTURE | | | |
|-------------|-------|------------|--------|---------------------|--------|---------------------------|---------|---------------------|--|
| COUNT | | COUNT | | IMPROVEMENT | | COUNT | | | |
| 254,106 85% | | 77,923 85% | | \$9,672,907,618 89% | | Essential Facilities | | 34 69% | |
| | | | | CONTENT | | High Potential Loss | | 556 77% | |
| | | | | \$4,837,003,809 89% | | Transportation & Lifeline | | 3,868 68% 9,425 62% | |
| | | | | | | | | LINEAR MILEAGE | |
| MAP LEGEND | | | | | | | | | |
| III | IV | V | VI | VII | VIII | IX | X | | |
| WEAK | LIGHT | MODERATE | STRONG | VERY | SEVERE | VIOLENT | EXTREME | | |
| MMI | | | | STRONG | | | | | |

*Exposure summaries include strong, very strong, and severe MMI classes. Hazard data source: USGS.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science
for Kern County, 2019

Figure 4-33 S. San Andreas Mojave N. Exposure and Snapshot Map



Population

Figure 4-34 and Table 4-33 summarize population exposure results for the S. San Andreas Mojave N. scenario. The entire population of Kern County is potentially exposed to direct and indirect impacts from earthquakes. The degree of exposure depends on many factors, including the age and construction type of dwellings, the soil types on which their homes are constructed, and proximity to fault location. Whether directly or indirectly impacted, the entire population will have to deal with the consequences of earthquakes to some degree. Business interruption could keep people from working, road closures could isolate populations, and loss of functions of utilities could impact populations that suffered no direct damage from an event itself. (United States Geological Survey, 1981)

Figure 4-34: Population Exposure to S. San Andreas Mojave N. Scenario (Unincorporated County)

Population Exposure

*Population Count by Exposure
to USGS 50-YR Shake Intensities
(Unincorporated County)*

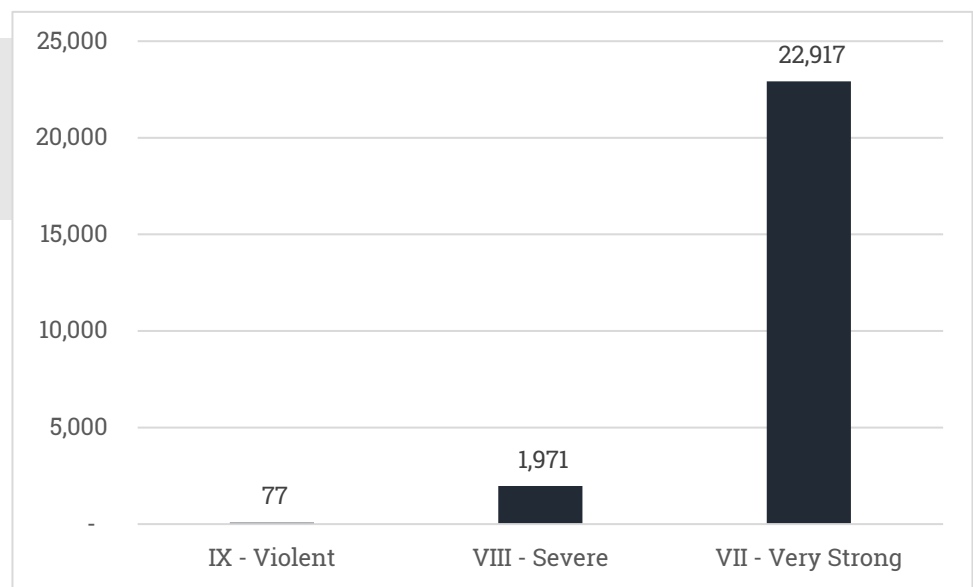


Table 4-33: Population Exposure to S. San Andreas Mojave N. Scenario (Unincorporated County)

| Total Population | | |
|-----------------------|---------|--|
| Unincorporated County | 299,935 | |

| Shake Severity Zone | Population Count | % of Total |
|---------------------|------------------|--------------|
| IX - Violent | 77 | 0.03% |
| VIII - Severe | 1,971 | 0.66% |
| VII - Very Strong | 22,917 | 7.64% |
| Total | 24,965 | 8.32% |

**Property**

An earthquake vulnerability assessment depends on determining two important factors:

- (1) the year in which seismic codes were initially adopted and enforced by the jurisdiction having authority, and
- (2) the year in which seismic codes were improved and enforced.

These are known as benchmark years. (Federal Emergency Management Agency, 2020) The County adheres to the 2019 California Building Code. Table 4-34 provides a listing of code improvements. Benchmark years are indicated in bold. For reference, Table 4-35 provides the definitions of building types.

Table 4-34: Seismic Benchmark Years

| Code Edition | Effective Date | Building Type |
|--------------|--------------------------|-------------------------------------|
| (2019 CBC) | January 1, 2020 | |
| (2016 CBC) | January 1, 2017 | |
| (2013 CBC) | January 1, 2014 | N/A |
| (2012 IBC) | | |
| (2010 CBC) | January 1, 2011 | N/A |
| (2009 IBC) | | |
| (2007 CBC) | January 1, 2008 | N/A |
| (2006 IBC) | | |
| (2001 CBC) | November 1, 2002 | N/A |
| (1997 UBC) | | |
| (1998 CBC) | July 1, 1999 | W1a, S2, S2a, RM1, PC1, PC1a |
| (1997 UBC) | | |
| (1994 UBC) | January 7, 1996 | S1, S1a, C1, C2, C2a, RM2 |
| (1991 UBC) | November 29, 1992 | URM |
| (1988 UBC) | April 29, 1990 | S2 & S2a |
| (1985 UBC) | November 8, 1987 | N/A |
| (1982 UBC) | December 9, 1984 | N/A |
| (1979 UBC) | June 21, 1981 | N/A |
| (1976 UBC) | November 1, 1977 | W1 and W2 |
| (1973 UBC) | April 13, 1975 | N/A |
| (1970 UBC) | August 29, 1971 | N/A |
| (1967 UBC) | July 12, 1968 | N/A |
| (1964 UBC) | July 1, 1965 | N/A |
| (1961 UBC) | August 17, 1962 | N/A |
| (1958 UBC) | October 1, 1958 | N/A |
| (1955 UBC) | January 1, 1956 | N/A |
| (1955 UBC) | January 1, 1956 | N/A |
| (1946 UBC) | June 18, 1948 | N/A |
| (1943 UBC) | July 13, 1944 | N/A |



| Code Edition | Effective Date | Building Type |
|--------------|--------------------|---------------|
| (1940 UBC) | April 4, 1941 | N/A |
| (1937 UBC) | September 10, 1937 | N/A |
| (1930 UBC) | March 20, 1933 | N/A |

Source: ASCE 41-13. County Building Dept.

Table 4-35: Definitions of FEMA Building Types

| FEMA Building Type | Definition |
|--------------------|---|
| W1 | Wood Light Frame |
| W1A | Wood Light Frame (multi-unit residence) |
| W2 | Wood Frame (commercial and industrial) |
| S1 | Steel Moment Frames |
| S2 | Steel-braced Frames |
| S3 | Steel Light Frames |
| S4 | Steel Frames with concrete shear walls |
| S5 | Steel Frames with infill masonry walls |
| C1 | Concrete Moment Frames |
| C3 | Concrete Frames with infill masonry shear walls |
| C2 | Concrete Shear Walls |
| PC1 | Tilt-Up Concrete shear walls |
| PC2 | Precast Concrete Frames with shear walls |
| RM1 | Reinforced Masonry Walls with flexible diaphragms |
| RM2 | Reinforced Masonry Walls with stiff diaphragms |
| URM | Unreinforced Masonry Bearing Walls |

Building Ages

The California State Building Code Council incorporates significant milestones in building and seismic code requirements that directly affect the structural integrity of development in California. Using these seismic benchmark years, the Steering Committee used county-provided assessor's data to identify the number of parcels by date of construction or improvement. Table 4-36 shows the results of this analysis. The number of parcels does not reflect the number of total housing units, as many multi-family units and attached housing units are reported on one parcel.

**Table 4-36: Age of Structures in Kern County**

| Time Period | No. of County Parcels with Improvements in Period | Significance of Time Frame |
|----------------|---|--|
| Pre-1933 | 3,915 | Before 1933, there were no explicit earthquake requirements in building codes. State law did not require local governments to have building officials or issue building permits. |
| 1933-1940 | 5,869 | Before the first strong motion recording was made in 1940. |
| 1941-1960 | 22,488 | Prior to when the Structural Engineers Association of California published guidelines on earthquake construction in 1960. |
| 1961-1975 | 12,790 | Prior significant improvements to lateral force requirements in 1975. |
| 1976-1994 | 27,043 | Prior to the Uniform Building Code being amended to include provisions for seismic safety in 1994. |
| 1995 - present | 18,058 | Seismic code is currently enforced. |

Source: Kern County Assessor

Soft-Story Buildings

A soft-story building is a multi-story building with one or more floors that are “soft” due to structural design. If a building has a floor that is 70-percent less stiff than the floor above it, it is considered a soft-story building. These floors can be especially dangerous in earthquakes, because they cannot cope with the lateral forces caused by the swaying of the building during a quake. As a result, the soft story may fail, causing what is known as a *soft story collapse*. Soft stories are typically associated with retail spaces and parking garages, often on the lower stories of a building. A soft story collapse can cause the rest of the building to collapse as well, causing serious structural damage that may render the structure totally unusable.

Soft-story collapse is one of the leading causes of earthquake damage to private residences. The level of vulnerability due to this type of construction within the planning area is not currently known. This type of data should be generated to support future earthquake risk assessments.

Property Value Exposure

An inventory of current market values and content value was completed using County Assessor’s parcel data. GIS was used to create centroids, or points, to represent the center of each parcel polygon, assumed to be the location of the structure for analysis purposes. The centroids were then superimposed with the USGS probabilistic shaking severity zones to determine the at-risk structures. Table 4-37 shows the count of at-risk parcels and their associated building and content exposure values to the S. San Andreas Mojave N. earthquake scenario.

**Table 4-37: Parcel Exposure to S. San Andreas Mojave N. Scenario (Unincorporated County)**

| | Total Parcels | Total Market Value (\$) (000) | Total Content Value (\$) (000) | Total Value (\$) (000) |
|-----------------------|------------------|-------------------------------|--------------------------------|------------------------|
| Unincorporated County | 91,455 | \$ 10,906,675 | \$ 5,453,338 | \$ 16,360,013 |

| Shake Severity Zone | Improved Res. Parcel Count | % of Total | Market Value Exposure (\$) (000) | Content Value Exposure (\$) (000) | Total Exposure (\$) (100) | % of Total |
|---------------------|-------------------------------------|--------------|-------------------------------------|--------------------------------------|---------------------------|--------------|
| IX - Violent | 84 | 0.1% | \$ 12,206 | \$ 6,103 | \$ 18,309 | 0.1% |
| VIII - Severe | 1,884 | 2.1% | \$ 177,763 | \$ 88,881 | \$ 266,644 | 1.6% |
| VII - Very Strong | 9,144 | 10.0% | \$ 1,305,581 | \$ 652,790 | \$ 1,958,371 | 12.0% |
| Total | 11,112 | 12.2% | \$1,495,549 | \$ 747,775 | \$ 2,243,324 | 13.7% |

**Currency in Thousands*

Critical Facilities and Infrastructure

Earthquakes pose numerous risks to critical facilities and infrastructure. Seismic risks, or losses, that are likely to result from exposure to seismic hazards include:

- Utility outages.
- Economic losses for repair and replacement of critical facilities, roads, buildings, etc.
- Indirect economic losses such as income lost during downtime resulting from damaged public infrastructure.
- Roads or railroads that are blocked or damaged can prevent access throughout the area and can isolate residents and emergency service providers needing to reach vulnerable populations or to make repairs.

Linear utilities and transportation routes are vulnerable to rupture and damage during and after a significant earthquake event. The cascading impact of a single failure can have affects across multiple systems and utility sectors. Degrading infrastructure systems and future large earthquakes with epicenters near critical regional infrastructure could result in system outages that last weeks for the most reliable systems, and multiple months for others.

All critical facilities in Kern County are exposed to the earthquake hazard. Table 4-38 lists the number of each type of facility in the Violent, Severe, and Very Severe MMI severity zones within the County, described in Table 4-30.



Table 4-38: Critical Facility Exposure to S. San Andreas Mojave N. Scenario (Unincorporated County)

| Critical Infrastructure - S. San Andreas Mojave N. Scenario | | | |
|---|--------------|---------------|-------------------|
| Infrastructure Type | IX - Violent | VIII - Severe | VII - Very Strong |
| Essential Facility | - | 2 | 5 |
| EOC | - | - | - |
| Fire Station | - | 1 | 4 |
| Hospital | - | - | - |
| Police | - | - | - |
| Sheriff | - | 1 | 1 |
| High Potential Loss | 1 | 15 | 42 |
| Adult Residential facility | - | - | 2 |
| Child Care Center | - | 2 | 4 |
| Dam | - | - | 4 |
| Family Child Care Home | - | - | 10 |
| Foster Family Agency | - | - | - |
| Historic Building | - | - | - |
| Home Care Organization | - | - | - |
| Library | - | 1 | 1 |
| Residential Child Care | - | - | - |
| Residential Elder Care | - | - | - |
| School | - | 6 | 8 |
| County Insured Asset* | - | 4 | 8 |
| Cooling Center | - | 1 | 1 |
| Healthcare Facility | 1 | - | - |
| Special Needs Facility | - | 1 | 4 |
| City Hall | - | - | - |
| Historic Site | - | - | - |
| Transportation and Lifeline | 16 | 89 | 1536 |
| Airport | - | - | 1 |
| Bridge | 2 | 9 | 44 |
| Power Plant | - | 5 | 31 |
| Substation | - | 3 | 30 |
| Transmission Line Tower | 14 | 70 | 1342 |
| NG Facility | - | 2 | 18 |
| Wind Turbine | - | - | 70 |
| Bus Facility | - | - | - |
| Potable Water Facility | - | - | - |
| Waste Water Facility | - | - | - |
| Oil Facility | - | - | - |
| Railroad Facility | - | - | - |
| Grand Total | 17 | 106 | 1583 |

* These insured assets may include critical infrastructure already represented in other Infrastructure Types. For more information on these insured assets, see the Damage Estimation at Section 4.5.4.8.2.



HazMat Fixed Facilities

Earthquakes can produce hazardous materials (HazMat) threats at very high levels. Depending on the year of build and construction of each facility containing HazMat, the earthquake-initiated hazardous material release (EIHR) potential will vary. HazMat contained within masonry or concrete structures built before certain benchmark years may be particularly vulnerability.

Utilities

Linear utilities and transportation infrastructure would likely suffer considerable damage in the event of an earthquake. Due to the amount of infrastructure and sensitivity of utility data, linear utilities are difficult to analyze without further investigating individual system components. Table 4-39 provides best available linear utility data; it should be assumed that these systems are exposed to breakage and failure.

Table 4-39: Lifeline Exposure S. San Andreas Mojave N. Scenario (Unincorporated County)

| Lifelines (miles) – S. San Andreas Mojave N. Scenario | | | |
|---|--------------|---------------|-------------------|
| Infrastructure Type (Linear) | IX - Violent | VIII - Severe | VII - Very Strong |
| Levee | - | 5.09 | 92.39 |
| NG Pipeline | 0.79 | 5.73 | 217.67 |
| Railroad | - | - | 19.77 |
| Street | 21.12 | 207.60 | 1846.22 |
| 4WD trail | 1.84 | 5.25 | 20.78 |
| 4WD trail, major | - | 0.18 | - |
| Alley | - | 2.64 | 0.59 |
| Cul-de-sac | - | 0.54 | 0.20 |
| Driveway | 0.62 | 1.03 | 5.24 |
| Interstate | 1.75 | 11.04 | 92.67 |
| Local road | 10.97 | 121.03 | 791.37 |
| Local road, major | 2.42 | 53.98 | 594.14 |
| Primary highway | - | - | - |
| Ramp | 0.75 | 1.87 | 15.63 |
| Road, parking area | - | - | 2.73 |
| Service road | - | 2.42 | 1.15 |
| State/county highway | 2.07 | 7.46 | 200.12 |
| State/county highway, major | - | - | - |
| Thoroughfare, major | 0.70 | 0.15 | 121.61 |
| Walkway | - | - | - |
| Transmission Line | 5.70 | 25.85 | 515.63 |
| Grand Total | 27.62 | 244.28 | 2691.67 |



Water Supply Utilities

Kern County's water supply is mostly dependent on snowmelt runoff in the mountains, some of which is captured in reservoirs, and groundwater resources in the Valley and Desert regions. Kern County receives water from external sources that include the State Water Project and Central Valley Project. (Kern County MJHMP, 2014)

The Kern River provides most of the water to Kern County via Lake Isabella. Lake Isabella is on solid ground and expected to be usable after a major earthquake, but any disruption to water deliver infrastructure from an earthquake will affect the ability of Lake Isabella to supply water to populations of Kern County.

Natural Gas Utilities

Several common characteristics of earthquakes and their impacts on natural gas safety are:

- Earthquake ground shaking will generally lead to substantially more instances of building damage than fire ignitions.
- Ground motions that are sufficient enough to damage buildings are the most likely to impact utility and customer gas systems and create a potential for gas-related fire ignitions.
- The number of post-earthquake fire ignitions related to natural gas can be expected to be 20% to 50% of the total post-earthquake fire ignitions.
- The consequences of post-earthquake fire ignitions for residential gas customers are largely financial. A fire ignition only becomes a life safety concern when inhabitants are unable to exit the building following earthquakes. Experience in past earthquakes indicates that egress from earthquake damaged single-family homes is generally possible because of the limited structure height, low numbers of occupants, and multiple direct escape paths through doors and windows. (Earthquake Country Alliance, 2020)
- The potential life safety dangers from post-earthquake fires are considerably more serious in seismically vulnerable apartment or condominium buildings since they provide a greater chance for damaging the structure and trapping the occupants. (United States Geological Survey, 2020)

SoCal Gas and Pacific Gas & Electric, Kern County's natural gas utility providers, are responsible for designing, constructing, maintaining, and operating the natural gas system safely and efficiently. This includes all the facilities used in the delivery of gas to any customer up to and including the point of delivery to the customers' gas piping system. (SoCalGas, 2020) (City of Taft, n.d.)

Gas customers and Kern County residents are responsible for using gas safely on their property and within their buildings and other facilities. Customers meet this responsibility by maintaining their gas appliances in good working condition, assuring that only qualified individuals are engaged to modify or



maintain their gas service and facility piping, and knowing what to do before and after earthquakes to maintain the safe operation of their natural gas service.

The following conditions, when combined, pose the greatest risk for post-earthquake fire damage:

1. Buildings are unoccupied and individuals are not present to mitigate damage to gas systems or control small fires.
2. High building density or dense, fire-prone vegetation.
3. High wind and low humidity weather conditions.
4. Damage to water systems that severely limits firefighting capabilities.
5. Reduced responsiveness of firefighting resulting from impaired communications, numerous requests for assistance, direct damage to fire stations, restricted access because of traffic congestion and damaged roadways, and delays in mutual aid from neighboring fire districts.
(Science Daily, 2013)

Telecommunication

Telecommunication systems will be affected by system failure, overloads, loss of electrical power and possible failure of some alternate power systems. Immediately following an event, numerous failures will occur, compounded by system use overloads. This will likely disable up to 80% of the telephone system for one day. County UHF/VHF and microwave radio systems are expected to operate at 40% effectiveness the first 12 hours following an earthquake, increase to 50% for the second 12 hours then begin to slowly decline to approximately 40% within 36 hours.

Microwaves systems will likely be 30% or less effective following a major earthquake. Damage to natural gas facilities serving the Kern County communities will consist primarily of isolated breaks in major transmission lines. Breaks in mains and individual service connections within the distribution system will be significant, particularly near the fault zones. These many leaks pose a fire threat in these susceptible areas of intense ground shaking and/or poor ground near the shoreline. Breaks in the system will affect large portions of the County and restoration of natural gas service could be significantly delayed.
(International Telecommunication Union, 2013)

Public Schools

The Field Act was enacted on April 10, 1933, one month after the Long Beach Earthquake in which many schools were destroyed or suffered major damage. Public school construction has been governed by the Field Act since 1933 and enforced by the Division of the State Architect. In any community, public schools constructed under the Field Act after 1978 are likely to be among the safest buildings in which to experience a major earthquake. The Field Act requires:



- School building construction plans to be prepared by qualified California licensed structural engineers and architects.
- Designs and plans to be checked by the Division of the State Architect (DSA) for compliance with the Field Act before a contract for construction can be awarded.
- Qualified inspectors, independent of the contractors and hired by the school districts, to continuously inspect construction and verify full compliance with plans.
- The responsible architects and/or structural engineers to observe the construction periodically and prepare changes to plans (if needed) subject to approval by DSA.
- Architects, engineers, inspectors and contractors to file reports, under penalty of perjury, to verify compliance of the construction with the approved plans emphasizing the importance of testing and inspections to achieve seismically safe construction. Any person who violates the provisions or makes any false statement in any verification report or affidavit required pursuant to the Act, is guilty of a felony.

Private schools are not subject to the Field Act and fall solely under the jurisdiction of the local building departments and their requirements. Private schools are covered under the Private Schools Building Act of 1986, with the legislative intent that children attending private schools be afforded life safety protection similar to that of children attending public schools.

In the late 1960s regulations were put in place to have pre-Field Act (1933) buildings retrofitted, removed from school use or demolished. (Cal. Edu. Code § 15516, Appendix X, 1968) The Field Act also prohibits use of unreinforced masonry buildings as school buildings. Seismic building standards in general were greatly strengthened after significant damage to buildings was observed, especially in the 1971 San Fernando earthquake. The Field Act regulations in place since 1978 are considered adequate for most public school buildings in most cases. (GeoScienceWorld, 2003)

Transportation

Earthquake events can significantly impact bridges and overpasses which often provide the only access to some neighborhoods. Since soft soil regions generally follow floodplain boundaries, bridges that cross water courses are considered vulnerable.

Interstate 5 (I-5) is a major north-south route of the Interstate Highway System in the U.S. state of California. It begins at the Mexico-United States border at the San Ysidro crossing, goes north across the length of California and crosses into Oregon south of the Medford-Ashland metropolitan area. It is the more important and most used of the two major north south routes on the Pacific Coast. I-5 provides vital connectivity for Kern County to other cities and supply hubs in California. I-5 could become impassable after an earthquake event which could isolate the County until road crews are able to complete road restoration. Table 4-39 shows transportation infrastructure exposed to shake severity zones in the event of the S San Andreas Mojave N. earthquake scenario.



4.5.4.8.2 Earthquake Damage Estimation

This section provides estimations of damages to County insured assets and residential buildings in S San Andreas Mojave N. earthquake scenario. This section first looks at overall damages for County insured assets and residential buildings, then looks specifically at potential damage to various County insured assets according to type (e.g., administrative buildings, equipment and services, or recreation).

Hazus Earthquake damage data was generated using a Level 2 Hazus 4.2 analysis. Hazus is a FEMA software product that uses a GIS to analyze multiple factors influencing earthquake damage estimates including peak ground velocity (PGV), peak ground acceleration (PGA) and soil of a given scenario and geographic area. Once the location and size of a hypothetical earthquake is identified, Hazus software estimates the intensity of the ground shaking, the number of buildings damaged, the number of casualties, the damage to transportation systems and utilities, the number of people displaced from their homes, and the estimated cost of repair and clean up.

The parcel data defined in Section 4.4.2 was imported into Hazus as User Defined Facilities (UDF) serving as the basis for replacement and content cost as well as associated damage estimation and loss. The scenarios used for the Kern County Hazus analysis was the S. San Andreas Mojave North.

To understand building damage, damage outputs from Hazus are categorized into slight, moderate, and extensive damage. Ranges of damage are used to provide the user with an understanding of the building's physical condition. Table 4-40 provides a physical description of each damage state.

County assessor data does not include detailed information for tax exempt structures, such as federal and local government buildings. These data were added through the development of GIS data by utilizing insurance schedule tables for each municipality's insured assets.

While there are several limitations to the FEMA Hazus earthquake models, it does allow for potential loss estimation for each building construction category. County wide loss estimation results are summarized by building category type in Table 4-42 for the S San Andreas Mojave North 7.7 magnitude earthquake scenario. It is important to understand that the Hazus loss estimation values for earthquake are categorized in exceedance values. From reviewing Table 4-42, one can infer the probability of structures exceeding extensive damage is relatively low. However, if damage were to occur, the economic loss is averaged and summarized for each building type defined in the software.

Important to note: Loss estimation is worst case scenario. Loss estimation does not include damage to transportation routes, infrastructure, and other public and private utilities located throughout the County. An important concept in loss data is the "probability" of damage to exceed a certain degree. It is unlikely that buildings in County would receive "extensive" damage from earthquake shaking.

**Table 4-40: Hazus Building Damage Descriptions**

| Damage State | Damage Description |
|---------------------|---|
| Slight | Small plaster cracks at corners of door and window openings and wall/ceiling intersections; small cracks in masonry chimneys and masonry veneers. Small cracks are assumed to be visible with a maximum width of less than 1/8 inch (cracks wider than 1/8 inch are referred to as "large" cracks). |
| Moderate | Large plaster or gypsum-board cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by small cracks in stucco and gypsum wall panels; large cracks in brick chimneys; toppling of tall masonry chimneys. |
| Extensive | Large diagonal cracks across shear wall panels or large cracks at plywood joints; permanent lateral movement of floors and roof; toppling of most brick chimneys; cracks in foundations; splitting of wood sill plates and/or slippage of structure over foundations. |
| Complete | Structure may have large permanent lateral displacement or be in imminent danger of collapse due to cripple wall failure or failure of the lateral load resisting system; some structures may slip and fall off the foundation; large foundation cracks. Three percent of the total area of buildings with Complete damage is expected to be collapsed, on average. |



Damage Estimation

Hazus 4.2 was used to estimate the loss potential to residential properties and Government service facilities exposed to S San Andreas Mojave N. earthquake scenario. Hazus reports the damage potential and loss potential from a given earthquake scenario in four categories: slight damage, moderate damage, extensive damage, and economic loss. Economic loss consists of estimations on the cost of repair and replacement to damaged or destroyed buildings and contents, relocation expenses, capital-related income, wage losses, and rental income losses. The results shown in Table 4-41 summarizes residential property loss with county insurance holding data.

Table 4-41: Loss Estimations for S. San Andreas Mojave N. Scenario

| Building Type | Average of Potential Damage to Exceed "Slight" | Average of Potential Damage to Exceed "Moderate" | Average of Potential Damage to Exceed "Extensive" | Average Economic Loss for Each Building Category | Sum of Economic Loss | Proportion of Loss (%) |
|----------------------------------|--|--|---|--|-----------------------|------------------------|
| County Insured Assets | | | | | | |
| Government Service [†] | 12.6% | 4.7% | 1.0% | \$ 59,161 | \$ 19,700,776 | 14.1% |
| Emergency Response ^{††} | 10.5% | 4.2% | 1.3% | \$ 10,058 | \$ 663,816 | 0.5% |
| Residential | | | | | | |
| Single Family | 9.0% | 1.3% | 0.1% | \$ 1,394 | \$ 108,691,550 | 77.8% |
| Mobile Home | 9.5% | 1.1% | 0.1% | \$ 898 | \$ 1,705,888 | 1.2% |
| Multi Family Duplex | 9.9% | 1.7% | 0.2% | \$ 872 | \$ 7,034,332 | 5.0% |
| Multi Family 3-4 Units | 9.4% | 1.5% | 0.1% | \$ 1,033 | \$ 1,840,423 | 1.3% |
| Multi Family 5-9 Units | 11.9% | 2.8% | 0.2% | \$ 610 | \$ 14,638 | 0.0% |
| Multi Family 10-19 Units | 4.1% | 0.3% | 0.0% | \$ 826 | \$ 1,652 | 0.0% |
| Multi Family 20-49 Units | 3.5% | 0.3% | 0.0% | \$ 5,658 | \$ 28,291 | 0.0% |
| Total | | | | | \$ 139,681,366 | |

[†]Government Services includes: admin, airport, animal, building, bus, correctional, equipment, golf course, health, leased, library, misc, museum, office, park, recreation, relay, shop, storage, vacant, veterans, warehouse, water, yard

^{††}Emergency Response includes Sherriff Offices and Fire Departments

Note: Total Inventory Values

1 - Building Replacement Costs = \$11,868,231,028.60

2 - Content Replacement Costs = \$5,673,439,613.70

3 - Total Value = \$17,541,670,642.30

**Damage Estimation for County Owned Property**

Hazus 4.2 was used to estimate the loss potential to county facilities exposed to the S. San Andreas Mojave N. earthquake scenario. Hazus reports the damage potential and loss potential from a given earthquake scenario in four categories: slight damage, moderate damage, extensive damage, and economic loss. Economic loss consists of estimations on the cost of repair and replacement to damaged or destroyed buildings and contents, relocation expenses, capital-related income, wage losses, and rental income losses.

County insurance data was obtained and formatted for use in Hazus for a detailed damage estimation. This dataset has additional information including number of floors, building value, content value, and construction type that greatly enhances results from default Hazus database.

The results shown in Table 4-42 summarizes essential facility and high potential loss facilities with county insurance holding data.

Table 4-42: Loss Estimations for S. San Andreas Mojave N. Scenario

| Row Labels | Bldg Count | Bldg Cost | Content Cost | Total Value | PD Ex. Slight | PD Ex. Moderate | PD Ex. Extensive | Economic Loss | Loss % |
|------------------------------------|------------|----------------------|----------------------|----------------------|---------------|-----------------|------------------|---------------------|-------------|
| Administrative & Office | 68 | \$359,226,983 | \$118,496,490 | \$477,723,473 | 11.6% | 4.0% | 0.6% | \$10,931,124 | 2.3% |
| Admin | 26 | \$281,036,365 | \$2,180,986 | \$283,217,351 | 9.2% | 2.2% | 0.2% | \$9,318,203 | 3.3% |
| Building | 12 | \$22,885,686 | \$1,192,850 | \$24,078,536 | 10.7% | 4.5% | 0.9% | \$632,278 | 2.6% |
| Office | 30 | \$55,304,932 | \$115,122,654 | \$170,427,586 | 14.1% | 5.4% | 0.9% | \$980,644 | 0.6% |
| Equipment & Storage | 51 | \$57,237,326 | \$5,149,231 | \$62,386,557 | 19.0% | 9.7% | 2.9% | \$3,617,495 | 5.8% |
| Equipment | 5 | \$127,977 | \$3,302,171 | \$3,430,148 | 52.1% | 30.2% | 7.1% | \$3,389 | 0.1% |
| Shop | 11 | \$41,016,235 | \$837,660 | \$41,853,895 | 14.2% | 7.6% | 2.0% | \$2,515,277 | 6.0% |
| Storage | 20 | \$6,039,390 | \$446,971 | \$6,486,361 | 12.1% | 4.8% | 0.9% | \$663,345 | 10.2% |
| Warehouse | 6 | \$6,387,091 | \$526,728 | \$6,913,819 | 15.6% | 4.1% | 0.3% | \$195,036 | 2.8% |
| Yard | 9 | \$3,666,633 | \$35,701 | \$3,702,334 | 23.7% | 15.4% | 7.8% | \$240,448 | 6.5% |
| Other Assets | 42 | \$6,182,000 | \$26,036,768 | \$32,218,768 | 8.4% | 2.5% | 0.5% | \$175,017 | 0.5% |
| Leased | 31 | \$2,397,883 | \$20,982,229 | \$23,380,112 | 7.1% | 1.2% | 0.1% | \$45,609 | 0.2% |
| Misc | 3 | \$203,622 | \$4,770,874 | \$4,974,496 | 27.5% | 16.2% | 5.5% | \$1,427 | 0.0% |
| Relay | 4 | \$154,576 | \$21,384 | \$175,960 | 1.1% | 0.1% | 0.0% | \$207 | 0.1% |
| Vacant | 4 | \$3,425,919 | \$262,281 | \$3,688,200 | 11.1% | 4.7% | 0.5% | \$127,775 | 3.5% |



| Row Labels | Bldg Count | Bldg Cost | Content Cost | Total Value | PD Ex. Slight | PD Ex. Moderate | PD Ex. Extensive | Economic Loss | Loss % |
|-----------------------|------------|----------------------|----------------------|------------------------|---------------|-----------------|------------------|---------------------|-------------|
| Recreation | 107 | \$48,550,442 | \$8,536,674 | \$57,087,116 | 14.6% | 4.9% | 0.8% | \$1,056,087 | 1.8% |
| Golf Course | 3 | \$2,927,248 | \$3,000 | \$2,930,248 | 8.7% | 0.8% | 0.0% | \$32,601 | 1.1% |
| Museum | 76 | \$19,615,343 | \$6,634,355 | \$26,249,698 | 16.7% | 5.8% | 1.0% | \$521,824 | 2.0% |
| Park | 9 | \$10,016,887 | \$1,409,407 | \$11,426,294 | 5.6% | 1.0% | 0.1% | \$116,025 | 1.0% |
| Recreation | 19 | \$15,990,964 | \$489,912 | \$16,480,876 | 11.8% | 3.5% | 0.4% | \$385,637 | 2.3% |
| Services | 121 | \$438,023,808 | \$56,317,933 | \$494,341,741 | 8.7% | 3.1% | 0.8% | \$3,582,045 | 0.7% |
| Animal | 1 | \$528,591 | \$1,000 | \$529,591 | 16.3% | 7.7% | 1.2% | \$23,216 | 4.4% |
| Correctional | 27 | \$288,265,742 | \$193,074 | \$288,458,816 | 3.7% | 1.0% | 0.1% | \$1,191,262 | 0.4% |
| Fire | 47 | \$40,345,749 | \$4,818,942 | \$45,164,691 | 11.6% | 4.6% | 1.5% | \$577,059 | 1.3% |
| Health | 5 | \$23,063,560 | \$3,690,348 | \$26,753,908 | 10.4% | 2.1% | 0.1% | \$627,690 | 2.3% |
| Library | 18 | \$57,750,901 | \$46,750,699 | \$104,501,600 | 8.5% | 2.0% | 0.2% | \$680,012 | 0.7% |
| Sheriff | 19 | \$14,114,343 | \$351,792 | \$14,466,135 | 7.7% | 3.3% | 0.9% | \$86,757 | 0.6% |
| Veterans | 1 | \$672,868 | \$184,792 | \$857,660 | 4.5% | 0.7% | 0.0% | \$4,495 | 0.5% |
| Warehouse | 1 | \$1,038,472 | \$50,193 | \$1,088,665 | 17.7% | 4.1% | 0.3% | \$32,328 | 3.0% |
| Water | 2 | \$12,243,582 | \$277,093 | \$12,520,675 | 11.6% | 5.0% | 0.7% | \$359,227 | 2.9% |
| Transportation | 10 | \$52,335,358 | \$5,564,962 | \$57,900,320 | 15.5% | 7.4% | 2.0% | \$1,002,824 | 1.7% |
| Airport | 9 | \$52,334,358 | \$5,563,962 | \$57,898,320 | 10.3% | 3.2% | 0.4% | \$1,002,561 | 1.7% |
| Bus | 1 | \$1,000 | \$1,000 | \$2,000 | 62.4% | 44.7% | 16.2% | \$263 | 13.2% |
| Grand Total | 399 | \$961,555,917 | \$220,102,058 | \$1,181,657,975 | 12.2% | 4.6% | 1.0% | \$20,364,592 | 1.7% |

4.5.4.9 Future Trends in Development

Land use in the planning area will be directed by general plans adopted under California's General Planning Law. The safety elements of the general plans establish standards and plans for the protection of the community from hazards. The information in this plan provides the participating partners a tool to ensure that there is no increase in exposure in areas of high seismic risk. Development in the planning area will be regulated through building standards and performance measures so that the degree of risk will be reduced. The geologic hazard portions of the planning area are heavily regulated under California's General Planning Law. The International Building Code establishes provisions to address seismic risk.



4.5.4.10 Earthquake Hazard Problem Statements:

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Earthquake problem statements for all participating jurisdictions are listed in Table 4-43; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. See Table 5-6 for a full list of mitigation actions and the corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-43 and Table 5-6.

Table 4-43 Earthquake Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|------------|-----------------|---|----------------|---|--|
| ps-EQ-KC-242 | Earthquake | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | Older construction and particularly unreinforced masonry (URM) buildings within the County will pose hazards during earthquakes. | ma-EQ-KC-102, ma-EQ-KC-295, ma-AH-KC-111 |
| ps-EQ-KC-243 | Earthquake | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | Historic buildings can be more susceptible to ground shaking since many of these buildings have weakened with age and were built before the use of building codes. | ma-EQ-KC-295, ma-EQ-KC-296, ma-EQ-KC-297, ma-EQ-KC-307 |
| ps-EQ-KC-244 | Earthquake | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects | County of Kern | The following County assets are located in severe or violent shakes zone for the S. San Andreas Mojave N. EQ scenario: Pine Mtn Fire Station, Kern Co. Fire Station 55, Frazier Park Branch Kern Co. Library, Frazier Park Rec Bldg, Frazier Park Fire Station, Wanda Kirk Branch Kern Co. Library, Hummel Hall Community Center, Rosamond Fire Station, Rosamond Rec Center, Search and Rescue Desert Unit, and Lebec Maintenance Yard. Table 4-42 in Vol. 1 also lists damage estimation of County facilities for this EQ scenario | ma-EQ-KC-295, ma-EQ-KC-296, ma-EQ-KC-307 |



| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|------------|-----------------|--|----------------|--|--|
| ps-EQ-KC-245 | Earthquake | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects | County of Kern | The following County assets are located in severe shake zones for the 7.2 white wolf EQ scenario: Kern Co. Fire Station 55, Tejon Fire Station, Park Home (KCAC) special needs facility, DAI Break residential facility, Bear Valley Fire Station, Kern Co. Fire Station 16, Keene Fire Station, Kern Co. Fire Station 11, Book Mobile 1 Library. | ma-EQ-KC-295, ma-EQ-KC-296, ma-EQ-KC-307 |
| ps-EQ-KC-246 | Earthquake | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | The following County bridges have been identified as poor quality by the County and could be severely damaged by an earthquake: East of Harbor Rd. (#50C0261) .5 Mi N/O Rnd Mtn Rd. (#50C0085) 2.9 Mi E State HWY 43 (#50C0118) .6 Mi N of RTE 178 (#50C0195) E of Buena Vista Dr. (#50C0018) | ma-EQ-KC-305 |
| ps-EQ-KC-247 | Earthquake | Victim | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | Shallow ground water near planned development areas in south Bakersfield should be evaluated for liquefaction potential. | ma-EQ-KC-306 |
| ps-EQ-KC-248 | Earthquake | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | Tenant improvements and building remodels, including non-structural retrofits, may not have included seismic upgrades | ma-EQ-KC-296 |



4.5.5 Wildfire Hazard Profile

A wildfire is any uncontrolled fire occurring on undeveloped land that requires fire suppression. Wildfires can be ignited by lightning or by human activity such as smoking, campfires, equipment use, and arson. The 2018 California State Hazard Mitigation Plan provides the following definition of wildfires:



any free-burning vegetative fire that initiates from an unplanned ignition, whether natural (e.g., lightning) or human-caused (e.g., powerlines, mechanical equipment, escaped prescribed fires), where the management objective is full suppression. (CalOES, 2018, p. 507)

Wildfires are costly, putting lives and property at risk and compromising rivers and watersheds, open space, timber, range, recreational opportunities, wildlife habitats, endangered species, historic and cultural assets, scenic assets, and local economies. Vulnerability to flooding increases due to the destruction of forest and ground cover within watersheds. The potential for significant damage to life and property increases in areas where development is adjacent to densely vegetated areas, known as wildland urban interface (WUI) areas. (Federal Emergency Management Agency, 2020)

While some fires are allowed to burn naturally in order to maintain or restore the health of forest lands, out of control wildfires need to be prevented through cooperative, community, and land management planning. (United States Forest Service, n.d.)

4.5.5.1 Local Conditions Relating to Wildfire

Kern County spans the southern extent of the Central Valley floor. The County is flanked by the southern slope of the coastal mountain ranges to the west and the southern slope of the eastern Sierra Nevada to the east, both mountain ranges are surrounded by and intermingled with steep, hilly, grassy, wooded terrain—areas highly susceptible to wildfires. Such fires expose residential and other development within the County to an increased risk of conflagration, or extensive fire which destroys a great deal of land or property. The hilly/mountainous terrain on the east and west side of the Central Valley strongly influences both wildland fire behavior and fire suppression capabilities.

Wind is also a significant factor in the spread of fire, as fires spread faster, and burning embers are carried with the wind to adjacent exposed areas. In densely-populated areas, flying ember production is the principal driver of wildfire. A related concern in built-out areas is the relative density of vegetative fuels that can serve as sites for new spot fires within the urban core and spread to adjacent structures.



4.5.5.2 Plans, Policies, and Regulatory Environment

Wildfire Protection Responsibility in California

Local, state, tribal, and federal organizations all have legal and financial responsibility for wildfire protection. In many instances, two fire organizations have dual primary responsibility on the same parcel of land—one for wildfire protection and the other for structural fire protection. To address wildfire jurisdiction responsibilities, in 1981 the California State Legislature outlined various wildfire responsibilities, described below, in Cal. Pub. Res. Code § 4291.5 and Cal. Health & Safety Code § 13108.5:

- **Federal Responsibility Areas (FRAs)**—FRAs are fire-prone wildland areas that are owned or managed by a federal agency such as the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, or U.S. Department of Defense. Primary financial and rule-making jurisdiction authority rests with the federal land agency. In many instances, FRAs are interspersed with private land ownership or leases. Fire protection for developed private property is usually the responsibility of the relevant local government agency, not the federal land management agency.
- **State Responsibility Areas (SRAs)**—SRAs are lands in California where the California Department of Forestry and Fire Protection (CAL FIRE) has legal and financial responsibility for wildfire protection. CAL FIRE administers fire hazard classifications and building standard regulations in these areas. SRAs are defined as lands that:
 - are in the unincorporated county areas,
 - are not federally-owned,
 - have wildland vegetation cover rather than agricultural or ornamental plants,
 - have row crops or seasonal crops, or
 - have watershed, range, or forage values.

CAL FIRE adopts SRA boundaries and updates them every 5 years. Where SRAs contain structures or development, the relevant local government agencies have fire protection responsibility for those improvements.

- **Local Responsibility Areas (LRAs)**—LRAs include land in cities, cultivated agriculture lands, unincorporated non-flammable areas, and lands that do not meet the criteria for SRA or FRA. LRA fire protection is typically provided by city or county fire departments, fire protection districts, or by CAL FIRE under contract to local governments. LRAs may still include areas of flammable vegetation and WUI.

In 2012, as part of local General Plan requirements, California began requiring local governments in State Responsibility Areas (SRAs) and Very High Fire Hazard Severity Zones (VHFHSZ) to:

- Update their general plan safety elements to recognize specific wildfire risks in such areas,
- Adopt special findings when approving subdivisions in such areas, and



- Use wildfire safety guidelines and California Environmental Quality Act (CEQA) initial study wildfire hazards checklist updates issued by the Governor's Office of Planning and Research (OPR) when those become available. Cal. Gov. Code § 65040.20 and § 65302.5.

For further information on the details and implications of these Safety Element requirements, see Progress Summaries 3.F and 8.A of the 2018 California State Hazard Mitigation Plan.

Healthy Forests Restoration Act (2003)

The federal Healthy Forests Restoration Act (HFRA) appropriates funding to address five main sub-categories of the National Fire Plan (NFP): preparedness, suppression, reduction of hazardous fuels, burned-area rehabilitation, and state and local assistance to firefighters. Kern County Community CWPPs have integrated these sub-categories through the following four best practices:

1. identifying and prioritizing fuels reduction opportunities across the landscape,
2. addressing structural ignitability,
3. assessing community fire suppression capabilities, and
4. collaborating with stakeholders.

California Fire Code (2016)

Kern County has adopted the 2016 Edition of the California Fire Code to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. Section (§17.32) of the Kern County Fire Code applies the 2016 California Fire Code which describes what is required for a Fire Protection Plan, applicable to all new development within the Wildland-Urban Interface Fire Area. It stipulates that such a plan address water supply, access, fire resistance of buildings, fire protection systems and equipment, defensible space and vegetation management.

California Building Standards Code (2019)

The 2019 California Building Code, adopted by the County in 2020, includes materials and construction methods for exterior wildfire exposure and standards of quality for fire-resistant buildings. See Cal. Building Codes, Chapter 7a (2019).

Hazardous Environmental Conditions in Kern County Code, §17.32

The Kern County Code aids in enforcing wildfire prevention strategies via its regulation of potentially hazardous environmental conditions (§17.32). When the Fire Chief determines that hazardous environmental conditions necessitate restricted use of open flame or other ignition sources, the Fire Chief is authorized to prohibit the use or ignition of any such materials.



Required Operational Permits in Kern County Code, §17.32

An operational permit is required to ignite or cause to be ignited tumbleweeds, agricultural waste, or other combustible material. This is stipulated in the Rules and Regulations of the Air Pollution Control District with jurisdiction.

4.5.5.3 Past Events

There are four major factors that contribute to historic wildfire events:

1. Extreme vegetation diversity
2. Diverse fire weather and fire behavior
3. Dynamic fire history
4. Complex land use patterns

From 2010-2018 there were 22 wildfires burning over 2,000 acres in Kern County. These events are listed in Table 4-44 and displayed in Figure 4-36.

Table 4-44: Wildfire Events in Kern County 2000 Acres or Greater 2000-2018

| Date | Name | Size in Acres | Cause |
|-----------|---------------------------|---------------|---------------------------|
| 8/3/2018 | Tarina Fire | 3,516 | Tarina Fire |
| 7/7/2017 | Hawk Fire | 2,940 | Hawk Fire |
| 8/16/2016 | Cedar Fire | 29,101 | Cedar Fire |
| 6/23/2016 | Erskine Fire | 48,008 | Erskine Fire |
| 8/18/2014 | Way Fire | 3,882 | Way Fire |
| 6/13/2014 | Shirley Fire | 2,546 | Shirley Fire |
| 5/16/2013 | Grand Fire | 4,345 | Grand Fire |
| 8/10/2012 | Jawbone Complex Fire | 12,015 | Jawbone Complex Fire |
| 9/23/2011 | 65 Fire | 2,003 | 65 Fire |
| 9/11/2011 | Cattle Fire | 2,130 | Cattle Fire |
| 9/10/2011 | Black Fire | 2,578 | Black Fire |
| 9/10/2011 | Knob Fire | 2,710 | Knob Fire |
| 9/10/2011 | Indian Fire | 3,069 | Indian Fire |
| 9/10/2011 | North Fire | 3,439 | North Fire |
| 9/10/2011 | Reed Fire | 5,900 | Reed Fire |
| 9/10/2011 | Breckenridge Complex Fire | 25,223 | Breckenridge Complex Fire |
| 9/10/2011 | Comanche Fire | 25,939 | Comanche Fire |
| 9/4/2011 | Canyon Fire | 14,585 | Canyon Fire |
| 6/21/2011 | Quinn Fire | 3,139 | Quinn Fire |
| 6/19/2011 | Antelope Fire | 5,069 | Antelope Fire |
| 9/12/2010 | Canyon Fire | 9,336 | Canyon Fire |
| 7/25/2010 | Bull Fire | 16,448 | Bull Fire |
| 6/28/2008 | Piute Fire | 37,346 | Piute Fire |



| Date | Name | Size in Acres | Cause |
|-----------|-----------------|---------------|-----------------|
| 6/24/2007 | White Fire | 12,432 | White Fire |
| 12/7/2006 | Westside Fire | 4,025 | Westside Fire |
| 8/13/2006 | Quail Fire Fire | 4,770 | Quail Fire Fire |
| 8/7/2006 | Cottonwood Fire | 2,344 | Cottonwood Fire |
| 7/22/2006 | Ridge Fire | 2,417 | Ridge Fire |
| 9/3/2005 | Gorman Fire | 2,516 | Gorman Fire |
| 6/15/2002 | Borel Fire | 3,418 | Borel Fire |
| 8/1/2000 | King Fire | 5,106 | King Fire |

Recent Large Wildfire Events

Erskine Fire (2016)

The Erskine fire occurred near Lake Isabella in 2016. An investigation revealed that the fire began as a result of a private power line that wore down as it repeatedly rubbed against a tree. Ultimately, the Erskine Fire consumed approximately 48,008 acres and destroyed more than 280 residences. It was the most devastating fire in Kern County history and was California's second largest wildfire in 2016. (Kotowski, 2016)

Comanche Fire Complex (2011)

The Comanche Fire Complex consisted of four fires that burned in the Tehachapi Mountains just five miles southeast of Arvin in September, 2011. The fires started from lightning strikes and grew to 29,000 acres as wind fueled the growth. Evacuations were ordered for nearby residents while crews worked to control the fire.

Bull Fire (2010)

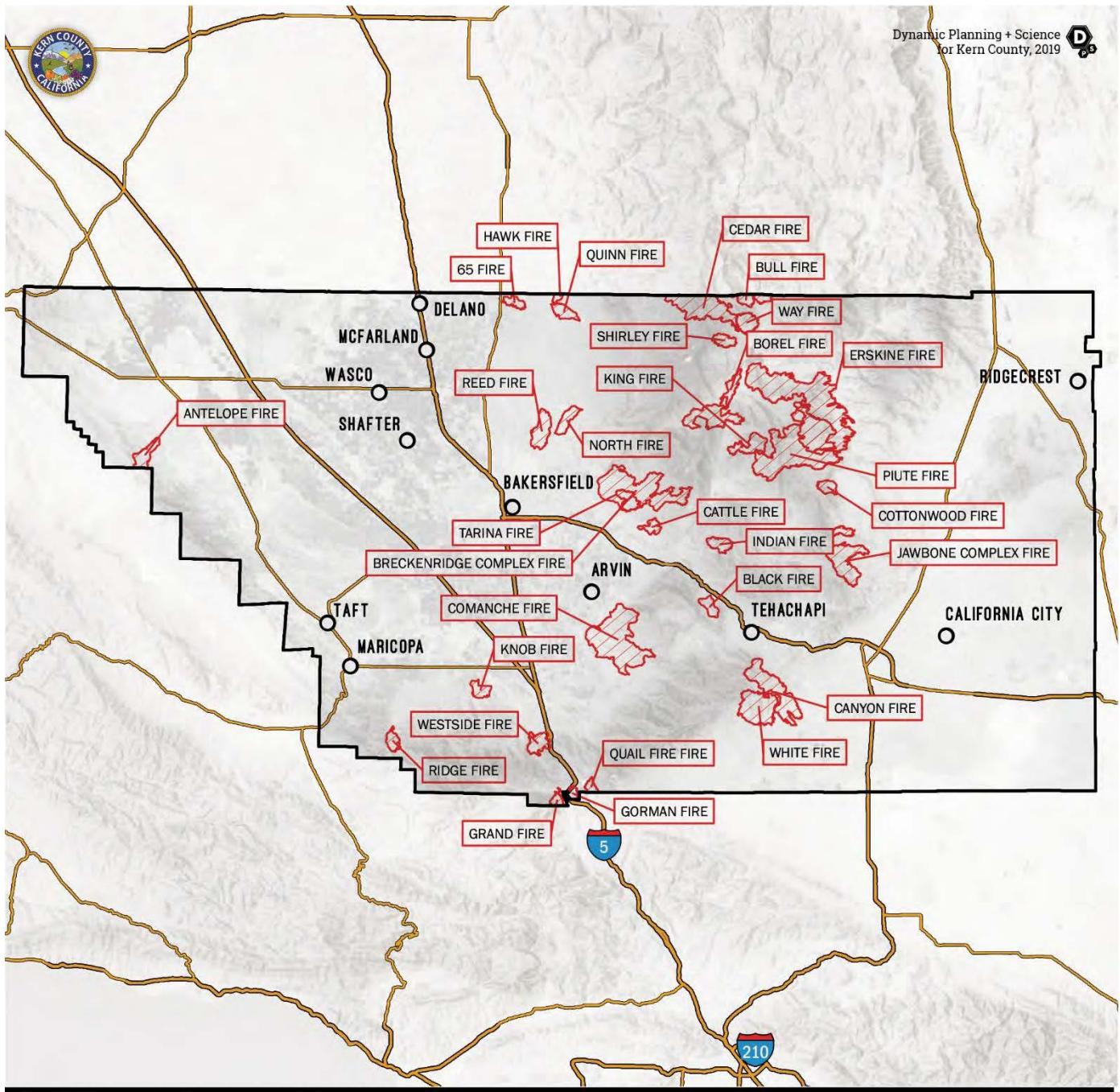
The Bull Fire was a human caused fire that occurred in a remote area at the bottom of Bull Run Creek Canyon in July, 2010. The Bull Fire threatened the communities of Riverkern and Kernville as the fire spread down the Bull Run Creek drainage and across the Kern River Canyon. The fire grew to over 16,000 acres, destroyed 16 structures, and was the largest wildfire of the 2010 California wildfire season. (CalFire, 2010)



Figure 4-35: 2016 Erskine Fire

Photo: Michael Cuffe (Patch, June, 2016)

See Figure 4-36 for locations of these historic fires.



HISTORIC FIRE OCCURRENCE KERN COUNTY

*Data sources: Cal Fire.

MAP LEGEND

— JURISDICTION

 FIRE PERIMETER

Figure 4-36: Historic Fire Occurrence Map (Fires Greater than 2,000 acres, 2000-2018)



4.5.5.4 Fire Hazard Severity Zones (FHSZs)

The County's hilly areas contain the major wildland fire hazard risks for residential structures and other development, characterized by steep slopes, poor fire suppression delivery access, inadequate water supply and highly flammable vegetation.

To help better refine areas of wildfire concern, CAL FIRE establishes and maps **Fire Hazard Severity Zones (FHSZ)**, or areas of significant fire hazards based on factors such as fuel, weather, terrain, and the number of days of moderate, high and extreme fire hazard. These zones define the application of various mitigation strategies to reduce risk associated with wildfires.

The FHSV model inputs frequency of fire weather, ignition patterns, expected rate-of-spread, and past fire history. It also accounts for flying ember production based on the area of influence where embers are likely to land and cause ignitions. The FHSZ model also is built from existing data and hazard constructs, and thus does not necessarily take into consideration significant land use and structural resiliency. The geography, weather patterns and vegetation in the planning area provide ideal conditions for recurring wildfires. See Figure 4-37 and Figure 4-38 for wildfire return intervals and fire severity zones. These maps are the basis for this wildfire risk assessment.

4.5.5.5 Frequency/ Probability of Future Occurrences

Generally, Kern County faces a wildland fire threat each and every year. Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in the air. These conditions, when combined with high winds and years of drought, increase the potential for a wildfire to occur. Urban wildfires often occur in those areas where development has expanded into the rural areas. A fire along this **wildland urban interface (WUI)** can result in major losses of property and structures. Generally, there are three major factors that sustain wildfires and allow for predictions of a given area's potential to burn: fuel, topography, and weather.

Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and volume. Fuel sources are diverse and include everything from dead tree needles and leaves, twigs, and branches to dead standing trees, live trees, brush, and cured grasses. Man-made structures and other associated combustibles may be considered fuel sources. The type of prevalent fuel directly influences the behavior of wildfire. Light fuels such as grasses burn quickly and serve as a catalyst for fire spread. The volume of available fuel is described in terms of Fuel Loading. Certain areas in and surrounding Kern County are extremely vulnerable to fires as a result of dense grassy vegetation combined with a growing number of structures being built near and within wildland areas.

An area's topography affects its susceptibility to wildfire spread. Fire intensities and rates of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The natural arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes.



Weather components such as temperature, relative humidity, wind, and lightning also affect the potential for wildfire. High temperatures and low relative humidity dry out the fuels that feed the wildfire creating a situation where fuel will more readily ignite and burn more intensely.

Wind is the most treacherous weather factor. The greater a wind, the faster a fire will spread, and the more intense it will be. Winds can be significant in Kern County. However, it should be noted that the winds generally occur during the winter storm season, not during the summer fire season. In addition to high winds, wind shifts can occur suddenly due to temperature changes or the interaction of wind with topographical features such as slopes or steep hillsides.

Recent drought conditions also have increased the threat of wildfire. (Kern County MJHMP, 2014) The majority of past wildfire events in Kern County were in the late summer months (typically July through September). Frequency of wildfire events may increase because of increasingly drier conditions caused by climate change. Fire risk will also continue to grow as more people build in WUI areas, which increases fuel loads and the risk of human-caused fires.

As seen in Figure 4-36, fire occurrences are the most common in mountainous areas in the central and eastern portion of Kern County. The probability of a wildfire occurring in Kern County is highly likely (100% annual chance).

4.5.5.6 Severity and Extent

The severity of the wildland fire hazard is determined by the relationship between three factors: fuel classification, topographic slope, and critical fire weather frequency. Critical fire weather conditions occur in periods of relative low humidity, high heat and high winds. Smoke and air pollution from wildfires can be a health hazard, especially for sensitive populations including children, the elderly and those with respiratory and cardiovascular diseases. Wildfire may also threaten the health and safety of those fighting the fires. First responders are exposed to the dangers from the initial incident and after-effects from smoke inhalation and heat stroke. In addition, wildfire can lead to ancillary impacts such as landslides in steep ravine areas and flooding due to the impacts of silt in local watersheds.

4.5.5.7 Warning Time

Regardless of the circumstances around the start of a wildfire, response time can be rapid and warning time short. Wildfires are often caused by humans, intentionally or accidentally. There is no way to predict when one might break out.

The Fourth of July can be a time of heightened concern and outreach around wildfires, since fireworks can cause fires and usage is high. Dry seasons and droughts greatly increase fire likelihood. Dry lightning may trigger wildfires. Severe weather can be predicted, so special attention can be paid during weather events that may include lightning or wind events. Reliable National Weather Service lightning warnings are available on average 24 to 48 hours prior to a significant electrical storm. (California Fire, 2019)



If a fire does break out and spread rapidly, residents may need to evacuate within days or hours. A fire's peak burning period generally is between 1 p.m. and 6 p.m. Once a fire has started, fire alerting is reasonably rapid in most cases. The rapid spread of cellular and two-way radio communications in recent years has contributed to a significant improvement in warning time. (*Id*)

4.5.5.8 Secondary Hazards

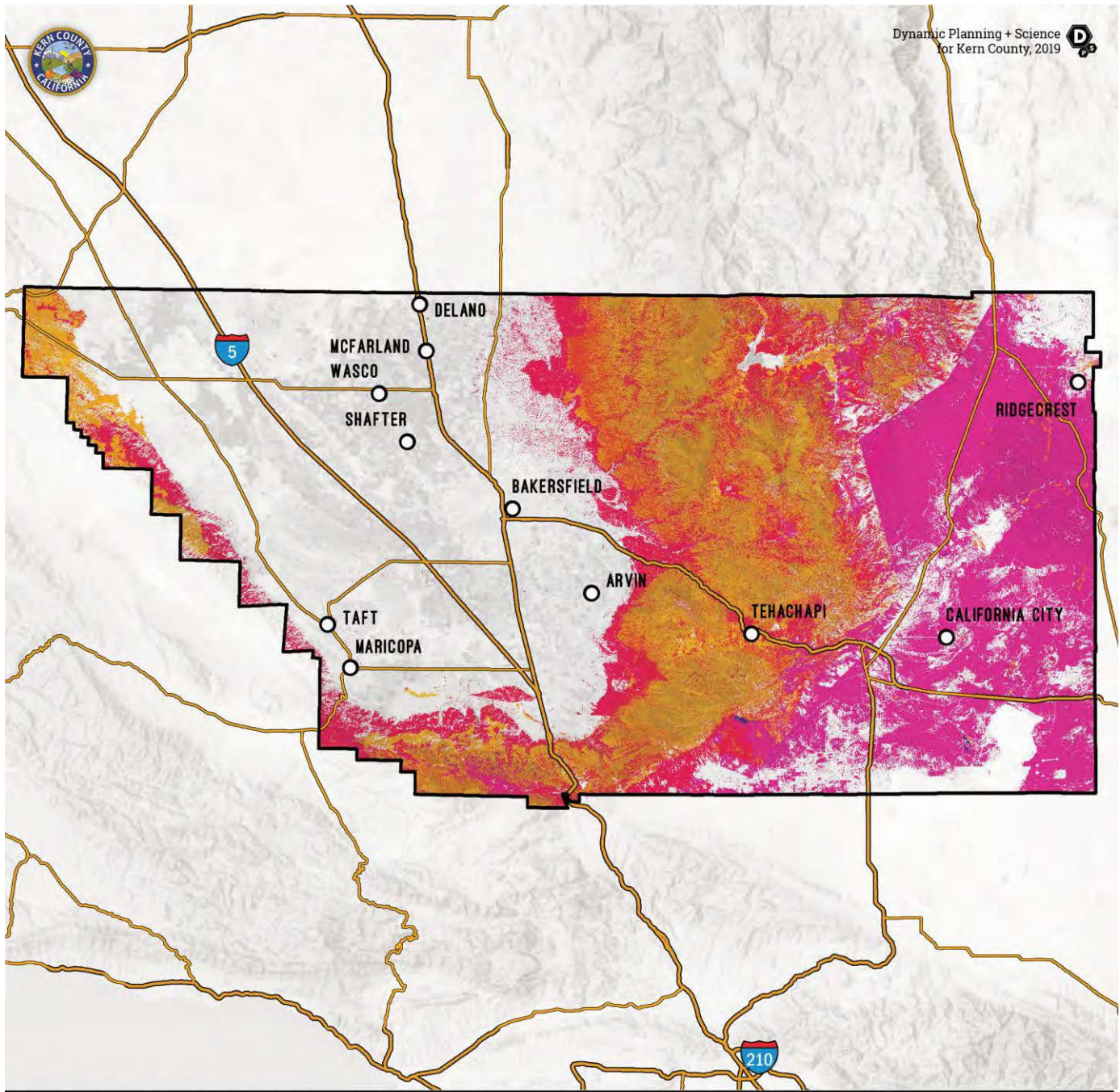
Wildfires can generate a range of secondary effects, which in some cases may cause more widespread and prolonged damage than the fire itself. Fires can cause direct economic losses in the reduction of harvestable timber and indirect economic losses in reduced tourism and commerce. Wildfires cause the contamination of reservoirs, destroy transmission lines, and contribute to flooding. They strip slopes of vegetation, exposing them to greater amounts of runoff, weakening soils, and causing slope failures. Major landslides can occur several years after a wildfire. Most wildfires burn hot and for long durations that can bake soils, especially those high in clay content, thus creating hydrophobic soils that repel water. When it rains in burned areas, more soil washes off the hills and into roads, ditches, and streams and increases flooding. (*Id*)

4.5.5.9 Climate Change Impacts

Fire in western ecosystems is determined by climate variability, local topography, and human intervention. Climate change has the potential to affect multiple elements of the wildfire system: fire behavior, ignitions, fire management, and vegetation fuels. Hot, dry spells create the highest fire risk. Drought and increased temperatures intensify wildfire danger by warming and drying out vegetation. Climate change also may increase winds that spread fires. Faster fires are harder to contain, and thus are more likely to expand into residential neighborhoods.

A changing climate is expected to subject forests to increased stress due to drought, disease, invasive species, and insect pests. These stressors are likely to make forests more vulnerable to catastrophic fire. While periodic fires are natural processes and fulfill an important ecological function, catastrophic fire events that cannot be contained or managed can cause serious threats to homes and infrastructure, especially for properties located at the wildland-urban interface. Moreover, rain events are predicted to become more severe in our changing climate, and post-fire flooding could worsen as well.

It is predicted that Kern County will see higher daily temperatures, more heatwaves, increased wildfires, and a diminished snowpack within this century, as a result of climate change. The eastern edge of Kern County is projected to experience an increase in wildfire risk of 4 to 6 times current fire season averages by the year 2050. (Advancement Project California, 2019)



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WILDFIRE RETURN INTERVALS KERN COUNTY

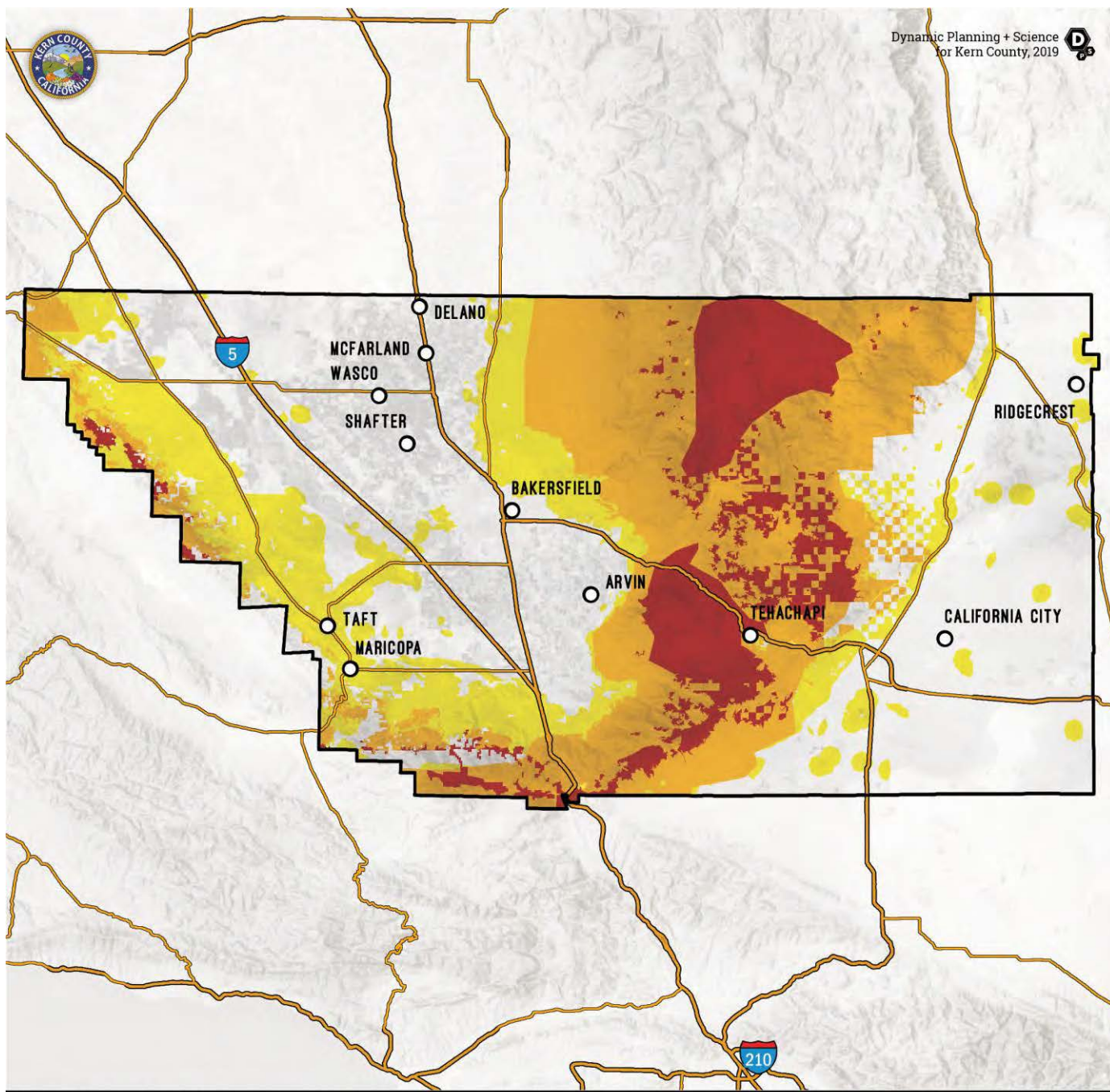
*Data sources: USGS LANDFIRE.

MAP LEGEND

AVERAGE PERIOD BETWEEN FIRES (YEARS)

| | | | | | | | | | | | | | | | | | | | | | |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|---------|---------|----------|-------|
| 0-5 | 6-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-125 | 126-150 | 151-200 | 201-300 | 301-500 | 501-1000 | >1000 |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|---------|---------|----------|-------|

Figure 4-37: Wildfire Return Intervals



WILDFIRE SEVERITY ZONES KERN COUNTY

*Data sources: Cal Fire, CPUC.

MAP LEGEND



Figure 4-38: Wildfire Severity Zones



4.5.5.10 Wildfire Vulnerability Analysis

This section describes vulnerabilities to wildfire in terms of population, property, and infrastructure. Wildfire population, parcel value, critical facilities and lifeline exposure numbers were generated by overlaying the inventory outlined in Section 4.4 with CalFire Wildfire Hazard Severity Zones. Figure 4-40 shows a snapshot of wildfire vulnerability in Kern County. All data sources have a level of accuracy acceptable for planning purposes. Details for each snapshot can be found in this section.

4.5.5.10.1 Population

Smoke and air pollution from wildfires can be a severe health hazard, especially for sensitive populations including children, the elderly, and those with respiratory and cardiovascular diseases. Smoke generated by wildfire contain visible and invisible emissions that contain particulate matter such as soot, tar, water vapor, and minerals; gases such as carbon monoxide, carbon dioxide, and nitrogen oxides; and toxics such as formaldehyde, benzene. Emissions from wildfires depend on the type of fuel, the moisture content of the fuel, the efficiency or temperature of combustion, and the weather. Public health impacts associated with wildfire include difficulty in breathing, odor, and reduction in visibility. First responders likewise are exposed to the dangers from the initial incident and after-effects from smoke inhalation and heat stroke. (EPA)

Wildfire is of greatest concern to populations residing in the moderate, high and very high fire hazard severity zones. U.S. Census Bureau block data was used to estimate populations within the CAL FIRE identified hazard zones. See Figure 4-40, Figure 4-39, and Table 4-45 for detail on populations residing in wildfire risk areas.



Table 4-45 Populations Exposed to Wildfire Risk (Unincorporated County)

| Total Population | |
|-----------------------|---------|
| Unincorporated County | 299,935 |

| Wildfire Severity Zone | Population Count | % of Total |
|------------------------|------------------|---------------|
| Very High Intensity | 19,903 | 6.64% |
| High Intensity | 11,453 | 3.82% |
| Moderate Intensity | 40,614 | 13.54% |
| Total | 71,970 | 24.00% |

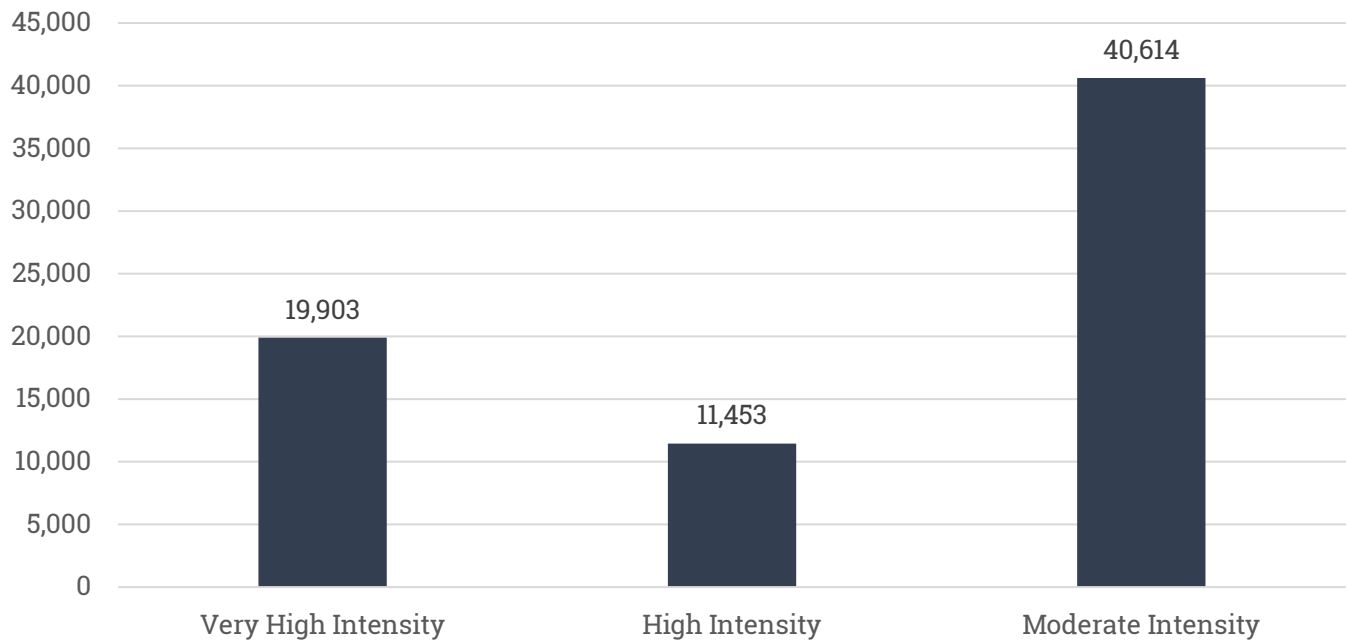
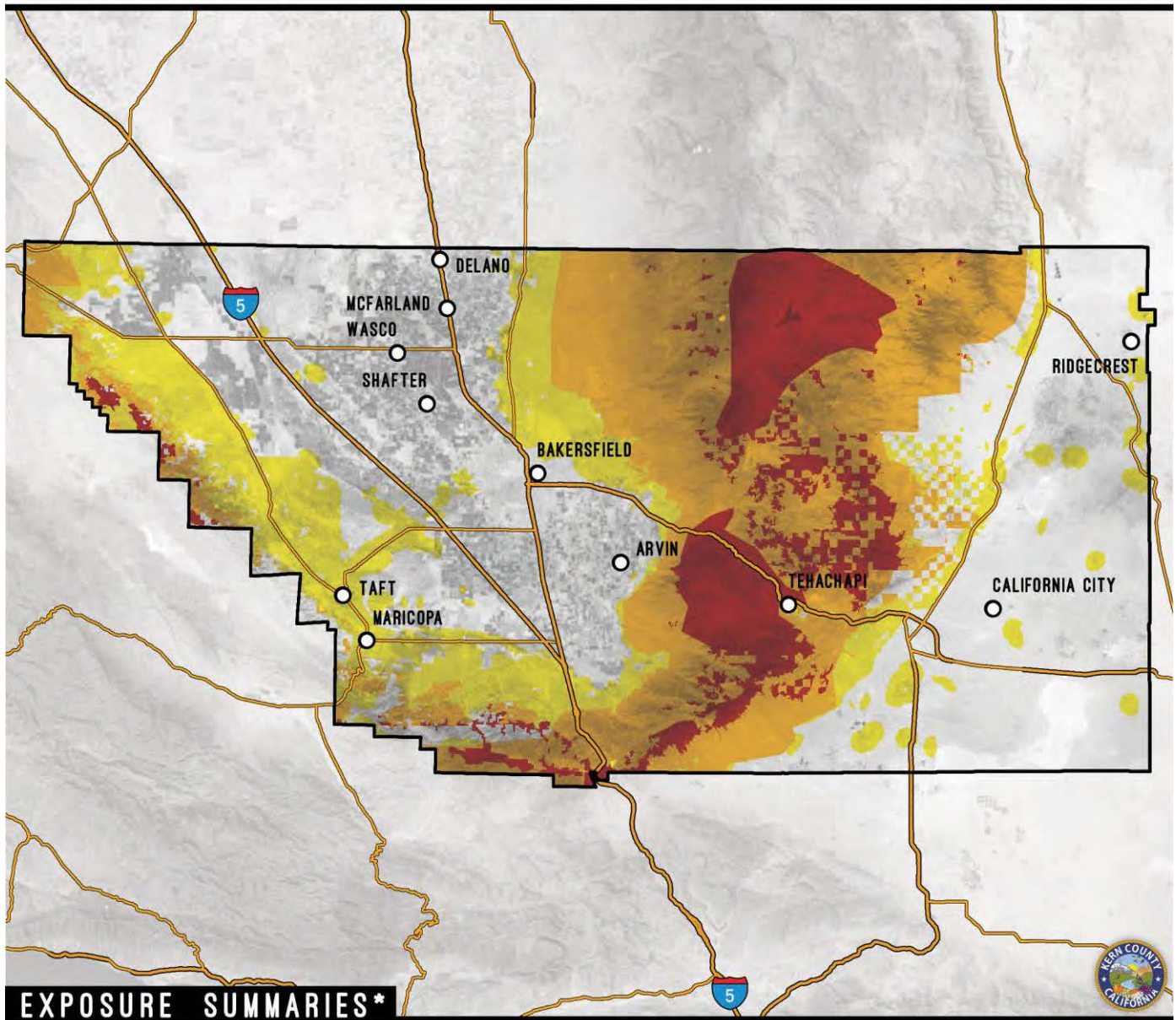


Figure 4-39 Population Exposed to Wildfire Risk



WILDFIRE VULNERABILITY & EXPOSURE SNAPSHOT

KERN COUNTY



EXPOSURE SUMMARIES*

| POPULATION | | PARCEL | | PARCEL VALUE | | CRITICAL INFRASTRUCTURE | | |
|------------|-----|--------|-----|-----------------|-----|---------------------------|-------|-----|
| COUNT | | COUNT | | IMPROVEMENT | | COUNT | | |
| 31,356 | 10% | 23,615 | 26% | \$3,108,015,208 | 28% | Essential Facilities | 18 | 37% |
| | | | | CONTENT | | High Potential Loss | 148 | 21% |
| | | | | \$1,554,381,104 | 28% | Transportation & Lifeline | 1,223 | 22% |
| | | | | | | | 3,074 | 20% |

MAP LEGEND

| |
|-----------|
| MODERATE |
| HIGH |
| VERY HIGH |

*Exposure summaries include high and very high LRA and SRA zones. Hazard data source: Cal Fire, CPUC.
(%) - Percent of respective category totals for jurisdiction.

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Figure 4-40: Exposure Wildfire Vulnerability and Snapshot Map

**4.5.5.10.2 Property**

This Section calculates the considerable assets at risk of wildfire in those severity zones. See Table 4-46, which utilizes County parcel information to calculate exposure. In some cases, a parcel will be within in multiple fire threat zones, and for this exercise every parcel with a square footage value greater than zero was developed in some way. Only improved parcels were analyzed.

Table 4-46: Residential Buildings and Content within Wildfire Severity Zones (Unincorporated County)

| | Total Parcels | | Total Market Value (\$) | Total Content Value (\$) | Total Value (\$) | |
|-----------------------|---------------|--|-------------------------|--------------------------|------------------|--|
| Unincorporated County | 91,455 | | \$ 10,906,675 | \$5,453,338 | \$ 16,360,013 | |

| Fire Hazard Severity Zone | Parcel Count | % of Total | Market Value Exposure (\$) | Content Value Exposure (\$) | Total Exposure (\$) | % of Total |
|---------------------------|---------------|------------|----------------------------|-----------------------------|---------------------|--------------|
| Very High | 21,750 | 23.8% | \$ 1,459,089 | \$21,750 | \$1,480,839 | 9.1% |
| High | 1,865 | 2.0% | \$ 94,545 | \$ 1,865 | \$96,410 | 0.6% |
| Moderate | 14,434 | 15.8% | \$874,469 | \$14,434 | \$ 888,903 | 5.4% |
| Total | 38,049 | 42% | \$ 2,428,103 | \$ 38,049 | \$ 2,466,152 | 15.1% |

Currency in Thousands

4.5.5.10.3 Critical Facilities and Infrastructure

Critical facilities of wood frame construction are especially vulnerable during wildfire events; power lines are also at risk from wildfire because some poles are made of wood and are susceptible to burning.

In most cases, roads and railroads are not susceptible to damage from wildfire but create response issues if affected. Fires can create conditions that block or prevent access and can isolate residents and emergency service providers. Wildfire typically does not have a major direct impact on bridges, but it can create conditions in which bridges are obstructed. Many bridges in areas of high to moderate fire risk are important because they provide the only ingress and egress to large areas and in some cases to isolated neighborhoods.

Critical facilities data were overlaid with fire hazard severity zone data to determine the type and number of facilities within each risk classification. Table 4-47 lists the critical facilities in wildfire hazard severity zones for Kern County, and Table 4-48 similarly lists critical infrastructure.



Table 4-47: Critical Facility Exposure to Wildfire Severity Zones (Unincorporated County)

| Critical Infrastructure - Wildfire Severity Zone | | | |
|--|------------|-------------|-------------|
| Infrastructure Type | Very High | High | Moderate |
| Essential Facility | 12 | 6 | 10 |
| EOC | - | - | - |
| Fire Station | 8 | 4 | 7 |
| Hospital | 1 | - | - |
| Police Station | 1 | - | 1 |
| Sheriff Station | 2 | 2 | 2 |
| High Potential Loss | 119 | 29 | 121 |
| Adult Residential facility | 3 | - | 7 |
| Child Care Center | 14 | - | 7 |
| Dam | 2 | 5 | 6 |
| Family Child Care Home | 2 | - | - |
| Foster Family Agency | 1 | - | - |
| Historic Building | - | - | - |
| Home Care Organization | - | - | - |
| Library | 9 | 3 | 2 |
| Residential Child Care | - | - | - |
| Residential Elder Care | 8 | - | 5 |
| School | 14 | 13 | 17 |
| County Insured Asset* | 42 | 7 | 57 |
| Cooling Center | 2 | - | - |
| Healthcare Facility | 7 | - | 4 |
| Special Needs Facility | 15 | 1 | 16 |
| City Hall | - | - | - |
| Historic Site | - | - | - |
| Transportation and Lifeline | 163 | 1060 | 1474 |
| Airport | - | - | 1 |
| Bridge | 45 | 36 | 85 |
| Power Plant | 4 | 37 | 67 |
| Substation | 11 | 29 | 83 |
| Transmission Line Tower | 99 | 914 | 1163 |
| NG Facility | 2 | 8 | 57 |
| Wind Turbine | - | 34 | 15 |
| Bus Facility | - | - | - |
| Potable Water Facility | 1 | 1 | - |
| Waste Water Facility | 1 | 1 | - |
| Oil Facility | - | - | 3 |
| Railroad Facility | - | - | - |
| Grand Total | 294 | 1095 | 1605 |

* These insured assets may include critical infrastructure already represented in other Infrastructure Types.

**Table 4-48: Lifelines in Wildfire Severity Zones (Unincorporated County)**

| Lifelines (miles) - Wildfire Severity Zone | | | |
|--|----------------|----------------|----------------|
| Infrastructure Type (Linear) | Very High | High | Moderate |
| Levee | 1.50 | 4.23 | 123.97 |
| NG Pipeline | 55.01 | 90.02 | 420.74 |
| Railroad | 28.64 | 16.77 | 47.12 |
| Street | 1262.59 | 1172.69 | 1720.92 |
| <i>4WD trail</i> | 16.87 | 66.15 | 29.75 |
| <i>4WD trail, major</i> | 0.18 | 0.03 | 0.04 |
| <i>Alley</i> | 1.08 | 2.68 | 0.50 |
| <i>Cul-de-sac</i> | 0.38 | 0.51 | 0.88 |
| <i>Driveway</i> | 6.36 | 2.37 | 14.52 |
| <i>Interstate</i> | 32.04 | 41.76 | 69.46 |
| <i>Local road</i> | 701.45 | 456.30 | 528.57 |
| <i>Local road, major</i> | 290.16 | 359.01 | 568.40 |
| <i>Primary highway</i> | 2.88 | 6.81 | 135.59 |
| <i>Ramp</i> | 6.09 | 3.99 | 15.00 |
| <i>Road, parking area</i> | 0.52 | - | 0.60 |
| <i>Service road</i> | 0.35 | 2.10 | 1.88 |
| <i>State/county highway</i> | 196.69 | 220.79 | 240.02 |
| <i>State/county highway, major</i> | - | - | 0.42 |
| <i>Thoroughfare, major</i> | 6.95 | 6.93 | 114.60 |
| <i>Walkway</i> | 0.57 | 3.26 | 0.69 |
| Transmission Line | 127.12 | 315.15 | 643.23 |
| Grand Total | 1474.87 | 1598.86 | 2955.97 |

4.5.5.11 Changes in Development and Future Trends

Fuel reduction projects are ongoing on federal, state, and private lands in Kern County. Such projects include vegetation management, broadcast burning, pre-commercial thinning, and the removal of dead, dying, and diseased trees. The Kern County Fire Hazard Reduction Program (FHRP) is a joint effort between the Kern County Fire Department, Cal Fire, Kern County Code Enforcement, and property owners to ensure fire safe communities within the County. The goal of the program is to provide sufficient defensible space around homes and other structures to improve the safety of the public and emergency personnel, as well as increase the chance of a home's survival in the event of fires. Having heavy accumulations of fuel, and/or dry fuel poses a significant risk to a specific property, neighboring properties, and fire personnel. While inspections are typically done once a year, after June 1 in preparation for fire season, a property can receive an inspection at any time if it is deemed to be a hazard. (Kern County Fire Department, n.d.)



4.5.5.12 Wildfire Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities. The problem statements were based on the risk assessment and vulnerability analysis which utilizes the RAMP mapping tool and flood data. Wildfire problem statements for all participating jurisdictions are listed in Table 4-49; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. See Table 5-6 for a full list of mitigation actions and the corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-49 and Table 5-6.

Table 4-49 Wildfire Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|----------|-----------------|--|----------------|---|--|
| ps-WF-KC-232 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The Alta Sierra CWPP (link below) details fire hazards requiring mitigation for the continued protection of the WUI throughout the area: https://www.dropbox.com/s/nfk6320d3j5vg2l/Alta%20Sierra%20CWPP%201204.pdf?dl=1 | ma-WF-KC-183, ma-WF-KC-184, ma-WF-KC-287 |
| ps-WF-KC-233 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The Kern Valley CWPP (link below) details fire hazards requiring mitigation for the continued protection of the WUI throughout the area: https://www.dropbox.com/s/5ia29n0nt0by10e/Community%20Wildfire%20Protection%20Plan-February%202012%20Update1.pdf?dl=1 | ma-WF-KC-182, ma-WF-KC-183, ma-WF-KC-184 |
| ps-WF-KC-234 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The Mt. Pinos CWPP (link below) details fire hazards requiring mitigation for the continued protection of the WUI throughout the area: https://www.dropbox.com/s/3vel3cdnk79lacm/107658_FSPLT3_4276170.pdf?dl=1 | ma-WF-KC-181, ma-WF-KC-183, ma-WF-KC-184 |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|----------|-----------------|--|----------------|--|--|
| ps-WF-KC-235 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The Myers Canyon CWPP (link below) details fire hazards requiring mitigation for the continued protection of the WUI throughout the area: https://www.dropbox.com/s/l93a92wpj5om8sx/Myers%20CWPP%20081605.pdf?dl=1 | ma-WF-KC-288, ma-WF-KC-183, ma-WF-KC-184 |
| ps-WF-KC-236 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The Greater Tehachapi Area CWPP (link below) details fire hazards requiring mitigation for the continued protection of the WUI throughout the area: https://www.wildfirelessons.net/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=48eaad9b-b2ab-4abc-841e-79dd5320d8dd&forceDialog=1 | ma-WF-KC-180, ma-WF-KC-183, ma-WF-KC-184 |
| ps-WF-KC-237 | Wildfire | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness , ES - Emergency Services | County of Kern | Not all address markers are compliant. Reflective number signs are needed on all homes and at the road. | ma-WF-KC-289 |
| ps-WF-KC-238 | Wildfire | Victim | PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | There are approx. 11 Adult Care Facilities, 15 special needs facilities, and 11 Health Care facilities in Very High Wildfire Severity Zones in mountain communities. | ma-WF-KC-286, ma-AH-KC-104 |
| ps-WF-KC-239 | Wildfire | Victim | PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | There are approx. 10 Schools in Very High Wildfire Severity Zones in mountain communities. | ma-WF-KC-286, ma-AH-KC-104 |
| ps-WF-KC-240 | Wildfire | Victim | PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | There are approx. 20,000 people living in the very high wildfire intensity zone. Approx. 10,000 in Tehachapi Area. Approx. 7,000 in Lake Isabella Area. | ma-WF-KC-184, ma-WF-KC-183, ma-AH-KC-201 |



| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|----------|-----------------|---|----------------|--|-------------------------------|
| ps-WF-KC-241 | Wildfire | Threat | PPRO - Property Protection , NRP - Natural Resource Protection | County of Kern | Ongoing fuel mitigation is needed throughout the County. The County has identified the following fuel project priorities: Battalion 1: Bear Valley (Skyline), Water Canyon, Old West Ranch, Alpine, Golden Hills Battalion 5: Pinion Pines, South Frazier, Lake of the Woods, Camp Condor with emphasis on Peak to Peak Charter School, PMC Green Belts Battalion 7: Alta Sierra, Kernville (includes Frontier, Grandview and Burma fuel breaks), Bodfish Phase 1,2, and 3, Pala Ranches, Squirrel Valley | ma-AH-KC-179, ma-WF-KC-231 |



4.5.6 Drought Hazard Profile

California's water resources have been stressed by periodic drought cycles and, in some places, overuse, creating the need for unprecedented restrictions in water diversions from the Sacramento-San Joaquin Delta in recent years. Climate change is expected to increase drought and extreme weather. While the duration of drought is always in question, it is certain that California and Kern County will continue to be impacted by drought. (California Drought Contingency Plan, 2010)



4.5.6.1 Drought in California

Drought has impacted almost every county in California at one time or another, causing more than \$2.6 million in damage. Droughts exceeding three years are relatively rare in northern California, the source of much of the state's water supply. The 1929-1934 drought established the criteria commonly used in designing storage capacity and yield for large northern California reservoirs. The driest single year in California's measured hydrologic history was 1977. (California Department of Water Resources, 2015)

Past experience shows that drought impacts in California are felt first by those most dependent on annual rainfall: agencies fighting wildfires, ranchers engaged in dryland grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable water source. (*Id*)

Most of California's precipitation comes from storms moving across the Pacific Ocean. The path followed by the storms is determined by the position of an atmospheric high-pressure belt that normally shifts southward during the winter, allowing low pressure systems to move into the state. On average, 75 percent of California's annual precipitation occurs between November and March, with 50 percent occurring between December and February. If a persistent Pacific high-pressure zone takes hold over California mid-winter, the water year tends to be dry. (Western Regional Climate Center, 2020)

A typical water year produces about 100 inches of rainfall over the North Coast, 50 inches of precipitation (combination of rain and snow) over the Northern Sierra, 18 inches in the Sacramento area, and 15 inches in the Los Angeles area. In extremely dry years, these annual totals can fall to as little as one half, or even one third of these amounts. (*Id*)

Kern County's water supply is mostly dependent on snowmelt runoff in the mountains, some of which is captured in reservoirs, and groundwater resources in the Valley and Desert regions. Kern County receives water from external sources that include the State Water Project and Central Valley Project.



4.5.6.2 Plans, Policies, and Regulatory Environment

California Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law a package of bills (SB1168, AB1739 and SB1319) collectively called the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Kern County currently has one basin, the Kern River Valley Basin, which is categorized as high-medium priority. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that date will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.

Statewide Emergency Water Conservation Regulations

In 2016, the State Water Resources Control Board (Water Board) adjusted emergency water conservation regulations in recognition of the differing water supply conditions and ongoing drought across the state to comply with an Executive Order from the California Governor declaring a drought emergency. Executive Order B-37-16 Making Water Conservation a California Way of Life updates temporary emergency water restrictions and transitions to permanent, long-term improvements in water use by:

- providing for wiser water use
- Eliminating water waste
- Strengthening local drought resilience
- Improving agricultural water use efficiency and drought planning

In April of 2017, a new Executive Order lifted the drought emergency but retained many of the conservation requirements. Most regulations are still in effect with the exception of water supply “stress test” requirements and conservation standards for urban water suppliers. The temporary restrictions established a baseline of the types of benefits that are possible from water conservation requirements. The Executive Orders are found at:

https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/executive_orders.html

California Water Plan

The California Water Plan presents strategic plan elements including a vision, mission, goals, guiding principles, and recommendations for current water conditions, challenges, and activities. The plan includes future uncertainties and climate change impacts, scenarios for 2050, and a roadmap for improving data and analytical tools needed for integrated water management and sustainability. The California Water Plan was updated most recently in 2018. See: <https://water.ca.gov/Programs/California-Water-Plan>.



4.5.6.3 Past Events

California experienced massive changes over the course of the twentieth century as evidenced by dramatic population increases and land use conversion. (Cal. Dep't of Water Resources, 2015) The California Department of Water Resources has state hydrologic data back to the early 1900s. The hydrologic data show multi-year droughts from 1912 to 1913, 1918 to 1920, 1922 to 1924, 2007-2009, and 2014 to 2017.

The most recent major drought in California spanned 2014-2017. With California facing water shortfalls in the driest year in recorded state history, California State Governor Jerry Brown declared a drought state of emergency on January 17, 2014. In the State of Emergency declaration, Governor Brown directed state officials to assist farmers and communities that are economically impacted by dry conditions and to ensure the state can respond if Californians face drinking water shortages. The Governor also directed state agencies to use less water and hire more firefighters and initiated a greatly expanded water conservation



Figure 4-41. Drought-lowered Lake Isabella in 2015. Photo by Don Barrett, USC News

public awareness campaign. Figure 4-41 shows drought-impacted Lake Isabella in 2015. On April 17, 2017, Brown issued Executive Order B-40-17, officially ending the drought state of emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne.

The National Drought Monitor provides drought data and maps nationally and on a localized, watershed scale. The National Drought Monitor is the product of eleven agencies, from the NDMC, NOAA and USDA, and is available at <http://droughtmonitor.unl.edu/>. The National Drought Monitor categorizes the level of drought from D0 through D4, with D4 being the highest "exceptional drought." Table 4-50 depicts drought classifications and impacts from the level of drought occurrence in California.

Figure 4-42 shows a time series of the level of drought in Kern County from 2000 to 2020 according to the National Drought Monitor as well as the watersheds in Kern County. The National Drought Monitor also classifies drought on a watershed scale (according to hydrologic units established by the US Geological Survey). The participating jurisdiction annexes for those jurisdictions that prioritized drought hazards depict the past twenty years of droughts within applicable watersheds.



Table 4-50. Drought Classifications and Impacts for California

| Category | Description | Possible Impacts |
|-----------|----------------------------|--|
| D0 | Abnormally Dry | <ul style="list-style-type: none"> Soil is dry; irrigation deliver begins early Dryland crop germination is stunted Active fire season begins Winter resort visitation is low; snowpack is minimal |
| D1 | Moderate Drought | <ul style="list-style-type: none"> Dryland pasture growth is stunted; producers give supplemental feed to cattle Landscaping and gardens need irrigation earlier; wildlife patters begin to change Stock ponds and creeks are lower than usual |
| D2 | Severe Drought | <ul style="list-style-type: none"> Producers increase water efficiency methods and drought-resistant crops; Grazing land inadequate Fire season is longer, with high burn intensity, dry fuels, and large fire spatial extent; more fire crews on staff Lake- and river-based tourism declines; boat ramps close Trees are stressed; plants increase reproductive mechanisms; wildlife diseases increase Water temperatures increase; programs to divert water to protect fish begin River flows decrease; reservoir levels are low and banks are exposed |
| D3 | Extreme Drought | <ul style="list-style-type: none"> Livestock need expensive supplemental feed, cattle and horses are sold; little pasture remains Fruit trees bud early; producers begin irrigating in winter Federal water not adequate to meet irrigation contracts, extracting supplemental groundwater is expensive Dairy operations close Fire season lasts year-round; fires occur in typically wet parts of the state; burn bans are implemented Ski and rafting business is low, mountain communities suffer Orchard removal and will drilling company business increase; panning for gold increases Low water levels impede fish migration and cause lower survival rates Wildlife encroach on developed areas; little native food and water is available for bears, which hibernate less Water sanitation is a concern, reservoir levels drop significantly, surface water is nearly dry, flows are very low; water theft occurs Well and aquifer levels decrease; homeowners drill new wells |
| D4 | Exceptional Drought | <ul style="list-style-type: none"> Fields are left fallow; orchards are removed; vegetable yields are low; honey harvest is small; agricultural unemployment is high, food aid is needed Fire season is very costly; number of fires and areas burned are extensive Many recreational activities are affected Fish rescue and relocation begins; pine beetle infestation occurs; forest mortality is high; wetlands dry up; survival of native plants and animals is low; fewer wildflowers bloom; wildlife death is widespread; algae blooms appear Poor air quality affects health; greenhouse gas emissions increase as hydropower production decreases; West Nile outbreaks rise Water shortages are widespread; surface water is depleted; federal irrigation water deliveries are curtailed; water prices are extremely high; wells are dry, more and deeper wells are drilled; water quality is poor |

Adapted from U.S. Drought Monitor Drought Classifications and Impacts.

<https://droughtmonitor.unl.edu/Data/StateImpacts.aspx>



DROUGHT SEVERITY TIMELINE

KERN COUNTY

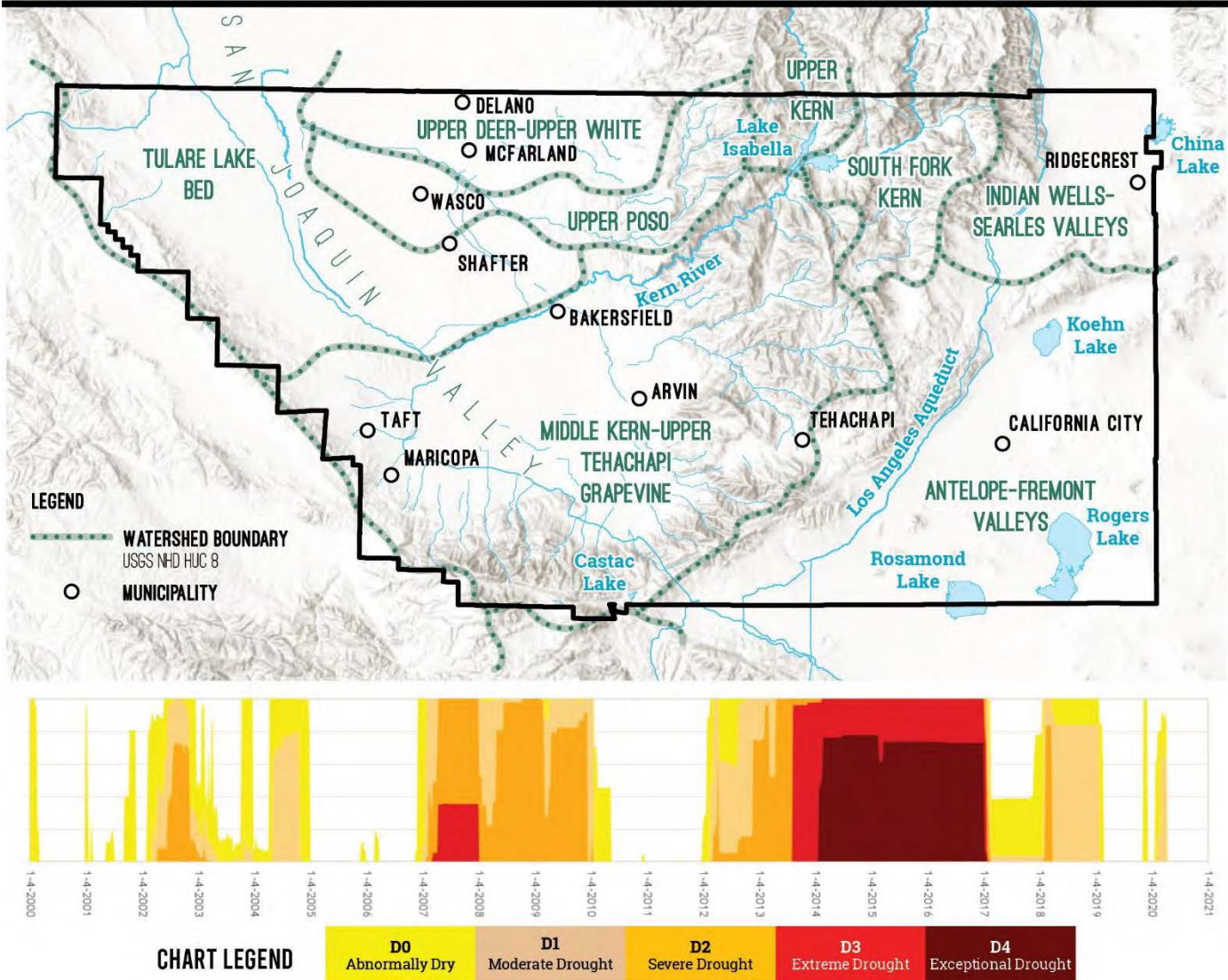


Figure 4-42 Kern County Drought Severity Timeline 2000-2021

Drought is one of the few hazards with the potential to impact the entire population of Kern County directly or indirectly, be it from water restrictions, higher water and food prices, reduced air or water quality, or restricted access to recreational areas. No portion of the County is immune from drought conditions. Lack of winter snowfall in the mountains can eventually lead to agricultural impacts due to decreased stream flows. Droughts of just a few weeks during critical periods of plant development can have disastrous effects on agriculture production. Reduced reservoir storage from decreased runoff in the mountains can lead to water shortages. Droughts that occur in populated areas may not have direct effects to the residents but may increase the threat of wildfire in the wildland urban interface areas.



4.5.6.4 Frequency/Probability of Future Occurrences

Currently there is no data on the probability of drought akin to data for predicting earthquakes or flood probability. Empirical studies conducted over the past century have shown that meteorological drought is never the result of a single cause. It is the result of many causes, often synergistic in nature; these include global weather patterns that produce persistent, upper-level high-pressure systems along the West Coast with warm, dry air resulting in less precipitation.

According to the results of the risk factor exercises for the participating jurisdictions, the probability of drought occurring in Kern County is highly likely (100% annual probability). Figure 4-42 provides a time series from the National Drought Monitor that shows Kern County has been in some form of drought for well over half of the period from 2000 to 2020.

4.5.6.5 Severity and Extent

The severity of a drought depends on the degree of moisture deficiency, the duration, and the size and location of the affected area. The longer the duration of the drought and the larger the area impacted, the more severe the potential impacts. Droughts are not usually associated with direct impacts on people or property, but they can have significant impacts on agriculture, which can impact people indirectly.

The agricultural sector clearly demonstrates the site-specific nature of drought impacts. Agricultural drought impacts are normally felt earliest by those relying on unmanaged water supplies: entities carrying out dryland grazing and non-irrigated crop production, usually grain crops. Impacts to irrigated agriculture depend on the source and nature of the irrigation water supply, whether it be local groundwater, local surface water, or imported surface water, and any water rights or contractual provisions that may be associated with the source. The extent to which producers may mitigate water shortage impacts depends on multiple factors but is heavily influenced by economic considerations. Factors involved in making decisions about mitigating irrigation water shortages include availability and costs of pumping groundwater, price of alternative surface water sources, capital investments associated with maintaining permanent plantings, and status of international crop markets. (California Drought Contingency Plan, 2010)

Unlike most disasters, droughts normally occur slowly but last a long time. On average, the nationwide annual impacts of drought are greater than the impacts of any other natural hazard. They are estimated to be between \$6 billion and \$8 billion annually in the United States and occur primarily in the agriculture, transportation, recreation and tourism, forestry, and energy sectors. Social and environmental impacts are also significant, although it is difficult to put a precise cost on these impacts.

Drought eventually affects groundwater sources but generally not as quickly as surface water supplies; groundwater supplies generally take longer to recover. Reduced precipitation during a drought means that groundwater supplies are not replenished at a normal rate. This can lead to a reduction in groundwater levels and problems such as reduced pumping capacity or wells going dry. Shallow wells are more susceptible than deep wells. Reduced replenishment of groundwater affects streams. Much of the flow in



streams comes from groundwater, especially during the summer when there is less precipitation and after snowmelt ends. Reduced groundwater levels mean that even less water will enter streams when stream flows are lowest.

A drought directly or indirectly impacts all people in affected areas. A drought can result in farmers not being able to plant crops or the failure of planted crops. This results in loss of work for farm workers and those in food processing and wine making jobs. Other water-dependent industries are commonly forced to shut down all or a portion of their facilities, resulting in further layoffs. A drought can harm recreational companies that use water (e.g., swimming pools, water parks, and river rafting companies) as well as landscape and nursery businesses because people will not invest in new plants if water is not available to sustain them.

Table 4-50 described impacts of the various severity levels of drought in California according to the National Drought Monitor classifications.

4.5.6.6 Warning Time

Droughts are climatic patterns that occur over long periods of time. Only generalized warning can take place due to the numerous variables that scientists have not pieced together well enough to make accurate and precise predictions. Predicting drought depends on the ability to forecast precipitation and temperature. Anomalies of precipitation and temperature may last from several months to several decades. How long they last depends on interactions between the atmosphere and the oceans, soil moisture and land surface processes, topography, internal dynamics, and the accumulated influence of weather systems on the global scale. (National Institute of Water and Atmospheric Research, 2016)

4.5.6.7 Secondary Hazards

The secondary hazard most associated with drought is wildfire. A prolonged lack of precipitation dries out vegetation, which becomes increasingly susceptible to ignition as the duration of the drought extends.

4.5.6.8 Drought Vulnerability Analysis

All people, property, and environments in the County planning area would be exposed to the impacts of moderate to extreme drought conditions to some degree.

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. This complexity exists because water is integral to the ability to produce goods and provide services. Drought vulnerability of an activity usually depends on its water demand, how the demand is met, and what water supplies are available to meet the demand. California's 2018 Water Plan indicates that water demand in the state will continue to increase.



4.5.6.8.1 Population

The residents of the county rely on healthy watersheds to provide adequate water for domestic and agricultural purposes. Kern County has experienced population growth and is projected to continue grow, with Bakersfield being one of the fastest growing cities in the state. No significant life or health impacts are anticipated as a result of drought within the planning area.

4.5.6.8.2 Property

During drought years, property owners with shallow wells can be impacted by drought with increased demand on groundwater resources. Surface water supplies are often lower, which can reduce available supplies and increase cost. This sometimes encourages growers who historically used surface water to switch to groundwater, which has a permanent impact on the amount of users using groundwater.

No structures will be directly affected by drought conditions, though some structures may become vulnerable to wildfires, which are more likely following years of drought. Droughts can also have significant impacts on landscapes, which could cause a financial burden to property owners. However, these impacts are not considered critical in planning for impacts from the drought hazard.

4.5.6.8.3 Critical Facilities

Critical facilities, as defined for this plan, will continue to be operational during a drought. Critical facility elements such as landscaping may not be maintained due to limited resources, but the risk to the planning area's critical facilities inventory will be largely aesthetic. For example, when water conservation measures are in place, landscaped areas will not be watered and may die. These aesthetic impacts are not considered significant.

4.5.6.9 Future Trends in Development

The County will face challenges in providing sufficient water supplies in the future due to climate change effects, coupled with an increasing population (i.e., mostly in the incorporated areas) and increasing water demand. While the County has already taken steps towards achieving long-term groundwater sustainability, there is still a possibility that water supply availability may change in the future and will need to be further addressed.

A new program is being developed to address drought and future development. It involves Kern County and the expansion of the Willow Springs Water Bank (WSWB). Kern County is the lead for a 2018 FEMA grant of \$15 M. The grant is part of the Hazard Grant Mitigation Program funds allocated to California. It will pay for facilities to pre-deliver water owned by Kern County from Lake Isabella to WSWB. Pre-delivery creates empty space in the reservoir. The empty volume created in Isabella can (1) provide new yield that can be used to mitigate drought, and (2) reduce the water level in Lake Isabella, reducing dam failure risk. WSWB can provide county-wide benefits to address future droughts.



Education is also important to ensure sustainable future trends in development. The Water Association of Kern County exists to inform and educate the public and water community about water issues in Kern County. They are a resource for information on water issues in Kern County and provide tips for water conservation.

Finally, each participating municipality has an established General Plan that includes policies directing land use and dealing with issues of water supply and the protection of water resources. These plans provide the capability at the local level to protect future development from the impacts of drought. All participating municipalities reviewed their general plans as part of their hazard mitigation capability assessments. Deficiencies identified by these reviews can be identified as mitigation actions to increase the capability to deal with future trends in development.

4.5.6.10 Climate Change Impacts

The long-term effects of climate change on regional water resources are unknown, but global water resources are already experiencing the following stresses without climate change:

- Growing populations
- Increased competition for available water
- Poor water quality
- Environmental claims
- Uncertain reserved water rights
- Groundwater overdraft
- Aging urban water infrastructure

With a warmer climate, droughts could increase in severity, frequency, and duration. According to the UC Davis Center for Watershed Sciences, water shortages in 2016 were projected to cost the agricultural industry a total of \$550 million in direct costs and 1,815 in lost jobs. More frequent extreme events such as droughts could end up being more cause for concern than the long-term change in temperature and precipitation averages. (University of California, Davis Center for Watershed Sciences, 2020)

4.5.6.11 Drought Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Drought hazard problem statements for the County are listed in Table 4-51; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-6 for a full list of mitigation actions and corresponding problem statements that they address.



Each problem statement is coded with a problem number for cross-referencing between Table 4-51 and Table 5-6.

Table 4-51 Drought Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|---------------|------------------------|---|-----------------------|--|---------------------|
| ps-DR-KC-215 | Drought | Impact | PE&A - Public Education & Awareness | County of Kern | Public education and programming is needed to support the water conservation efforts by WAKC and GSA's | ma-DR-KC-290 |
| ps-DR-KC-216 | Drought | Victim | PRV - Prevention , PE&A - Public Education & Awareness , SP - Structural Projects | County of Kern | Groundwater pumping for private wells during drought years has created water quality issues in existing aquifers | ma-DR-KC-291 |
| ps-DR-KC-217 | Drought | Victim | PRV - Prevention , PE&A - Public Education & Awareness , SP - Structural Projects | County of Kern | Private wells are at risk of going dry during drought years | ma-DR-KC-291 |
| ps-DR-KC-218 | Drought | Threat | PRV - Prevention , NRP - Natural Resource Protection | County of Kern | County buildings and facilities have irrigated landscaping including turf grass | ma-DR-KC-294 |
| ps-DR-KC-219 | Drought | Threat | PRV - Prevention , PE&A - Public Education & Awareness | County of Kern | Existing land use/building code does not require or incentivize water conservation measures including requiring the use of low-flow toilets and showerheads | ma-DR-KC-293 |
| ps-DR-KC-220 | Drought | Threat | PRV - Prevention | County of Kern | There is an opportunity for the County land use code to include more incentives for developers to implement drought-tolerant landscaping that provides shade and lowers the urban heat island effect | ma-DR-KC-293 |



4.5.7 Slope Failure Hazard Profile

Landslides, mudflow, debris flow, and rockfall, collectively known as slope failure, may cause damage across the County. They rarely present a threat to human life, but often result in a disruption of everyday services, including emergency response capabilities. Landslides can block transportation routes, dam creeks and drainages, and contaminate water supplies. When these hazards affect transportation routes, they are frequently expensive to clean-up and can have significant economic impacts to the County. (United States Geological Survey, 2004)



For this MJHMP update, three types of slope failure (Landslide, Debris Flow, and Rockfall) were identified as concerns to the County and are briefly described below.

Landslide

The many types of landslides are categorized based on form and type of movement. They range from slow moving rotational slumps and earth flows, which can slowly distress structures but are less threatening to personal safety, to fast-moving rock avalanches and debris flows that are a serious threat to structures and have been responsible for most fatalities during landslide events. Many large landslides are complex and a combination of more than one landslide type. (Bakersfield.com, 2008, p. 341)

Mudflow/Debris Flow

When slope material becomes saturated with water, a debris flow may develop. According to NOAA, debris flow is the most common type of slope failure in Kern County. From a geologic perspective, there are generally two types of debris flows: debris flows related to shallow landslides and post-wildfire debris flows. (United States Geological Survey, 2005)

Debris flows related to shallow landslides occur on hillslope due to soil failure in which soil liquefies and runs downhill. This type of debris flow generally results from a shallow landslide (less than 10 to 15 feet deep) and has a discrete initiation zone depositional area. Shallow landslides tend to occur in winter but are most likely after prolonged periods of heavy rainfall when soil materials are saturated. Debris flows are typically more dangerous because they are fast moving, causing both property damage and loss of life. (*Id*)

Post-wildfire debris flows are a result of post-fire conditions, where burned soil surfaces enhance rainfall runoff that concentrates in a channel and picks up debris as it moves. The post-fire debris flow has a less discrete initiation zone but is similar to a debris flow derived from hillslopes in that it may result in inundation and a detrimental impact on lives and property within its zone of runout and deposition. It can result in downstream flooding. (*Id*)



An example of a catastrophic post-fire debris flow is the event that occurred in Kern County on July 12, 2008, when, significant thunderstorm activity in the mountains above Lake Isabella, tons of water were deposited through the Erskine Creek watershed. See Figure 4-43 for debris flow in the Tehachapi area. (Bakersfield.com, 2008)

Rockfall

Rockfall is the falling of a newly detached mass of rock from a cliff or rock outcrop or a loose rock that erodes out of unconsolidated debris on a hillside and rolls or falls down a very steep slope. Over-steepened slopes such as at roadcuts or in glaciated terrain are susceptible to rockfall due to the steep slopes that are not highly vegetated or benched, which can help attenuate rockfall. Rock outcrops that are highly fractured and/or undercut by weaker rock layers are also susceptible to rockfall. (Colorado Geological Survey, 2020)

Alluvial Fan

Alluvial fans consist of sediment deposits leftover from a flood event. The sediment is carried by a flood and distributed in a fan-like shape. Alluvial fans represent a high risk of natural hazards in the form of debris flow as the deposited soil remains unstable after the flood event.

4.5.7.1 Plans, Policies, and Regulatory Environment

Kern County General Plan

The 2004 Kern County General Plan includes policies and implementation measures in the Land Use and Safety Elements that ensure adequate slope stability for development in areas prone to slope failure and impacts from the potential of slope failure are mitigated.

Policies and implantation measures around slope failure include ensuring effective slope stability for development and developing spatial referents for geologic hazards more generally. The Kern County General Plan is currently being updated and will consider this MJHMP Update as it continues to shape policies around slope failure mitigation and protection.

Regulation of Cut Surfaces in Kern County Code, § 17.28

The Kern County Code discusses the regulation of slope via its Grading Code, § 17.28. It stipulates that the slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two (2) units horizontal to one (1) unit vertical, the exception being if the applicant furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property.



4.5.7.2 Past Events

According to NOAA, the most common type of slope failure in Kern County is debris flow, which typically occurs during winter months. Table 4-52 lists the slope failure events that took place in the County since the year 2000.

Table 4-52: Slope Failure Events in Kern County Since 2000

| Date | Type of Event | Property Damage Value (\$) | Crop Damage |
|------------|---------------|----------------------------|---------------|
| 12/7/2003 | Debris Flow | 5,000 | None reported |
| 2/21/2005 | Debris Flow | 3,000 | None reported |
| 4/24/2005 | Debris Flow | 3,000 | None reported |
| 12/16/2016 | Debris Flow | 1,000 | None reported |
| 9/3/2017 | Debris Flow | 50,000 | None reported |
| 10/3/2018 | Debris Flow | 1,000 | None reported |
| 12/26/2019 | Debris Flow | 100,000 | None reported |

Source: NOAA Storm Events Database



Figure 4-43. Mudflow near Tehachapi Mountains

Photo by The Watchers, <https://watchers.news/2015/10/19/massive-mudslide-engulfs-highway-58-near-the-tehachapi-mountains-california/>



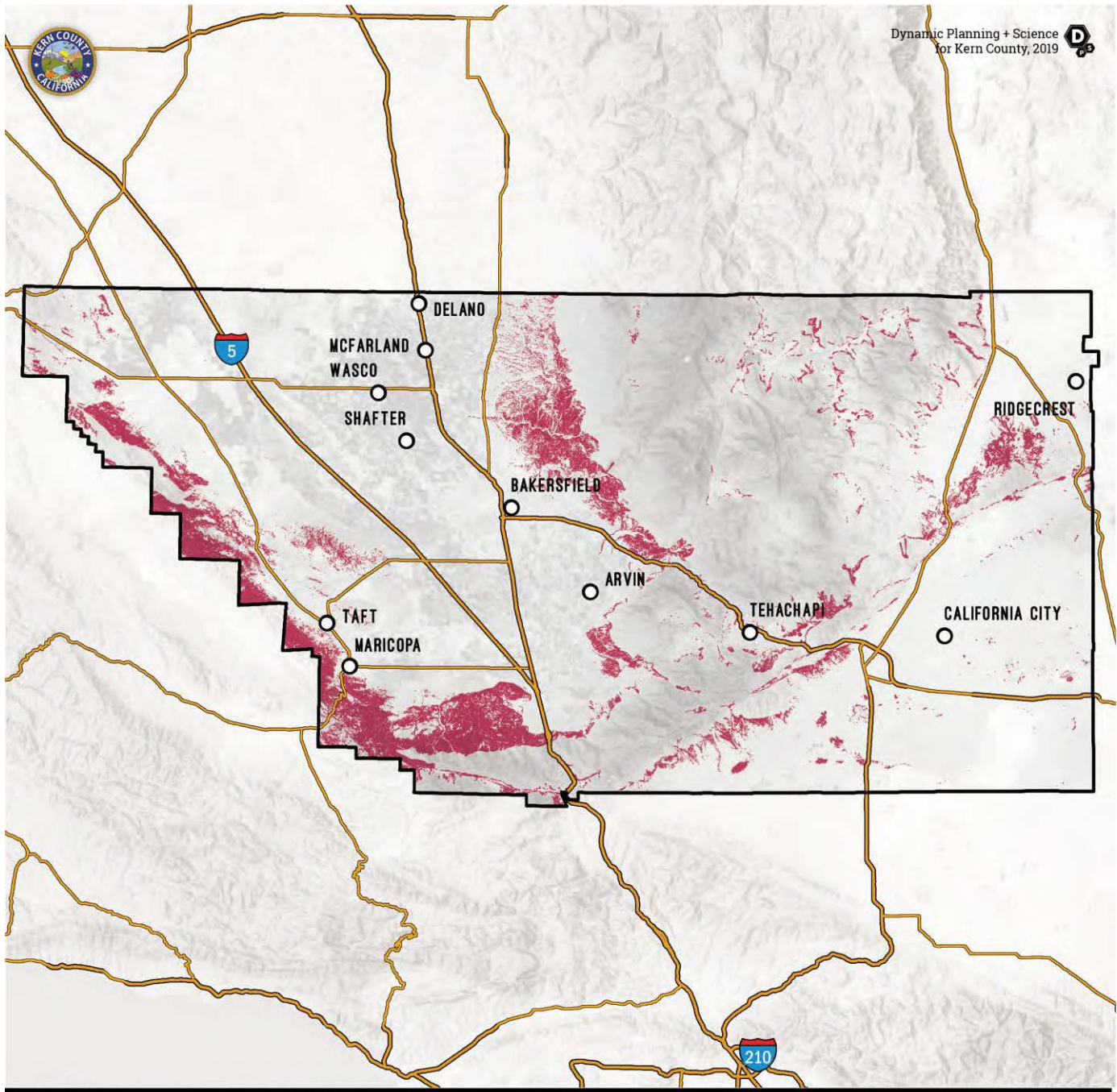
4.5.7.3 Location

The best available predictor of where movement of slides and earth flows might occur is the location of past movements. Past landslides can be recognized by their distinctive topographic shapes, which can remain in place for thousands of years. Most landslides recognizable in this fashion range from a few acres to several square miles. Most show no evidence of recent movement and are not currently active. A small proportion of them may become active in any given year, with movements concentrated within all or part of the landslide masses or around their edges.

Recognizing ancient dormant mass movement sites is important to identify current areas susceptible to flows and slides, because they can be reactivated by earthquakes or by exceptionally wet weather. Those ancient scars also consist of broken materials, frequently involve disruption of groundwater flow, and are vulnerable to construction-triggered sliding.

Kern County does have a history of landslide events that have impacted transportation, access to more remote residences in the unincorporated county, and caused property damage. Figure 4-43 shows a 2015 mudflow adjacent to the Tehachapi Mountains that caused traffic backups on Highway 58.

Figure 4-44 shows low, moderate, and high landslide susceptibility in Kern County. Most of the high susceptibility areas are in the hilly regions bordering the Central Valley. This map should be used with caution, however, as site-specific conditions can make some locations in low to moderate instability areas highly unstable and some high instability locations more stable.



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LANDSLIDE SUSCEPTIBILITY KERN COUNTY

*Data sources: CGS.

MAP LEGEND

HIGH LANDSLIDE RISK

Figure 4-44: Landslide Susceptibility



4.5.7.4 Frequency/ Probability of Future Occurrences

Slope failures are most frequently triggered in periods of high rainfall. The hazard is greatest in steeply-sloped areas, although slides may occur on slopes of 15 percent or less if the conditions are right. Slope steepness and underlying soils are the most important factors affecting the landslide hazard. However, surface and subsurface drainage patterns also affect the landslide hazard, and vegetation removal can increase the likelihood of a landslide. (United States Geological Survey, 2004)

Slope failures are often triggered by other natural hazards such as earthquakes, heavy rain, floods, or wildfires, so landslide frequency is often related to the frequency of these other hazards. The probability of slope failure occurring in Kern County is likely (between 10 and 100% annual probability).

4.5.7.5 Severity and Extent

The severity of landslide problems depends upon the local bedrock and soil conditions, including moisture content, slope, and vegetation. Small landslides are common in the County's mountain areas as loose material moves naturally down slope or fires have caused loss of soil-stabilizing vegetative cover. In addition, many human activities tend to make the earth materials less stable and, thus, increase the chance of ground failure. Some of the natural nonseismic causes of ground instability are steam and lakeshore erosion, heavy rainfall, and poor quality natural materials. Human activities contribute to soil instability through grading of steep slopes or overloading them with artificial fill, by extensive irrigation, construction of impermeable surfaces, excessive groundwater withdrawal, and removal of stabilizing vegetation (Kern County General Plan, 2009)

4.5.7.6 Warning Time

Some geologic hazards occur slowly but can have significant property or health consequences, like erosion and some forms of slope movement or land sliding. The identification of those hazards generally takes site-specific analysis to determine if the site soils and geology are susceptible to these hazards and what mitigation is most relevant and prudent for a site. For these types of hazards, warning time is long.

For other hazards, such as debris flows, rockfall, and landslides, warning time is often very short and may not occur at all. Identifying areas where these events are known have occurred, or which have ideal characteristics for these hazards to occur, could help with hazard preparedness when triggering-type events like intense rainfall occur. This identification won't reduce the warning time, but it will make proactive response to potential triggering events more effective. (AGU Publications, 2016)



4.5.7.7 Secondary Hazards

There are some hazards that can trigger or exacerbate slope failure. Flooding, for example, can undercut the toe of a slope which can remove the support for the slope and cause a landslide or rockfall. Wildfires create an immediate hazard of their own and create long-term impacts by altering the soil structure, impeding its ability to absorb moisture, and destroying vegetation that binds the soil with roots and absorbs rainfall and runoff with foliage. Post-wildfire, even small rainfall events can create devastating mudflows, debris flows, and landslides. Areas that are mapped currently as low to moderate risk of these hazards may have high risk after a wildfire.

4.5.7.8 Slope Failure Vulnerability Assessment

Figure 4-45 displays landslide susceptibility for population and infrastructure in Kern County. This section discusses exposure to this vulnerability.

4.5.7.8.1 Population

An estimated 5,769 persons, or 1.92% of the County population, are exposed to slope failure areas, as shown in Table 4-53 below. Population estimates within slope failure areas were generated by analyzing County assessor and parcel data that intersect with landslide hazard areas identified by California Geological Survey. Using GIS, U.S. Census Bureau information was used to intersect slope failure hazards an estimate of population was calculated by weighting the population within each census block and track with the percentage of slope hazard areas.

Table 4-53: Population Exposure to Landslide Susceptibility

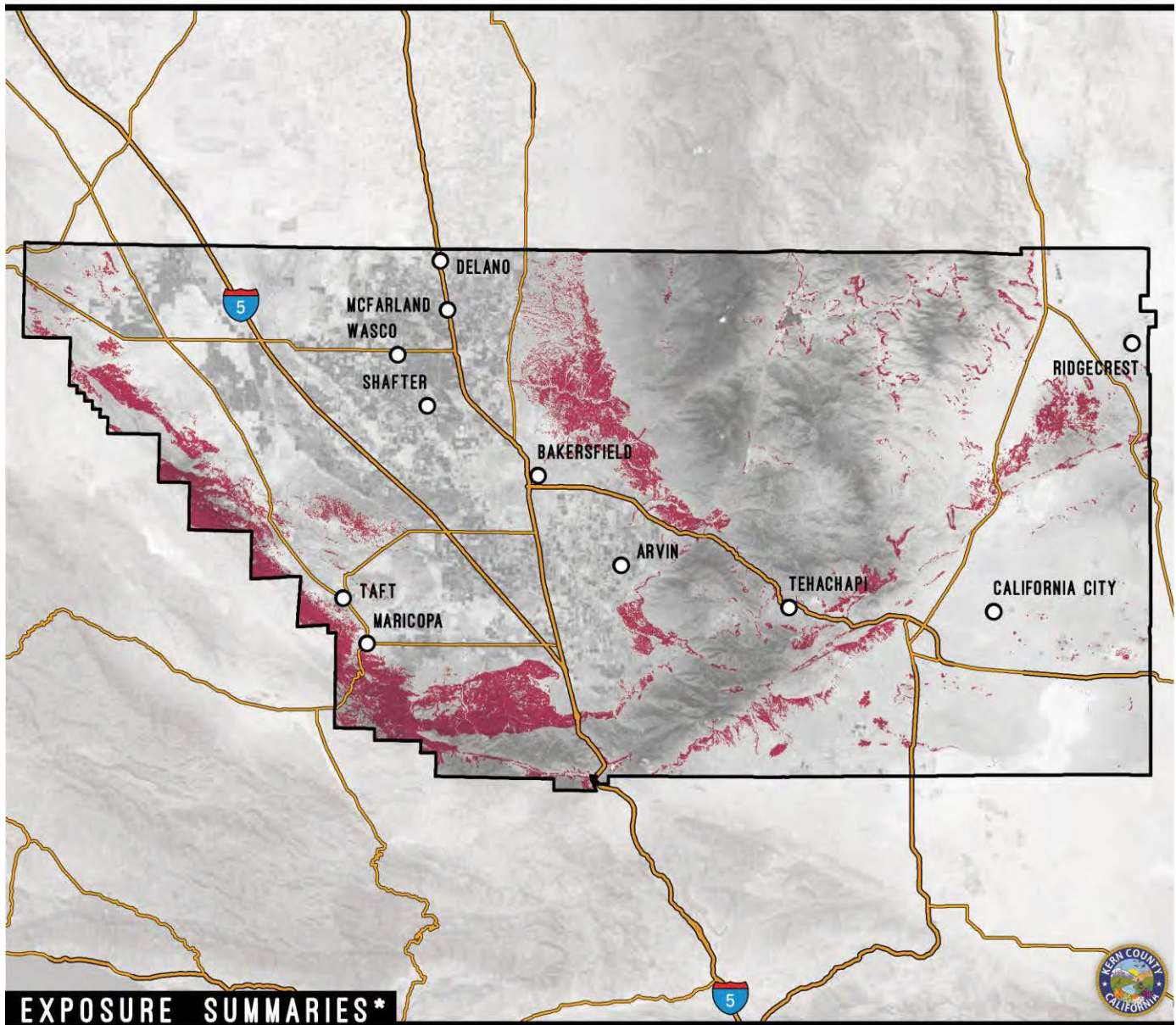
| | | Total Population |
|-----------------------|--|------------------|
| Unincorporated County | | 299,935 |

| Landslide Susceptibility | Population Count | % of Total |
|--------------------------|------------------|--------------|
| High | 5,769 | 1.92% |
| Total | 5,769 | 1.92% |



LANDSLIDE VULNERABILITY & EXPOSURE SNAPSHOT

KERN COUNTY



EXPOSURE SUMMARIES*

POPULATION

| | |
|-------|----|
| COUNT | |
| 5,769 | 2% |

PARCEL

| | |
|-------|----|
| COUNT | |
| 1,942 | 2% |

PARCEL VALUE

| | |
|---------------|----|
| IMPROVEMENT | |
| \$276,015,865 | 3% |
| CONTENT | |
| \$138,039,432 | 3% |

CRITICAL INFRASTRUCTURE

| | | |
|---------------------------|-----|----|
| COUNT | | |
| Essential Facilities | 0 | 0% |
| High Potential Loss | 4 | 1% |
| Transportation & Lifeline | 342 | 6% |
| | 331 | 2% |

MAP LEGEND

HIGH LANDSLIDE RISK

*Exposure summaries include high susceptibility only (class 9+). Hazard data source: CGS.
(%) - Percent of respective category totals for jurisdiction.

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Figure 4-45: Landslide Vulnerability Snapshot

**4.5.7.8.2 Property**

Table 4-54 shows the number of parcels, market value exposure and content value exposure in the steep-slope risk areas. The predominant zoning classes in cities are single-family, vacant and manufactured homes.

Table 4-54: Property Value Exposed to Landslides.

| | Total Parcels | Total Market Value (\$) | Total Content Value (\$) | Total Value (\$) |
|-----------------------|---------------|-------------------------|--------------------------|------------------|
| Unincorporated County | 91,455 | \$ 10,906,675 | \$ 5,453,338 | \$ 16,360,013 |

| Landslide Susceptibility | Parcel Count | % of Total | Market Value Exposure (\$) | Content Value Exposure (\$) | Total Exposure (\$) | % of Total |
|--------------------------|--------------|------------|----------------------------|-----------------------------|---------------------|-------------|
| High | 1,942 | 2.1% | \$ 275,953 | \$ 137,976 | \$ 413,929 | 2.5% |
| Total | 1,942 | 2% | \$ 275,953 | \$ 137,976 | \$ 413,929 | 2.5% |

Currency in Thousands

4.5.7.8.3 Critical Facilities and Infrastructure

Several types of infrastructure are exposed to mass movements, including transportation, water, sewer, and power infrastructure. At this time, all infrastructure and transportation corridors identified as exposed to the landslide hazard are considered vulnerable until more information becomes available. Table 4-55 and Table 4-56 summarize the critical facilities exposed to the slope failure hazard.

Table 4-55: Critical Facility Points with Slope Failure Hazard Risk (Unincorporated County)

| Critical Infrastructure - Landslide Susceptibility | |
|--|------|
| Infrastructure Type | High |
| Essential Facility | - |
| EOC | - |
| Fire Station | - |
| Hospital | - |
| Police Station | - |
| Sheriff Station | - |
| High Potential Loss | 4 |
| Adult Residential facility | - |
| Child Care Center | - |
| Dam | 2 |
| Family Child Care Home | 1 |
| Foster Family Agency | - |
| Historic Building | - |
| Home Care Organization | - |



| Critical Infrastructure - Landslide Susceptibility | |
|--|------------|
| Infrastructure Type | High |
| Library | - |
| Residential Child Care | - |
| Residential Elder Care | - |
| School | - |
| County Insured Asset* | 1 |
| Cooling Center | - |
| Healthcare Facility | - |
| Special Needs Facility | - |
| City Hall | - |
| Historic Site | - |
| Transportation and Lifeline | 342 |
| Airport | - |
| Bridge | 9 |
| Power Plant | 8 |
| Substation | 6 |
| Transmission Line Tower | 318 |
| NG Facility | 1 |
| Wind Turbine | - |
| Bus Facility | - |
| Potable Water Facility | - |
| Waste Water Facility | - |
| Oil Facility | - |
| Railroad Facility | - |
| Grand Total | 346 |

* These insured assets may include critical infrastructure already represented in other Infrastructure Types.

Table 4-56: Critical Facilities (Linear) with Slope Failure Hazard Risk (Unincorporated County)

| Lifelines (miles) - Landslide Susceptibility | |
|--|--------|
| Infrastructure Type (Linear) | High |
| Levee | 0.85 |
| NG Pipeline | 28.49 |
| Railroad | 7.26 |
| Street | 172.44 |
| 4WD trail | 12.54 |
| 4WD trail, major | - |
| Alley | 0.05 |



Lifelines (miles) - Landslide Susceptibility

| Infrastructure Type (Linear) | High |
|------------------------------------|---------------|
| <i>Cul-de-sac</i> | - |
| <i>Driveway</i> | 0.98 |
| <i>Interstate</i> | 4.79 |
| <i>Local road</i> | 69.07 |
| <i>Local road, major</i> | 41.92 |
| <i>Primary highway</i> | 3.10 |
| <i>Ramp</i> | 0.45 |
| <i>Road, parking area</i> | - |
| <i>Service road</i> | - |
| <i>State/county highway</i> | 35.82 |
| <i>State/county highway, major</i> | - |
| <i>Thoroughfare, major</i> | 3.74 |
| <i>Walkway</i> | - |
| Transmission Line | 122.05 |
| Grand Total | 331.09 |

4.5.7.8.4 Lifelines

A significant amount of linear infrastructure (or lifelines) can be exposed to mass movements:

- **Roads**—Access to major roads is crucial to life-safety, response, and recovery operations after a disaster event. Landslides can block egress and ingress on roads, causing isolation for neighborhoods, traffic problems, and delays for public and private transportation. This can result in economic losses for businesses.
- **Bridges**—Landslides can significantly impact bridges, by knocking out bridge abutments or significantly weaken the soil supporting them.
- **Power Lines**—Power lines are generally elevated above steep slopes, but the towers supporting them can be subject to landslides. A landslide could trigger failure of the soil underneath a tower, causing it to collapse and rip down the lines. Power and communication failures due to landslides can create problems for vulnerable populations and businesses.

4.5.7.9 Future Trends in Development

Kern County is equipped to handle future growth within landslide hazard areas. The 2009 Kern County General Plan addresses development in areas susceptible to slope failure.



4.5.7.10 Slope Failure Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Slope failure hazard problem statements are listed in Table 4-57; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-6 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-57 and Table 5-6.

Table 4-57 Slope Failure Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|---------------------|---------------|------------------------|--|-----------------------|--|---------------------|
| ps-SF-KC-230 | Slope Failure | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | County transportation routes may be located near high danger landslide areas, which could result in blocked roads and dangerous driving conditions in the event of a landslide. The following County roads pass through high landslide risk areas: Bakersfield-Glennville Rd.; Round Mountain Rd.; Granite Rd.; and Caliente Bodfish Rd | ma-SF-KC-292 |
| ps-SF-KC-231 | Slope Failure | Impact | PPRO - Property Protection , PE&A - Public Education & Awareness | County of Kern | The following County bridges are located in high landslide risk areas: Cottonwood Creek (50 0047); Hillside (50 0137); Hillside (50 0140); Hillside (50 0182) | ma-SF-KC-292 |



4.5.8 Soil Stability Hazard Profile

Hazards associated with soils in Kern County include land subsidence and wind erosion.

Land Subsidence

Land subsidence is a gradual settling or sudden sinking of the Earth's surface due to subsurface movement of earth materials. The main cause of subsidence in California is groundwater pumping. The effects of subsidence include damage to buildings and infrastructure, increased flood risk in low-lying areas, and lasting damage to groundwater aquifers and aquatic ecosystems. Subsidence in Kern County is most often caused by the withdrawal of large volumes of fluids from underground reservoirs, but it can also occur by the addition of surface water to certain types of soils, called hydrocompaction. Subsidence from any cause accelerates maintenance problems on roads, lined and unlined canals, and underground utilities. Subsidence has and will continue to cause gradient changes in canals, causing the need for canal banks to be raised and bridges elevated at significant expense. (USGS, Land Subsidence in California, n.d.)



There are four types of subsidence occurring in Kern County.

- Tectonic subsidence, a long-term, very slow sinking of the valley, which is significant only over a geologic time period.
- Subsidence caused by the extraction of oil and gas. This type of subsidence is still too small to be of serious concern. The State Division of Oil, Gas, and Geothermal Resources monitors subsidence in oil and gas fields and regulates oil and gas withdrawal and repressurizing of the fields.
- Subsidence caused by withdrawal of groundwater in quantities much larger than replacement can occur, causing a decline of the water level. This type of subsidence is of major concern and should be regulated and reduced, especially in urbanizing areas. This practice has lowered the ground level over a large area south of Bakersfield and in other areas of the County.
- Subsidence caused by hydrocompaction of moisture - deficient alluvial deposits. This is a one time densification from collapse of the soil structure in near-surface strata where the rainfall or other moisture has not penetrated during a long period of time. Parts of the California Aqueduct were constructed through and over hydrocompaction deposit after compaction has occurred through ponding. The areas where hydrocompaction exists and suspect areas should be mapped, studied, and evaluated. Any development on these areas of damaging subsidence requires corrective measures. (Kern County General Plan, 2009)

Wind Erosion

Erosion is the general process whereby the materials of the earth's crust are worn down, removed by weathering, and deposited in other places by water or air. Lakeshore erosion is a special problem involving wave action and can be practically eliminated by proper engineering, construction, and soil stabilization through vegetative cover. Alluvial fans that form at the base of mountain foothills are a product of erosion in the watershed above depositing debris on the gentler valley floors, often associated with debris flows. Development in these areas can be subject to inundation from mud to boulder sized particles. Within



urbanized areas, the major problem of erosion is from the continued need to remove sediment from drainage systems and basins. Sedimentation within these systems decreases the volume of flood flows that the system can handle. (Kern County MJHMP, 2014)

Agricultural areas are particularly susceptible to wind erosion between crops, during periods of fallow, when grazed by sheep, or when taken completely out of production. Any process that reduces vegetative cover creates dust control issues. For growers, blowing dust comes from two sources, land you own or lease and the land upwind of it. Sand blowing from upwind may cause your previously stable ground to begin to erode, as high winds pick up loose sand particles and bounce them along the ground. This saltation of sand and other coarse particles sandblasts the soil surface, eroding the stable crust, dislodging additional particles, and causing further erosion. Saltating particles can kill vegetation, scour stable land, and cause dust to be lofted into the air. See Figure 4-46. Wind rarely lifts sand higher than about 3 feet above ground. However, fine dust rises much higher, which eliminates any practical means of capture.

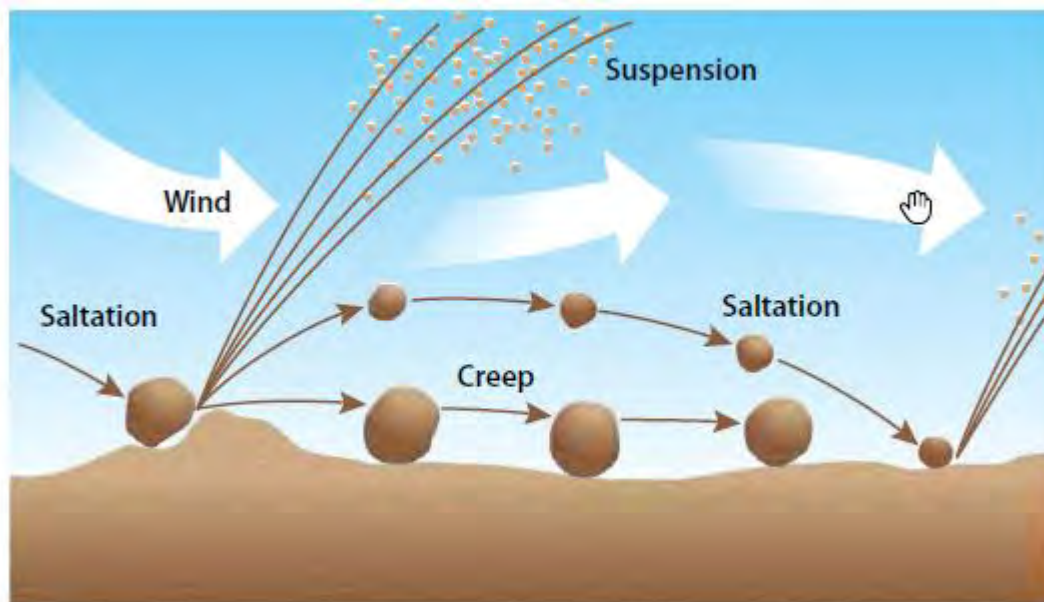


Figure 4-46. Illustration of various stages of erosion.

From Antelope Valley Dustbuster's Agricultural Guide to Controlling Windblown Sand and Dust, 2010,
http://www.kernair.org/Documents/Dust_Buster/Dustbusters%20Agricultural%20Guide%2010-25-10.pdf

Growers may choose to implement procedures that control dust, in order to improve visibility, reduce wind erosion and loss of topsoil, minimize damage to roads and structures, and limit health impacts due to poor air quality. Effective dust control methods conserve your topsoil, protect your downwind cropped acreage, and support compliance with air quality regulations. Soils remain viable for production only when soil loss is held below about 5 tons per acre per year. Dust regulations require submittal of a Best Management Practice Plan that includes selection of Practices for Agricultural Operations specifically developed for control of fugitive dust in the Mojave Desert. (Antelope Valley Dustbusters, 2010)



High winds can create hazardous dust storms in Kern County. Dust storms can damage agricultural crops, property, and create hazardous driving conditions. Dust storms are also a health hazard to residents that are forced to breathe particulates in the air. Dust storms in Kern County are most likely to occur in valley and desert areas.

4.5.8.1 Plans, Policies, and Regulatory Environment

Healthy Soils Action Plan

The California Healthy Soils Action Plan was created by a collaboration of state agencies and departments which are referred to as the Healthy Soils Initiative. They are headed by the California Department of Food and Agriculture. The California Healthy Soils Action Plan is meant to promote the development of healthy soils on California's farm and ranchlands. The benefits of healthy soil include increased plant health and yields, water retention, greenhouse gas sequestration, and reduced sediment erosion and dust. There are five primary actions which the Healthy Soils Initiative promotes:

- the protection and restoration of soil organic matter in California's soils.
- the identification of sustainable and integrated financing opportunities to facilitate healthy soils.
- the provision for research, education, and technical support to facilitate healthy soils.
- increased governmental efficiencies to enhance soil health on public and private lands.
- the promotion of interagency coordination and collaboration to support soils and related state goals.

Kern County General Plan

The 2004 Kern County General Plan includes several policies and implementation measures in the Land Use and Safety Elements that maintain soil stability in development areas and mitigate impacts from such development.

Policies around soil stability include minimizing alteration of the landscape in order maintain soil stability. The Kern County General Plan is currently being updated and will consider this MJHMP Update as it continues to shape policies around soil stability mitigation and protection.

Soil Stabilization: Maintenance of Disturbed Lands in Kern County Code, § 19.80

The Kern County Code includes a provision for the Eastern Kern Desert Region, which regulates any development that results in any surface disturbance. Best management practices are to be used for the minimization of soil erosion by onsite activities, rainfall, flowing water, or wind.

4.5.8.2 Past Events

Land subsidence in the San Joaquin Valley was first noted in 1935 near Delano. Accelerated ground water pumping of the deep aquifer system during the 1950's and 1960's caused about 75 percent of the total volume of land subsidence. The southern end of the Valley has seen the most subsidence, up to 4 to 8 feet in some areas. Some of the direct damages associated with subsidence in the Valley have included



decreased aquifer storage, partial or complete submergence of canals and associated bridges and pipe crossings, collapse of well casings, and disruption of collector drains and irrigation ditches.

Land subsidence in the vicinity of Edwards Air Force Base has been associated with declining ground water levels and the presence of subsurface fine-grained material that is subject to compaction. Groundwater pumping in this area has been extensive to satisfy water demands at the base as well as agricultural needs. Subsidence in this area was first reported in 1926 and by 1992 about 200 square miles of the Antelope Valley, which includes the Base, were affected by as much as 4 feet of subsidence. The average rate of subsidence between 1961 and 1989 has been about a tenth of a foot a year.

Land-use problems at Edwards AFB due to subsidence have included:

- Failure of well casings during compaction of the aquifer,
- Damage to fluid transport systems such as underground water, sewer, and petroleum lines,
- Erosion of drainage channels and formation of new drainage channels on the lakebed,
- Increase in areas subject to flooding as a result of subsidence,
- Development of cracks, fissures, soft spots and depressions that affect the use of runways,
- Rapid drainage of water on the lakebed into fissures and sink-like depressions. (Kern County MJHMP, 2014)

Erosion over time can be difficult to track as a past “event.” This HMP examines dust storms as past events that can be a catalyst for more rapid erosion in the County. Dust storms in Kern County have caused property damage, injuries, and deaths. Table 4-58 summarizes dust storm events in Kern County since 2000, as recorded by the National Oceanic and Atmospheric Administration (NOAA).

Table 4-58 Dust Storm Events 2000-2019

| Dust Storm Events | | | |
|--------------------------|---------------|-----------------|-----------------------------------|
| Date | Deaths | Injuries | Property Damage Value (\$) |
| 10/16/2007 | 0 | 0 | 500,000 |
| 10/13/2009 | 3 | 0 | 100,000 |
| 6/4/2012 | 0 | 0 | 25,000 |
| 6/4/2012 | 0 | 0 | 25,000 |
| 7/31/2012 | 0 | 0 | 5,000 |
| 1/23/2014 | 0 | 1 | 100,000 |
| 1/23/2014 | 0 | 0 | 3,000 |
| 3/26/2014 | 0 | 0 | 100,000 |
| 6/15/2014 | 0 | 0 | 60,000 |
| 11/2/2015 | 0 | 15 | 0 |
| 4/13/2017 | 0 | 0 | 100,000 |
| 9/3/2017 | 0 | 0 | 10,000 |
| 9/3/2017 | 0 | 0 | 10,000 |
| 9/3/2017 | 0 | 0 | 10,000 |



| Dust Storm Events | | | |
|-------------------|--------|----------|----------------------------|
| Date | Deaths | Injuries | Property Damage Value (\$) |
| 9/3/2017 | 0 | 0 | 10,000 |
| 9/3/2017 | 0 | 0 | 1,000 |
| 9/3/2017 | 0 | 0 | 1,000 |
| 9/3/2017 | 0 | 0 | 1,000 |
| 9/3/2017 | 0 | 0 | 1,000 |
| 9/3/2017 | 0 | 0 | 1,000 |
| Total | 3 | 16 | 1,062,000 |

4.5.8.3 Location

Subsidence from groundwater withdrawal affects the San Joaquin Valley, particularly the southwest end of the Valley in the vicinity of the Buena Vista Lakebed. Edwards Air Force Base in the Desert Region has also experienced subsidence problems in the vicinity of the Rogers Dry Lakebed. (Kern County MJHMP, 2014) Figure 4-47 shows subsidence areas in Kern County.

Erosion can occur throughout the County. The San Joaquin Valley and the Mojave Desert region have more rapid erosion events such as dust storms more often.

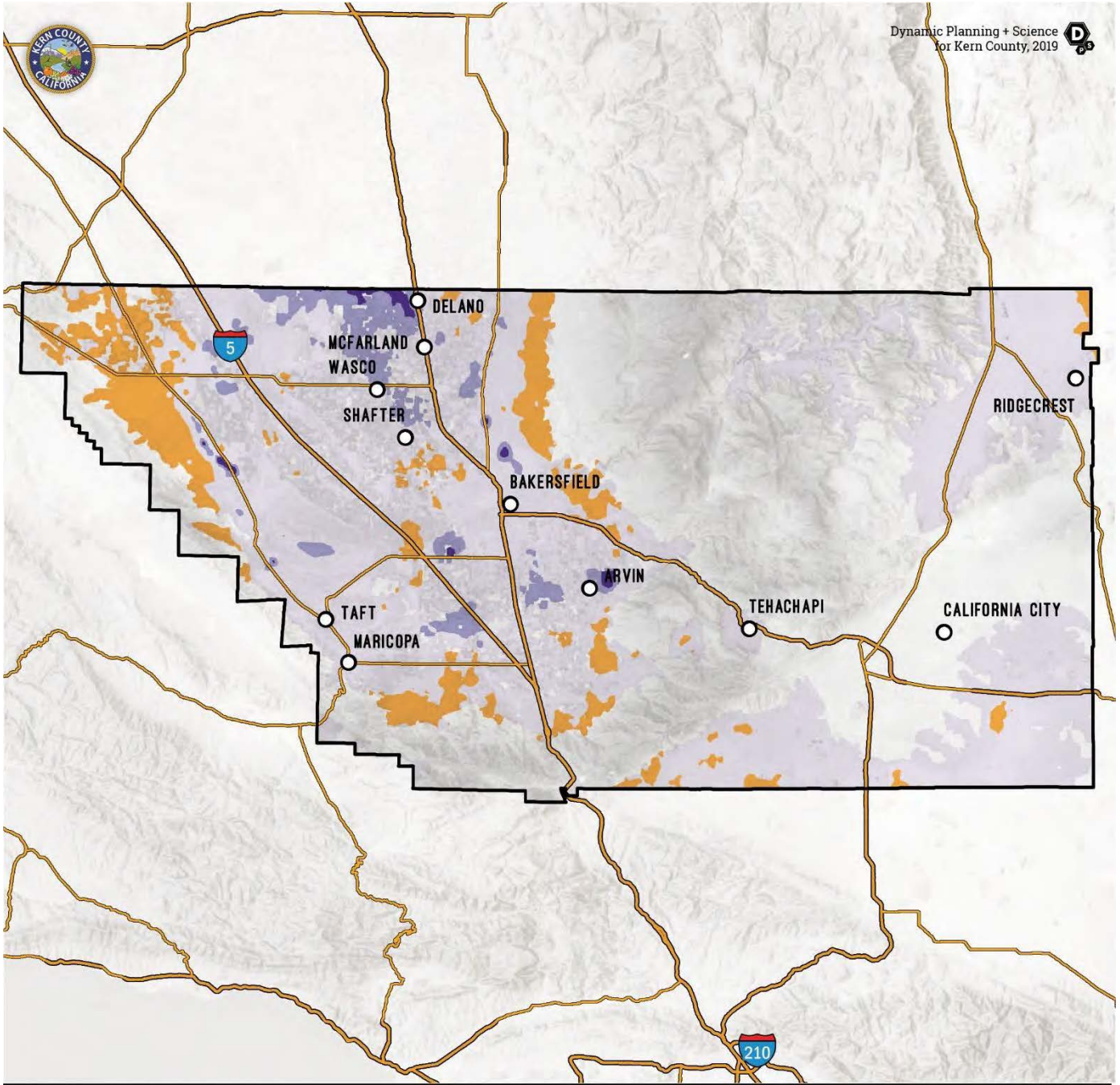
4.5.8.4 Frequency/ Probability of Future Occurrences

Subsidence is occurring in the Valley and Desert regions of Kern County. Now that the hazard is recognized and understood, subsidence from ground water withdrawal has generally slowed since the 1970's in the San Joaquin Valley due to reductions in ground water pumping. Long term subsidence is expected to continue, but at a slower rate than before. Studies indicate that subsidence in the Edwards AFB area will be between 0.5-1.7 feet in the next 25 years, depending on groundwater levels. Even though water levels have stabilized in the past 20 years, subsidence continues due to past stresses on the aquifer system. Continued population growth, water demands, and uncertain water supplies will likely continue the trend of groundwater withdrawal and continued subsidence. (Kern County MJHMP, 2014)

Erosion occurs slowly over time and is expected to continue occurring throughout the County to varying degrees. As drought intensifies and continues intensifying due to climate change, additional dust in the air will increase the probability and frequency of erosion. Dust storms are projected to increase as well.



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SUBSIDENCE AREAS KERN COUNTY

*Data sources: DWR.

MAP LEGEND

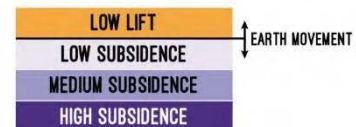


Figure 4-47 Subsidence Areas



4.5.8.5 Severity

Subsidence from any cause accelerates maintenance problems on roads, lined and unlined canals, and underground utilities. All new installations in areas suspected of subsidence should be engineered to withstand such subsidence. The usual remedial action is that of raising the water table by injecting water or by reducing groundwater pumping. This increases the fluid pressure in the aquifer and, in most instances, subsidence decreases or stops after a period of time. Figure 4-48 displays exposure of property and population in Kern County to land subsidence.



Figure 4-48. Subsidence example in San Joaquin Valley.

Source: Matt Ball, Nov. 19, 2013 in *Informed Infrastructure Magazine*, <https://informedinfrastructure.com/6816/land-subsidence-poses-risk-to-water-infrastructure-in-californias-san-joaquin-valley/>

Erosion occurs slowly over time and is expected to continue occurring throughout the County to varying degrees. As drought intensifies and continues intensifying due to climate change, additional dust in the air will increase the severity of erosion and dust storms.

4.5.8.6 Warning Time

Subsidence is a long-term hazard with a slow onset. Subsidence can occur years after groundwater pumping has stopped due to the long-term effects it has on the aquifer. Detailed studies and modeling can predict future subsidence based on past groundwater pumping. **Erosion** likewise occurs slowly over time with the exception of dust storms, which can accelerate erosion and cause damage as an extreme weather event.

4.5.8.7 Secondary Hazards

There are no significant secondary hazards associated with land **subsidence**. However, land subsidence has the possibility to alter floodplains making some areas more prone to flooding. **Erosion** can create secondary slope failure hazards such as landslides and mudflows. See Section 4.5.7 for more information on these secondary hazards.



4.5.8.8 Soil Stability Vulnerability Assessment

4.5.8.8.1 Population

Land subsidence poses a threat to the population of Kern County. Subsidence occurring near residential areas threatens homes and the populations that live in those areas. Figure 4-49 displays the number and percentage of the population which are in areas of the County that are vulnerable to land subsidence.

Wind erosion effects the population of Kern County because it can cause dust clouds. Dust clouds are a source of poor air quality. They have the effect of causing respiratory health problems. Wind erosion can also damage crop production and it can limit visibility, triggering roadway accidents. (Antelope Valley Dustbusters, 2010)

4.5.8.8.2 Critical Facilities

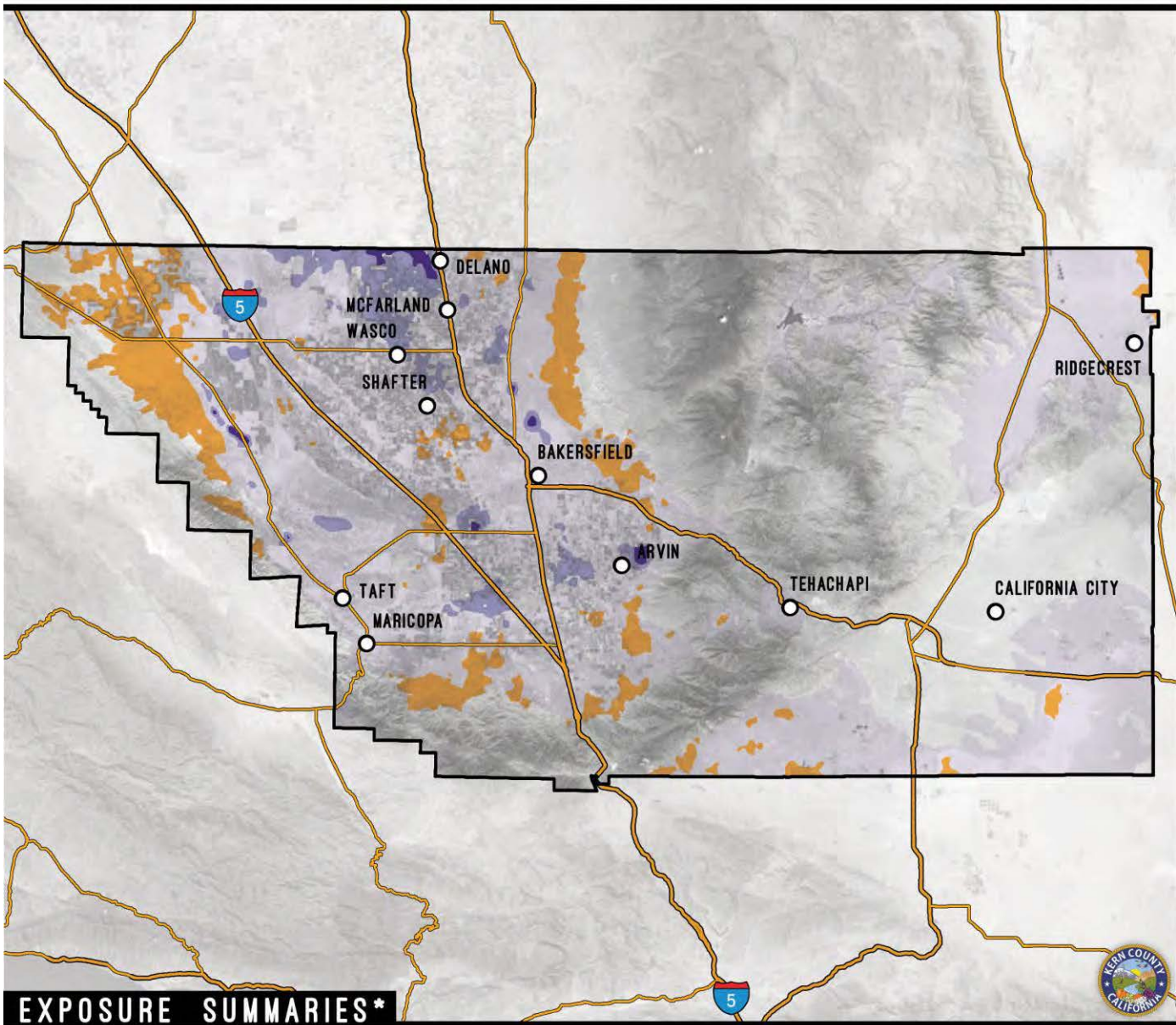
Critical facilities can be affected by land subsidence. Land subsidence creates maintenance problems on roads, lined and unlined canals, and underground utilities that can impact the County as a whole. Figure 4-49 displays the number and percentage of critical infrastructure which is in areas of the County which are vulnerable to land subsidence.

Wind erosion can negatively impact drainage infrastructure, especially in urban and agricultural areas. Erosion causes a continued need to remove sediment from drainage systems and basins. Sedimentation within these systems decreases the volume of flood flows that the system can handle. (Kern County MJHMP, 2014)



SUBSIDENCE VULNERABILITY & EXPOSURE SNAPSHOT

KERN COUNTY



EXPOSURE SUMMARIES*

POPULATION

| | |
|---------|-----|
| COUNT | |
| 265,101 | 88% |

PARCEL

| | |
|--------|-----|
| COUNT | |
| 76,994 | 84% |

PARCEL VALUE

| | |
|-----------------|-----|
| IMPROVEMENT | |
| \$8,989,026,902 | 82% |
| CONTENT | |
| \$4,495,077,951 | 82% |

CRITICAL INFRASTRUCTURE

| | |
|---------------------------|----------------------|
| COUNT | |
| Essential Facilities | 35 71% |
| High Potential Loss | 632 88% |
| Transportation & Lifeline | 4,133 73% 10,707 71% |

MAP LEGEND

| | |
|-------------------|----------------|
| LOW LIFT | EARTH MOVEMENT |
| LOW SUBSIDENCE | |
| MEDIUM SUBSIDENCE | |
| HIGH SUBSIDENCE | |

*Exposure summaries include all classes of earth movement.
Hazard data source: DWR.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science
for Kern County, 2019

Figure 4-49 Subsidence Vulnerability & Exposure Snapshot



4.5.8.9 Future Trends in Development

Future development has the potential to increase subsidence issues in Kern County. Private water well drilling during drought years can contribute to subsidence issues as it depletes the aquifer, increasing the amount of areas that are susceptible to subsidence. Kern County Department of Public Health issues permits to construct, reconstruct, and destroy water wells and evaluates the construction and water quality of existing wells. The Kern County General Plan acknowledges subsidence issues throughout Kern County and the County is capable of managing growth and development to avoid high risk subsidence areas. Geologic studies and mapping will enhance the County's understanding of high-risk subsidence areas and trends and help the County manage growth and development to avoid high risk areas.

Increased development in arid areas creates additional dust that can exacerbate erosion. (Robbins, 2017) As farming and other development spreads into arid regions, vegetation is destroyed and the soil is exposed to wind erosion. Expected future increase in droughts compound this issue. (*Id.*) This could affect Kern County in some key areas that may experience growth in already-arid exurban areas.

4.5.8.10 Soil Stability Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for the County and for each jurisdiction identified issues and weaknesses, also called problem statements, for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping tool and flood data. Agricultural disaster hazard problem statements are listed in Table 4-59; problem statements for all other participating jurisdictions are accessed in Volume 2 of this plan.

Identifying these common issues and weaknesses assists the Planning Committee in understanding the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-6 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-59 and Table 5-6.



Table 4-59 Soil Stability Hazard Problem Statements

| Problem No. | Hazard | Area of Concern | Mitigation Alternatives | Primary Agency | Problem Description | Related MA |
|--------------|----------------|-----------------|--|----------------|--|----------------------------|
| ps-SS-KC-221 | Soil Stability | Impact | PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | Increased groundwater pumping for private wells can contribute to land subsidence problems. | ma-DR-KC-291 |
| ps-SS-KC-222 | Soil Stability | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | Bridge at Rock Pile Rd. and Arvin Edison Canal is located in a high risk subsidence area and may need further investigation | ma-SS-KC-300 |
| ps-SS-KC-223 | Soil Stability | Impact | PPRO - Property Protection , SP - Structural Projects | County of Kern | There are 13 bridges in Unincorporated Kern County located in medium subsidence area which may require further investigation | ma-SS-KC-300 |
| ps-SS-KC-224 | Soil Stability | Impact | PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | Wind erosion could lead to soil accumulation on county roadways, creating hazardous driving conditions | ma-SH-KC-298, ma-SS-KC-299 |
| ps-SS-KC-225 | Soil Stability | Threat | PE&A - Public Education & Awareness , NRP - Natural Resource Protection | County of Kern | The presence of fallow agricultural fields and ag fields without cover crops contribute to wind erosion | ma-SH-KC-298 |
| ps-SS-KC-226 | Soil Stability | Threat | NRP - Natural Resource Protection | County of Kern | A lack of erosion control in areas around steep hillsides will increase the risk of landslide/mudflow/rockslide | ma-AH-KC-158 |
| ps-SF-KC-249 | Soil Stability | Impact | PPRO - Property Protection | County of Kern | The Lebec Landfill and Transfer Station site is located at the bottom of a canyon which is surrounded by high steep hills. Runoff from adjacent properties is eroding deep gullies into the hillsides. | Ma-AH-KC-245 |
| ps-SS-KC-250 | Soil Stability | Impact | PPRO - Property Protection | County of Kern | Bena Landfill could see future damage caused by precipitation. The following requires mitigation: high water velocity flows in earth ditches, steep grades and limited vegetation on surface slopes. | Ma-AH-KC-39 |
| ps-SS-KC-251 | Soil Stability | Impact | PPRO - Property Protection | County of Kern | Kern Valley Landfill and Transfer Station is at risk of erosion from high precipitation | Ma-AH-KC-63 |



Section 5. Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through typical problem-solving, as did the Steering Committees for each participating jurisdiction. Those steps included:

- Estimate the impacts (*See Vulnerability Assessment*);
- Describe the problem (*See Problem Statements*);
- Assess what resources exist to lessen impacts and problem (*See Capability Assessment*);
- Develop Goals and Objectives to address the problems (*See Goals and Objectives*); and
- Determine what can be done and develop actions that are appropriate for the community (*See Mitigation Action Matrix*).

5.1 Mitigation Alternatives

During Planning Committee Meeting #4 on November 14th, 2019 the MJHMP Planning Committee developed and reviewed mitigation actions with a wide range of alternatives, using FEMA's six broad categories of mitigation alternatives described below. The MJHMP Planning Committee considered many mitigation alternatives for implementation under each mitigation category, both county-wide and for individual participating jurisdictions.

PREVENTION (PRV):

Preventative activities keep hazard problems from getting worse and typically are administered through government programs or regulations addressing building and land development. Preventative actions are particularly effective in reducing a community's future vulnerability in areas where development has not occurred, or capital improvements have not yet been substantial. Examples of preventative activities include:

- Planning and zoning ordinances;
- Building codes;
- Open space preservation;
- Floodplain regulations;
- Stormwater management regulations;
- Drainage system maintenance;
- Capital improvements programming; and
- Riverine or fault zone setbacks.



PRV ALTERNATIVES:

- Establish ingress/ egress standards for future development.
- Enhance the County's GIS database and capabilities related to hazards information.
- Assist dam owners in updating their Emergency Action Plans.
- Maintain detention basins.
- Conduct detailed study and mapping of floodplains for Kern River and its tributaries, targeting problematic floodplains.
- Update and distribute wildfire risk mapping for Kern County.
- Restrict new development in dam inundation zones.
- Amend or revise water conservation regulations for landscape design for commercial and residential development with the goal of limiting outdoor watering.

PROPERTY PROTECTION (PPRO):

Property protection measures involve the modification of existing buildings and structures to help them better withstand the forces of a hazard, or removal of the structures from hazardous locations. Examples include:

- Building elevation;
- Critical facilities protection;
- Retrofitting (e.g., seismic design techniques, etc.);
- Safe rooms, shutters, shatter resistant glass; and
- Insurance.

PPRO ALTERNATIVES:

1. Continue to work with the County of Kern local Fire Safe Councils to conduct mitigation projects with homeowners. Provide homeowners easily accessible resources for mitigating the risk of wildfire around their homes.
2. Implement additional fuel reduction projects.
3. Remove existing structures from flood areas whenever and to the greatest extent possible; Relocate farm work centers from flood risk areas.
4. Encourage privately owned critical facilities (e.g. Churches, Hotels, other gathering facilities) to evaluate the ability of the buildings to withstand earthquakes and to address any deficiencies identified.
5. Identify and harden critical lifeline systems (i.e., critical public services such as utilities and roads) to meet "Seismic Design Guidelines and Standards for Lifelines" or equivalent standards such as American Lifelines Alliance (ALA) guidance.
6. Increase participation in NFIP.
7. Review construction plans for all bridges to determine their susceptibility to collapse and retrofitting problem bridges.
8. Use flexible piping when extending water, sewer, or natural gas service.



9. Strengthening and retrofitting non-reinforced masonry buildings and non-ductile concrete facilities that are particularly vulnerable to ground shaking
10. Install shutoff valves and emergency connector hoses where water mains cross fault lines.
11. Continue to incentivize drought-tolerant landscape design.

PUBLIC EDUCATION AND AWARENESS (PE&A):

Public education and awareness activities advise students, staff, parents, nearby residents, and elected officials about hazards, hazardous areas, and mitigation techniques they can use to protect themselves and their property. Measures to educate and inform the public include:

- Outreach projects including neighborhood and community outreach;
- Speaker series / demonstration events;
- Hazard mapping;
- Real estate disclosures;
- Materials library;
- School children educational programs; and
- Hazard expositions.

PE&A ALTERNATIVES:

1. Continue to work with the County of Kern local Fire Safe Councils educating homeowners on reducing the risk of wildfire on their property, including understanding their wildfire risk, and free site visits.
2. Distribute public education materials relating to natural hazards as well as emergency notifications in both English and Spanish.
3. Partner with Water Association of Kern County, Eastern Kern County Resource Conservation District, Kern Valley Resource Conservation District, North West Kern Resource Conservation District, and/or Tehachapi Resource Conservation District, and the Kern Valley River Council in their public education and conservation campaigns (in English and Spanish).
4. Encourage businesses to build financial reserves as part of economic development.
5. Improve floodplain management, earthquake preparedness, wildfire mitigation and preparedness, and other information on participating jurisdiction's websites.
6. Distribute National Flood Insurance Program and floodplain development information in County libraries for access by the public
7. Focus a public education program around neighborhoods with egress/ingress issues and narrow roads.
8. Improve interactive hazard mapping resources available to public.
9. Develop a public information campaign on 72-hour kits.
10. Develop a "Natural Hazard Awareness Week" campaign and conduct corresponding outreach to the community and all interested parties.



11. Conduct outreach to builders, architects, engineers, and inspectors about building susceptibility to earthquakes and proper design and building requirements.
12. Educate on the importance of drought-tolerant landscaping, low flow indoor fixtures, and other water savings techniques to better withstand periods of drought.
13. Partner with local organizations such as the Kern River Watershed Coalition Authority and Water Association of Kern County to educate farmers on soil and water conservation practices.
14. Offer agricultural disaster training and networking opportunities for farmers and ag regulatory agencies.

NATURAL RESOURCE PROTECTION (NRP):

Natural resource protection activities reduce the impact of natural hazards by preserving or restoring natural areas and their protective functions. Such areas include floodplains, wetlands, steep slopes, and sand dunes. Parks, recreation, or conservation agencies and organizations often implement these protective measures. Examples include:

- Floodplain protection
- Watershed management;
- Vegetation management (e.g., fire resistant landscaping, fuel breaks, etc.);
- Erosion and sediment control;
- Wetland and habitat preservation and restoration;

NRP ALTERNATIVES:

1. Continue to implement the Kern County Flood Hazard Mitigation Plan.
2. Protect and restore wetlands, riparian areas, and natural buffers to sea level rise, in particular continuing to implement restoration of Kern County rivers.
3. Continue to implement the County of Kern Storm Water Management Plan.
4. Complete vegetation management projects as prescribed in Community Wildfire Protection Plans.
5. Encourage and incentivize drought-tolerant landscape design.
6. Establish a priority list of slope failure locations and implement slope stabilization projects in the highest risk areas.

EMERGENCY SERVICES (ES):

Although not typically considered a “mitigation” technique, emergency service measures do minimize the impact of a hazard event on people and property. These commonly are actions taken immediately prior to, during, or in response to a hazard event. Examples include:

- Warning systems;
- Construction of evacuation routes;
- Sandbag staging for flood protection; and



- Installing temporary shutters on buildings for wind protection.

ES ALTERNATIVES:

1. Construct/Install back up power generators for fire stations, pump houses, emergency shelters and cooling centers.
2. Utilize website "Smart911," for vulnerable populations to register information such as where the individual in question lives, medications, restrictions, etc. Also, map registrants or tie information to Nixle alert system
3. Focus capital improvements on evacuation or emergency access routes needing attention.
4. Increase the capacity of existing hospitals through retrofits or upgrades such as isolation wings.
5. Construct or improve egress for wildfire emergencies in wilderness-urban interface (WUI) areas.

STRUCTURAL PROJECTS (SP):

Structural mitigation projects are intended to lessen the impact of a hazard by modifying the environmental natural progression of the hazard event through construction. They are usually designed by engineers and managed or maintained by public works staff. Examples include:

- Stormwater diversions / detention / retention infrastructure;
- Utility Upgrades
- Seismic Retrofits

SP ALTERNATIVES:

1. Continue Kern River restoration projects.
2. Improve water supply and delivery systems to be more resilient during times of drought.
3. Construct and develop alternative water supplies to augment single sources of water delivery.
4. Construct rainwater catchment systems to recharge groundwater in government ROWs.
5. Install water monitoring devices and drought-tolerant landscaping on government-owned facilities.
6. Improve stormwater drainage capacity; construct / improve stormwater basins County-wide to accomplish 100-YR protection.
7. Conduct regular maintenance for drainage systems and flood control structures.
8. Construct, install and maintain warning gauges on local dams as the opportunity or need arises.
9. Create an inventory and establish a priority list for culvert replacement that takes into account fish passage, flood depth reduction and future losses avoided.
10. Retrofit critical care facilities with enhanced HVAC and isolation areas.



5.2 Identifying the Problem

As part of the mitigation action identification process, the MJHMP Planning Committee identified the areas of concern and potential impacts of each of the identified hazards on the community. Developing these “problem statements” for areas of concern, which describe the nature of the consequences or effects of a hazard occurrence on the community and its assets, ensures the identified mitigation actions are tailored to the specific problems created by various hazard scenarios and are specific to each participating jurisdiction. Each jurisdiction’s problem statements are available as part of the Mitigation Action Support Tool (MAST), which is summarized in Section 3, Step STEP 3: Develop a Mitigation Strategy, available on mitigatehazards.com, and summarized in individual participating jurisdictions in Volume 2 of this plan.

See Section 5.5 for related Countywide mitigation actions, or related mitigation actions for each participating jurisdiction in Volume 2 of this plan.

5.3 Capabilities Assessment

This section examines the County’s planning and regulatory, administrative, technical, financial, educational, and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 2 of this HMP includes a capabilities assessment for each participating jurisdiction as part of their annexes.

The tables in this section explore various local planning mechanisms, administrative capacity, financial capabilities, and education and outreach initiatives. The columns in each table represent deeper dives into the following questions:

- Is the existing planning or regulatory mechanism used currently? (*Column 1, Status*)
- Has the HMP been integrated into the planning mechanism currently so that the named mechanism is currently used in HMP planning? (*Column 2, Current Mitigation Use*)
- Is there a future opportunity to expand, improve upon, and incorporate this 2020 HMP Update into the planning or regulatory mechanism? (*Column 3, Future Opportunity*)

The capabilities and evaluation is easily-digestible and based on color coding to indicate which policies and plans are adequate, need improvement or in which the HMP could be integrated. Each table includes a legend that explain how each one of these questions are being answered according to the color indicated: green, yellow, and orange.



5.3.1 Planning and Regulatory Mitigation Capabilities

The information in Table 5-1 is used to align mitigation actions with existing planning and regulatory capabilities of the County. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

Table 5-1: Kern County Planning and Regulatory Mitigation Capabilities

| CAPABILITY ASSESSMENT LEGEND | | |
|--|-------------------------------------|--|
| Status | Current Mitigation Use | Future Opportunity |
| Currently in use or present. | Used widely for mitigation. | Opportunity to expand and integrate. |
| (Sort of) Seldomly used or limited presence. | Limited use in mitigation planning. | Limited opportunity to expand and integrate. |
| (No) Not present or available. | Not used in mitigation planning. | No opportunity to expand or integrate. |

| Resource | HMP Integration | | | Notes / Additional Detail |
|--|-----------------|------------------------|--------------------|---|
| | Status | Current Mitigation Use | Future Opportunity | |
| Planning and Regulatory Capabilities | | | | |
| Construction and Future Development Regulations | | | | |
| Building Codes | | | | Title 17, Buildings and Construction. |
| BCEGS Rating | | | | |
| Public Protection (ISO Class) | | | | |
| Hazard Related Development Standards | | | | |
| Zoning Ordinance | | | | |
| Hazard-Specific Ordinance | | | | |
| Growth Management Ordinance | | | | |
| Hazard Reduction Programs (Annually Conducted) | | | | |
| Capital Improvements Program (CIP) or Plan | | | | See Education and Outreach Resource Capabilities. |
| Erosion/Sediment Control Program | | | | |
| Hazard-Related Public Outreach Program | | | | |
| Stormwater Management Program (Annual Inspections) | | | | |
| Seismic Safety Program (Non-structural) | | | | |
| Earthquake Modernization Plan (Building Safety) | | | | |



| Resource | HMP Integration | | | Notes / Additional Detail |
|---|-----------------|------------------------|--------------------|---|
| | Status | Current Mitigation Use | Future Opportunity | |
| Planning and Regulatory Capabilities | | | | |
| Hazard Plans | | | | |
| General Plan Safety Element | | | | Countywide CWPP expected 2021. |
| Community Wildfire Protection Plan (CWPP) | | | | |
| Floodplain Management Plan | | | | |
| Stormwater Management Plan | | | | |
| Emergency Operations Plan | | | | |
| Climate Action Plan | | | | Groundwater authorities with plans in Kern include the Kern Groundwater Authority for valley region and Mojave Water Agency |
| Ground Water Management Planning / Plans | | | | |
| National Flood Protection Program (NFIP) | | | | |
| Floodplain Management Regulations | | | | |
| Flood Insurance Education and Technical Assist. | | | | |
| Flood Hazard Mapping / Re-Mapping | | | | |
| Community Rating System (CRS) | | | | CRS Class 7 |



5.3.2 Financial Capabilities

Table 5-2 identifies the financial tools or resources that the County has used to fund mitigation activities.

Table 5-2: Kern County Fiscal Capabilities Summary

| CAPABILITY ASSESSMENT LEGEND | | |
|--|-------------------------------------|--|
| Status | Current Mitigation Use | Future Opportunity |
| Currently in use or present. | Used widely for mitigation. | Opportunity to expand and integrate. |
| (Sort of) Seldomly used or limited presence. | Limited use in mitigation planning. | Limited opportunity to expand and integrate. |
| (No) Not present or available. | Not used in mitigation planning. | No opportunity to expand or integrate. |

| Resource | HMP Integration | | | Notes / Additional Detail |
|--|-----------------|------------------------|--------------------|---------------------------|
| | Status | Current Mitigation Use | Future Opportunity | |
| Fiscal Capabilities | | | | |
| Financial Resources for Hazard Mitigation | | | | |
| Levy for Specific Purposes with Voter Approval | | | | |
| Utilities Fees | | | | |
| Benefit assessments | | | | |
| System Development Fee | | | | |
| General Obligation Bonds to Incur Debt | | | | |
| Special Tax Bonds to Incur Debt | | | | |
| Withheld Spending in Hazard-Prone Areas | | | | |
| Stormwater Service Fees | | | | |
| Capital Improvement Project Funding | | | | |



5.3.3 Education and Outreach

Table 5-3 lists the local citizen groups that communicate hazard risks.

Table 5-3: Kern County Education/ Outreach Capabilities Summary

| CAPABILITY ASSESSMENT LEGEND | | |
|--|-------------------------------------|--|
| Status | Current Mitigation Use | Future Opportunity |
| Currently in use or present. | Used widely for mitigation. | Opportunity to expand and integrate. |
| (Sort of) Seldomly used or limited presence. | Limited use in mitigation planning. | Limited opportunity to expand and integrate. |
| (No) Not present or available. | Not used in mitigation planning. | No opportunity to expand or integrate. |

| Resource | HMP Integration | | | Notes / Additional Detail |
|---|-----------------|------------------------|--------------------|---|
| | Status | Current Mitigation Use | Future Opportunity | |
| Education / Outreach Capabilities | | | | |
| Education/Outreach Resources | | | | |
| Website Dedicated to Hazard Topics | | | | https://www.kerncountyfire.org/en/emergency-preparedness-info/emergency-preparedness-links.html |
| Dedicated Social Media | | | | |
| Hazard Info. Avail. at Library/ Planning Desk | | | | |
| Annual Public Safety Events | | | | Law enforcement "National Night Out", Emergency Preparedness Fair, and September National Preparedness Month |
| Ability to Field Public Tech. Assistance Requests | | | | |
| Public Safety Newsletters or Printed Outreach | | | | |
| Fire Safe Councils | | | | The umbrella organization is the Kern Fire Safe Council. |
| Resource Conservation Districts | | | | |
| Other | N/A | N/A | N/A | |



5.3.4 Administrative and Technical Capabilities

Table 5-4 shows the administrative and technical capabilities of Kern County.

Table 5-4: Kern County Administrative and Technical Capabilities

| CAPABILITY ASSESSMENT LEGEND | | |
|--|-------------------------------------|--|
| Status | Current Mitigation Use | Future Opportunity |
| Currently in use or present. | Used widely for mitigation. | Opportunity to expand and integrate. |
| (Sort of) Seldomly used or limited presence. | Limited use in mitigation planning. | Limited opportunity to expand and integrate. |
| (No) Not present or available. | Not used in mitigation planning. | No opportunity to expand or integrate. |

| Resource | HMP Integration | | | Notes / Additional Detail |
|---|-----------------|------------------------|--------------------|---------------------------|
| | Status | Current Mitigation Use | Future Opportunity | |
| Administrative and Technical | | | | |
| Community Planning and Development Services | | | | |
| Community Planner | | | | |
| Civil Engineer | | | | |
| Building Code Official (Full time or Augmented) | | | | |
| Floodplain Administrator | | | | |
| Fire Marshal | | | | |
| Dedicated Public Outreach Personnel | | | | |
| GIS Specialist and Capability | | | | |
| Emergency Manager | | | | |
| Full-Time Building Official | | | | |
| Grant Manager, Writer, or Specialist | | | | |
| Other | N/A | N/A | N/A | |
| Warning Systems/Services | | | | |
| General | | | | |
| Flood | | | | |
| Wildfire | | | | |
| Geological Hazards | | | | |



5.3.4.1 Expanding and Improving Existing Policies and Programs

The capabilities assessment presents an opportunity for the County to examine what capabilities it does not currently have and where it makes the most sense to expand and improve upon those capabilities in the future. This assessment effort shaped mitigation actions for all hazards and for specific hazards that focus on expanding and improving existing policies and programs. See mitigation actions in Table 5-6 that relate to policy and program improvements identified by the County.

5.3.5 Federal and State Funding Opportunities

Table 5-5 is a list of available funding sources from state and federal agencies. This includes the FEMA Hazard Mitigation Assistance grant program, which is described in more detail in Section 6.3.5. This list serves as a resource and is not exclusive.

Table 5-5: Federal and State Funding Opportunities

| Agency / Grant Name | Potential Programs/Grants |
|--|--|
| FEMA Hazard Mitigation Assistance Grants | See Section 6 for FEMA/ HMA grant details. For more information on current grants visit https://www.fema.gov/hazard-mitigation-assistance <ul style="list-style-type: none"> Hazard Mitigation Grant Program (HMGP): https://www.fema.gov/hazard-mitigation-grant-program Building Resilient Infrastructure and Communities (BRIC): https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities Flood Mitigation Assistance Grant Program (FMA): https://www.fema.gov/flood-mitigation-assistance-grant-program |
| FEMA other grant programs | Including: <ul style="list-style-type: none"> Assistance to Firefighters Grant Program. Assistance to Firefighters Grants, Fire Prevention & Safety, and Staffing for Adequate Fire and Emergency Response. https://www.fema.gov/welcome-assistance-firefighters-grant-program Emergency Management Performance Grants (EMPG). Good for Equipment, Back Up Generators, Etc. https://www.fema.gov/emergency-management-performance-grant-program Regional Catastrophic Preparedness Grant Program (RCPGP). Housing and Logistics and Supply Chain Management, encouraging innovative regional solutions to issues related to catastrophic incidents, and building on existing regional efforts. https://www.fema.gov/regional-catastrophic-preparedness-grant-program |
| U.S. Dept. of Energy / Energy Efficiency and Conservation Block Grant Program | <i>Provides funding for weatherization of structures and development of building codes/ordinances to ensure energy efficiency and restoration of older homes.</i> https://www.energy.gov/eere/wipo/energy-efficiency-and-conservation-block-grant-program |



| Agency / Grant Name | Potential Programs/ Grants |
|--|---|
| State and County Community Development Dept. Block Grants (CDBG) | <p>Through Cal. Dept. of Housing and Community Development Dept. (HCD) Programs Include:</p> <ul style="list-style-type: none"> ▪ Community Development (CD) ▪ Economic Development (ED) ▪ Disaster Recovery Initiative (DRI) ▪ Neighborhood Stabilization Program (NSP) <p>https://www.hcd.ca.gov/grants-funding/active-funding/cdbg.shtml</p> |
| Cal OES Proposition 1B Grants Programs | <p>The Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, approved by the voters as Proposition 1B at the November 7, 2006 general election, authorizes the issuance of nineteen billion nine hundred twenty five million dollars (\$19,925,000,000) in general obligation bonds for specified purposes, including grants for transit system safety, security, and disaster response projects.</p> <p>http://www.caloes.ca.gov/cal-oes-divisions/grants-management/homeland-security-prop-1b-grant-programs/proposition-1b-grant</p> |
| California Proposition 1: the Water Bond (AB 1471) | <p>Authorize \$7.545 billion in general obligation bonds for state water supply infrastructure projects, such as public water system improvements, surface and groundwater storage, drinking water protection, water recycling and advanced water treatment technology, water supply management and conveyance, wastewater treatment, drought relief, emergency water supplies, and ecosystem and watershed protection and restoration.</p> <p>The State Water Resources Control Board (State Water Board) will administer Proposition 1 funds for five programs. The estimated implementation schedule for each is outlined in Five Categories:</p> <ul style="list-style-type: none"> ▪ Small Community Wastewater ▪ Water Recycling ▪ Drinking Water ▪ Stormwater ▪ Groundwater Sustainability <p>http://www.waterboards.ca.gov/water_issues/programs/grants_loans/proposition1.shtml</p> |
| Assistance to Firefighters Grant Program (AFG); Fire Prevention and Safety (FP&S) | <p>The primary goal of the FP&S Grants is to enhance the safety of the public and firefighters with respect to fire and fire-related hazards. The Grant Programs Directorate administers the FP&S Grants as part of the AFG Program. FP&S Grants are offered to support projects in two activity areas:</p> <p>1). Fire Prevention and Safety (FP&S) Activity Activities designed to reach high-risk target groups and mitigate the incidence of death and injuries caused by fire and fire-related hazards.</p> <p>2). Research and Development (R&D) Activity To learn more about how to prepare to apply for a project under this activity, please see the FP&S Research and Development Grant Application Get Ready Guide.</p> |



| Agency / Grant Name | Potential Programs/Grants |
|---|--|
| | https://www.fema.gov/fire-prevention-safety-grants |
| California Housing and Community Development (HCD) Emergency Solutions Grant (ESG) Program | <p><i>To fund projects that serve homeless individuals and families with supportive services, emergency shelter/transitional housing, assisting persons at risk of becoming homeless with homelessness prevention assistance, and providing permanent housing to the homeless population. The Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act of 2009 places new emphasis on assisting people to quickly regain stability in permanent housing after experiencing a housing crisis and/or homelessness.</i></p> <p>http://www.hcd.ca.gov/fa/esg/index.html</p> |
| CalTrans Division of Local Assistance / Safe Routes to School Program | <p>California Dept. of Transportation. Federal funding administered via Caltrans. Local 10% match is the minimum requirement.</p> <p>http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm</p> <p>Active transportation grant program. Creating mobility and connectivity. Prioritize projects, and preparation of PED for active transportation projects.</p> |
| Property Assessed Clean Energy (PACE) Programs | <p>PACE financing allows property owners to fund energy efficiency, water efficiency and renewable energy projects with little or no up-front costs. With PACE, residential and commercial property owners living within a participating district can finance up to 100% of their project and pay it back over time as a voluntary property tax assessment through their existing property tax bill.</p> |
| HazMat Emergency Preparedness Grant | <p>The purpose of this grant program is to increase effectiveness in safely and efficiently handling hazardous materials accidents and incidents; enhance implementation of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA); and encourage a comprehensive approach to emergency training and planning by incorporating the unique challenges of responses to transportation situations.</p> <p>http://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/hazmat-emergency-preparedness-grant</p> |
| CERT Program Manager Course | <p>The purpose of this Community Emergency Response Team (CERT) Program Manager course is to prepare CERT Program Managers for the tasks required to establish and sustain an active local CERT program.</p> <p>http://www.californiavolunteers.org/index.php/CERT/PM/</p> |
| California Residential Mitigation Program | <p>The California Residential Mitigation Program (CRMP) was established to carry out mitigation programs to assist California homeowners who wish to seismically retrofit their houses.</p> <p>http://www.californiarresidentialmitigationprogram.com/</p> |



| Agency / Grant Name | Potential Programs/ Grants |
|--|--|
| Earthquake Brace + Bolt (EBB) | <p>EBB, part of the California Residential Mitigation Program, was developed to help homeowners lessen the potential for damage to their houses during an earthquake by offering eligible homeowners up to a \$3,000 incentive to seismically retrofit their homes.</p> <p>https://www.earthquakebracebolt.com/</p> |
| California Air Resources Board Air Pollution Incentives, Grants and Credit Programs | <p>These programs have hundreds of millions of dollars in grants available over the next several years to reduce emissions from on- and off-road vehicles and equipment.</p> <p>https://www.arb.ca.gov/ba/fininfo.htm</p> |
| California Department of Water Resources Grants and Loans | <p>https://water.ca.gov/Work-With-Us/Grants-And-Loans</p> <p>Agency offers a variety of grants and loans related to integrated regional water management, flood mitigation, water conservation and efficiency, environmental restoration, groundwater, water quality, and water supply.</p> |
| US Bureau of Reclamation WaterSMART Grants | <p>Annual funding available for:</p> <ul style="list-style-type: none"> ▪ Water Reclamation and Reuse funding ▪ Drought Resiliency Project funding ▪ Water and Energy Efficiency Grant funding <p>https://www.usbr.gov/watersmart/</p> |



5.4 Mitigation Goals

Hazard mitigation plans must identify goals for reducing long-term vulnerabilities to identified hazards (44 C.F.R. § 201.6(c)(3)(i)). The Steering Committee established a set of goals for this plan, based on data from the preliminary risk assessment and the results of the public involvement strategy.

Goals discussed in this section describe what actions should occur. Specific, measurable mitigation actions explain how to accomplish the goals. The goals and actions form the basis for the development of the Mitigation Action Strategy and specific mitigation projects. The process consists of 1) setting goals, 2) considering mitigation alternatives, 3) identifying strategies or "actions", and 4) developing a prioritized action plan resulting in a mitigation strategy.

The goals, objectives, and mitigation actions in this plan all support each other. Objectives were selected that met multiple goals. Actions were prioritized based on their ability to achieve multiple objectives. A mitigation strategy is considered effective based on how well the goals of the strategy are achieved. The following are the goals for this plan:

Goal 1: Enable residents to mitigate the impacts of hazards and disasters.

Goal 2: Reduce hazard impacts to existing and future development and the natural environment.

Goal 3: Reduce hazard impacts to existing and future critical facilities, infrastructure, and high potential loss facilities.

Goal 4: Improve multi-jurisdiction coordination to reduce risk through mitigation planning and hazard analysis on a continual basis.



5.5 County Wide Mitigation Actions

Mitigation actions were developed based upon planning committee priorities, risk assessment results, and mitigation alternatives. Most importantly, the newly-developed mitigation actions acknowledge updated risk assessment information outlined in the Executive Summary under Risk Assessment.

Mitigation actions are available on MAST linked through mitigatehazards.com; the format allows for regular updating and easy sorting by jurisdiction and hazard. Figure 5-1 illustrates the mitigation actions entered through MAST.

Table 5-6 establishes mitigation actions for the County and Participating Jurisdictions. Each participating jurisdiction developed mitigation actions specifically tailored to their vulnerabilities and capabilities. Those mitigation actions are available as part of the planning process library, which is summarized for Kern County in Table 3-5, available on the Mitigation Action Application, and available for each individual participating jurisdiction in Volume 2 of this plan.

Some mitigation actions support ongoing activities of participating jurisdictions, while other actions are intended to be completed when funding is available. All mitigation actions will be reviewed annually.

Web-Based Mitigation Strategy

PROBLEM STATEMENTS **MITIGATION ACTIONS**

PPT Exercise

The screenshot shows the Napa County Mitigation Actions web application. It displays a list of problem statements on the left, including EQ-57, EQ-48, FL-50, FL-51, FL-52, FL-53, FL-54, and FL-55. Each problem statement is linked to a mitigation action. For example, FL-50 is linked to 'Cascading effect of Dam failure in the HMMWC'. The mitigation actions are listed on the right, including 'Climate Change', 'Drought', 'Earthquake', 'Flood', and 'Wildfire'. The application also shows details for each mitigation action, such as the hazard type, the mitigation action, and the jurisdiction responsible.

| Problem No. | Problem Description |
|-------------|--|
| 1 | Failure of infrastructure pipeline requires client storage tanks. |
| 2 | Travel to and from Treatment Plant Facility (Road Damage). |
| 3 | Operators would not be able to operate the facility if they are unable to reach it by vehicle. |
| 4 | Warning signals/alarms from treatment plant will not function if there is no cell phone service. |

| Problem No. | Problem Description |
|-------------|---|
| 5 | 145 Residences in Dam Failure Inundation Zone. |
| 6 | Volunteer Fire Department within inundation zone. |
| 7 | Customer's could be without water. Failure of properly treated water. |

| Problem No. | Problem Description |
|-------------|----------------------------------|
| 8 | Large Scale Earthquake near dam. |

Figure 5-1: Mitigation Action Application



5.5.1 Prioritization of Mitigation Actions

Implementing the identified mitigation can be overwhelming for any local jurisdiction or district, especially with limited staffing and fiscal resources; prioritizing the identified mitigation actions can help greatly with this. To ensure this MJHMP realistically reflects available resources, mitigation actions are prioritized by considering benefit cost review, public input, and MJHMP Planning Committee agreement.

5.5.1.1 Cost/ Benefit Review

The action plan must be prioritized according to a benefit/cost analysis of the proposed projects and their associated costs (44 C.F.R. §201.6(c)(3)(iii)). The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. This review does not meet FEMA Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program requirements. A less formal, less costly approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects. Cost ratings were defined as follows:

- **High**—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
- **Medium**—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- **Low**—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.

Benefit ratings were defined as follows:

- **High**—Project will provide an immediate reduction of risk exposure for life and property.
- **Medium**—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property.
- **Low**—Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly. For many of the strategies identified in this action plan, the partners may seek financial assistance under the HMGP or BRIC programs, both of which require detailed benefit/cost analyses. These analyses will be performed on projects at the time of application using the FEMA benefit-cost model. For projects not seeking financial assistance from grant programs that require detailed analysis, the partners reserve the right to define "benefits" according to parameters that meet the goals and objectives of this HMP.



5.5.1.2 Public Input

An 8-question community survey was distributed to the public, yielding 1,156 survey responses and useful insight into the community's perception of natural hazards affecting Kern County. Specific question responses heavily influenced the prioritization of mitigation actions, including:

- 77.9% of participants believe their property is at risk from a natural hazard disaster.
- 66.8% of respondents have experienced earthquakes, 24.9% experienced wildfire, and 38.4% experienced drought. Only 12.9% of respondents (or someone in their household) had not experienced a natural hazard.
- 60.2% of participants considered the risk of naturally occurring hazards when choosing their home.
- 59.6% of respondents felt they were well-informed about the dangers of natural hazards, while 31.1% felt somewhat informed and 9.4% felt not informed.
- When asked what incentives would encourage additional home protection from possible natural hazards, the top responses were insurance premium discounts (67.4%), rebate programs or reimbursement of upfront costs (66.8%), and home improvement cost-share grants (40%).
- Respondents indicated top mitigation projects that local government agencies should focus on:
 - Retrofit and strengthen essential facilities (59.7%)
 - Replace inadequate or vulnerable bridges and roadways (55.8%)
 - Retrofit or upgrade drainage systems (45.9%)
 - Work on improving damage resistance of utilities (68.2%)
 - Ensure emergency shelters, the Emergency Operations Center, and communication towers have backup power generators (57.5%)

The complete survey results can be found in Appendix B.



5.5.2 Mitigation Action Plan

Table 5-6 lists each mitigation action for the unincorporated County. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities; these are available on MAST and in Vol. 2 of this MJHMP. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST.

The detail provided in MAST and captured in Table 5-6 meets the regulatory requirements of FEMA and DMA 2000.

The actions detailed in Table 5-6 and MAST contain both new action items developed for this plan Update as well as old actions that were yet to be completed from the 2012 Plan. The action numbers indicate whether the action is new or from the 2012 plan. A sample of the action number nomenclature is presented in Figure 5-2.

Section 2, What's New, illustrates progress towards new and previous mitigation action and indicates how many actions have been completed, deleted, or are ongoing or pending.

Important to note: The Planning Committee realizes that new needs and priorities may arise as a result of a disaster or other circumstances and reserves the right to support new actions and edit existing actions as necessary as long as they conform to the overall goals of the plan

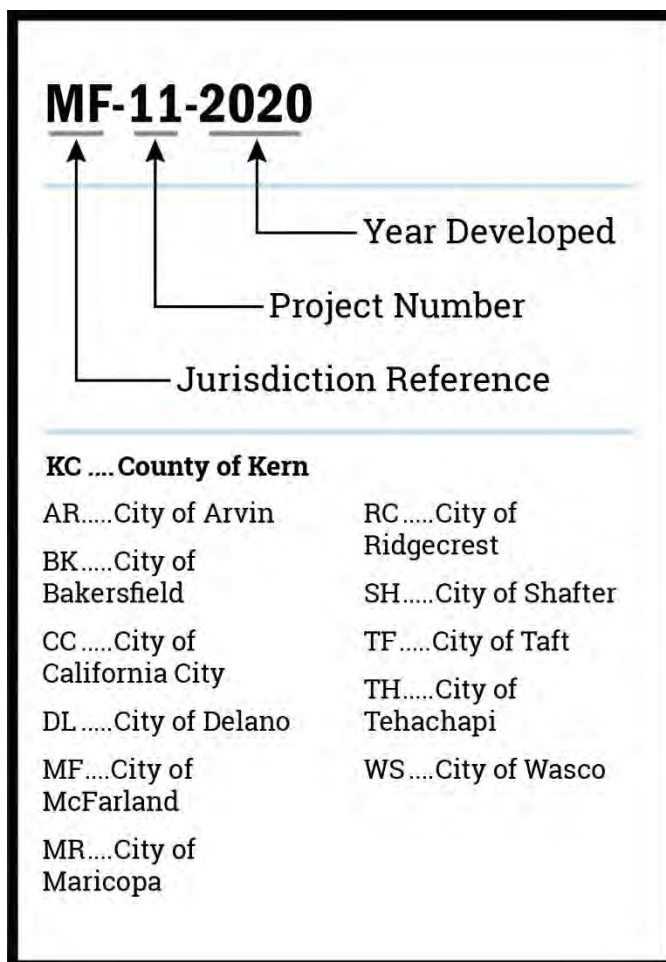


Figure 5-2: Mitigation Action Number Key



Table 5-6: County Wide Mitigation Action Tracker

| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-------------|-------------------------------------|---------|------|----------------|---|--|---|--|------------|-------------------|------------------------|----------|--|
| ma-AH-KC-201 | All Hazard | PE&A - Public Education & Awareness | Ongoing | 2005 | County of Kern | Hazard Public Education | Kern County Office of Emergency Services | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Low - Long-term benefits of the project are difficult to quantify in the short term. | Ongoing | 5% | EMPG | Low | ps-WF-KC-240 |
| ma-AH-KC-104 | All Hazard | ES - Emergency Services | Pending | 2005 | County of Kern | Remote Automated Weather Station System | Kern FD | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | HMGP / BRIC | Medium | ps-WF-KC-238, ps-WF-KC-239 |
| ma-DF-KC-384 | Dam Failure | ES - Emergency Services | Pending | 2020 | County of Kern | Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure | Kern County | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | FMA | Medium | ps-DF-KC-252, ps-DF-KC-253, ps-DF-KC-254 |
| ma-DR-KC-290 | Drought | PE&A - Public Education & Awareness | Ongoing | 2020 | County of Kern | Develop a public education campaign to encourage water conservation during drought. | Public Works, Planning, Building | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | 5% | HMGP / BRIC | Medium | ps-DR-KC-215 |
| ma-DR-KC-291 | Drought | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Install remote monitoring devices on well flow meters on County owned wells | Public Health Services | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | | HMGP / BRIC | High | ps-SS-KC-221, ps-DR-KC-216, ps-DR-KC-217 |
| ma-DR-KC-293 | Drought | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Amend land use codes to incorporate regulations that encourage and incentive water savings for development | Planning and Natural Resources | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | 1-3 Years | Planning | HMGP / BRIC | Medium | ps-DR-KC-219, ps-DR-KC-220 |
| ma-DR-KC-294 | Drought | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Replace existing turf grass and water intensive landscaping with drought resistant landscaping | General Services | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Planning | HMGP / BRIC | Medium | ps-DR-KC-218 |



COUNTY OF KERN

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| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-------------|-------------------------------------|---------|------|----------------|---|---|---|--|-------------------|-------------------|------------------------|----------|----------------------------|
| ma-DR-KC-384 | Drought | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Expand Willow Springs Water Bank to reduce drought and increase water supply flexibility and sustainability | Executive Office | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | HMGP / BRIC | High | ps-DR-KC-216, ps-DR-KC-217 |
| ma-EQ-KC-297 | Earthquake | PE&A - Public Education & Awareness | Ongoing | 2020 | County of Kern | Encourage privately owned critical facilities (e.g. churches, hotels, other gathering facilities) to evaluate the ability of the buildings to withstand earthquakes and to address any deficiencies identified. | Kern County | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | 5% | HMGP / BRIC | High | ps-EQ-KC-243 |
| ma-AH-KC-111 | Earthquake | PPRO - Property Protection | Pending | 2005 | County of Kern | Mobile Home Foundation Earthquake Retrofitting | Kern County Office of Emergency Services | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Funding Dependent | Project | HMGP / BRIC | Medium | ps-EQ-KC-242 |
| ma-EQ-KC-102 | Earthquake | PPRO - Property Protection | Pending | 2005 | County of Kern | Formation of Kern County Unreinforced Masonry Task Force | Since 10 communities will be potentially involved, the topic of who facilitates and coordinates the work will have to be decided. Initially options include a committee representing all of the candidate jurisdictions, County OES, or the Kern County Council of Governments. | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | Planning | HMGP / BRIC , CDBG DRI | High | ps-EQ-KC-242 |



| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-----------------|-------------------------------------|---------|------|----------------|--|--------------------------------|---|--|------------|-------------------|------------------------|----------|--|
| ma-EQ-KC-305 | Earthquake | PPRO - Property Protection | Pending | 2020 | County of Kern | Participate in seismic studies and needed seismic retrofits on County bridges that are located in high risk areas for earthquake scenarios included in this HMP | Public Works | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | HMGP / BRIC | High | ps-EQ-KC-246, ps-AH-ENCSD-10 |
| ma-EQ-KC-306 | Earthquake | PPRO - Property Protection | Pending | 2020 | County of Kern | Evaluate soil liquefaction potential around County assets in areas with shallow groundwater | Public Works | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | HMGP / BRIC | Medium | ps-EQ-KC-247 |
| ma-EQ-KC-307 | Earthquake | PPRO - Property Protection | Pending | 2020 | County of Kern | Install seismic gas shut-off valves on County buildings to prevent the flow of gas into buildings during a seismic event | General Services | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 1-3 Years | Project | HMGP / BRIC | High | ps-EQ-KC-243, ps-EQ-KC-244, ps-EQ-KC-245 |
| ma-EQ-KC-295 | Earthquake | SP - Structural Projects | Pending | 2020 | County of Kern | Retrofit / Harden County-owned critical facilities and buildings and their ability to withstand earthquakes. | General Services | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | HMGP / BRIC | High | ps-EQ-KC-242, ps-EQ-KC-243, ps-EQ-KC-244, ps-EQ-KC-245 |
| ma-EQ-KC-296 | Earthquake | SP - Structural Projects | Pending | 2020 | County of Kern | Retrofit non-compliant suspended ceilings in County buildings. This includes Non-Structural Suspended Gypsum Dry-Wall & Cement Plaster Ceilings built 1950-1974. | Public Works - Building | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | HMGP / BRIC | High | ps-EQ-KC-243, ps-EQ-KC-244, ps-EQ-KC-245, ps-EQ-KC-248 |
| ma-EW-KC-301 | Extreme Weather | PE&A - Public Education & Awareness | Ongoing | 2020 | County of Kern | Outreach and Education to developers before and during the development process about best management practices to mitigate the effects of the urban heat island effect and stormwater runoff resulting from increased impervious surface | Planning and Natural Resources | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | 5% | HMGP / BRIC | Medium | ps-EW-KC-229 |



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| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-----------------|-------------------------------------|---------|------|----------------|---|---|---|--|-------------------|-------------------|------------------------|----------|--|
| ma-EW-KC-435 | Extreme Weather | PE&A - Public Education & Awareness | Pending | 2020 | County of Kern | Develop outreach to educate the public, via County communication channels, on preparedness for driving in winter weather including preparing your vehicle, driving techniques, and what to do if caught in a winter weather event while driving. | Kern County | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | 5% | HMGP / BRIC | Medium | ps-EW-KC-338 |
| ma-FL-KC-202 | Flood | NRP - Natural Resource Protection | Ongoing | 2005 | County of Kern | Kern Lake CRMP Master Plan Mitigation Projects | Building and Development | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | Funding Dependent | Project | FMA | Low | |
| ma-FL-KC-283 | Flood | PRV - Prevention | Ongoing | 2020 | County of Kern | Adopt higher regulatory standards (including but not limited to freeboard, comp storage, lower substantial damage thresholds, setback and fill restrictions) as means to reduce future flood risk and support a no-adverse-impact (NAI) philosophy to floodplain management | Public Works - Building and Development | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | 1-3 Years | Planning | FMA | Medium | ps-FL-KC-214, ps-FL-KC-177, ps-FL-KC-180, ps-FL-KC-181 |
| ma-FL-KC-284 | Flood | PRV - Prevention | Ongoing | 2020 | County of Kern | Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure | Public Works - Building and Development | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | Project | HMGP / BRIC | High | ps-FL-KC-174, ps-FL-KC-179, ps-FL-KC-204 |
| ma-FL-KC-285 | Flood | SP - Structural Projects | Ongoing | 2020 | County of Kern | Elevate and retrofit bridges and culverts to allow proper stormwater / 100-YR flows | Public Works - Building and Development | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | FMA | Medium | ps-FL-KC-175, ps-FL-KC-204 |
| ma-AH-KC-153 | Flood | PPRO - Property Protection | Pending | 2005 | County of Kern | Caliente Creek Habitat Mitigation Project | Kern County Engineering and Survey Services | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | FMA | High | ps-FL-KC-209 |
| ma-AH-KC-158 | Flood | PPRO - Property Protection | Pending | 2005 | County of Kern | Cuddy Creek Restoration Project | Kern County Engineering and Survey Services | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 1-3 Years | Project | FMA | High | ps-SS-KC-226 |



| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-------------|-----------------------------------|---------|------|----------------|---|--|---|--|-------------------|-------------------|------------------------|----------|--|
| ma-FL-KC-110 | Flood | PPRO - Property Protection | Pending | 2005 | County of Kern | Flood Mitigation Plan | Public Works - Building and Development | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Funding Dependent | Planning | FMA | High | ps-FL-KC-173, ps-FL-KC-176, ps-FL-KC-177, ps-FL-KC-178, ps-FL-KC-179, ps-FL-KC-180, ps-FL-KC-181 |
| ma-FL-KC-99 | Flood | NRP - Natural Resource Protection | Pending | 2014 | County of Kern | Streambed Mitigation in Kern River South Fork at Sierra Hwy (north of SR 178) | Kern County Engineering & Surveying Services (Flood Plain Management) and Kern County Roads Department | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | FMA | Medium | ps-FL-KC-185 |
| ma-FL-KC-70 | Flood | PPRO - Property Protection | Pending | 2014 | County of Kern | Continue to Implement Sound Floodplain Management Practices through Participation in the National Flood Insurance Program | Engineering, Surveying and Permit Services Department | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Planning | HMGP / BRIC | Medium | ps-FL-KC-214, ps-FL-KC-173, ps-FL-KC-176, ps-FL-KC-177, ps-FL-KC-178, ps-FL-KC-179, ps-FL-KC-180, ps-FL-KC-181 |
| ma-FL-KC-97 | Flood | PPRO - Property Protection | Pending | 2014 | County of Kern | Lake Isabella Blvd Box Culvert at Erskine Creek (near Elizabeth Norris Rd) | Kern County Roads Department | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | HMGP / BRIC | Medium | |
| ma-FL-KC-82 | Flood | SP - Structural Projects | Pending | 2014 | County of Kern | Bridge on Famoso Road at Poso Creek (approx 1/3 mile east of State Hwy 99) | Kern County Roads Department | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | Funding Dependent | Project | FMA | Medium | ps-FL-KC-207 |
| ma-FL-KC-98 | Flood | SP - Structural Projects | Pending | 2014 | County of Kern | Construct a Box Culvert across Redrock Randsburg Road at Redrock Canyon Wash (just east of Hwy 14) | Public Works-Building and Development | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | FMA | High | ps-EW-KC-227 |
| ma-FL-KC-302 | Flood | PPRO - Property Protection | Pending | 2020 | County of Kern | Kern Storm Water Resource Plan Mitigation Projects | Public Works | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | FMA | High | |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|----------------|-----------------------------------|---------|------|----------------|--|--|---|--|------------|-------------------|------------------------|----------|--|
| ma-FL-KC-303 | Flood | PPRO - Property Protection | Pending | 2020 | County of Kern | Kern County Flood Hazard Mitigation Plan - Projects | Public Works | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | FMA | High | ps-FL-KC-210, ps-FL-KC-211, ps-FL-KC-212, ps-FL-KC-213, ps-FL-KC-182, ps-FL-KC-183, ps-FL-KC-184 |
| ma-FL-KC-304 | Flood | PPRO - Property Protection | Pending | 2020 | County of Kern | County of Kern Caliente Creek - Conceptual Plan for Mitigation | Public Works | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | FMA | High | ps-FL-KC-208, ps-FL-KC-209 |
| ma-SF-KC-292 | Slope Failure | PPRO - Property Protection | Pending | 2020 | County of Kern | Establish a priority list of slope failure locations and implement slope stabilization projects in the highest risk areas. | Public Works | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | Low - Long-term benefits of the project are difficult to quantify in the short term. | 5-10 Years | Project | HMGP / BRIC | Low | ps-SF-KC-230, ps-SF-KC-231 |
| ma-AH-KC-245 | Soil Stability | PPRO - Property Protection | Ongoing | 2005 | County of Kern | Lebec Landfill and Transfer Station Drainage Improvements and Erosion Control | Kern County Waste Management Department | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | 1-3 Years | Project | | High | ps-SF-KC-249 |
| ma-AH-KC-63 | Soil Stability | PPRO - Property Protection | Pending | 2014 | County of Kern | Kern Valley Landfill and Transfer Station Drainage Improvements and Erosion Control | County of Kern Waste Management Department | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | 1-3 Years | Project | HMGP / BRIC | High | ps-SS-KC-251 |
| ma-SS-KC-299 | Soil Stability | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Implement wind breaks to prevent wind erosion leading to buildup of soil on County roads and bridges. Wind break erosion mitigation examples include solid fences, porous fences, straw bales, soil surface modification, berms, and landscaping | Public Works | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | 1-3 Years | Project | HMGP / BRIC | Medium | ps-SS-KC-224 |



| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|----------------|-------------------------------------|---------|------|----------------|---|------------------------------|---|--|------------|-------------------|------------------------|----------|--|
| ma-SS-KC-300 | Soil Stability | NRP - Natural Resource Protection | Pending | 2020 | County of Kern | Conduct subsidence investigations on County bridges located in high subsidence areas | Public Works and Engineering | High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | High - Project will provide an immediate reduction of risk exposure for life and property. | 5-10 Years | Project | HMGP / BRIC | Medium | ps-SS-KC-222, ps-SS-KC-223 |
| ma-SH-KC-298 | Soil Stability | PE&A - Public Education & Awareness | Pending | 2020 | County of Kern | Outreach and educational programming to property owners and agricultural growers about wind erosion and mitigation techniques such as introducing cover crops, eliminating tillage, and avoiding over grazing | Agriculture & Administration | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | Project | HMGP / BRIC | Medium | ps-SS-KC-224, ps-SS-KC-225 |
| ma-AH-KC-179 | Wildfire | NRP - Natural Resource Protection | Ongoing | 2005 | County of Kern | Hazard Tree Removal, County Park Lands | Kern County FD, KC Parks | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | Project | HMGP / BRIC | High | ps-WF-KC-241, ps-EW-KC-228 |
| ma-WF-KC-231 | Wildfire | NRP - Natural Resource Protection | Ongoing | 2005 | County of Kern | Roadside Disc Breaks | KCFD | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Annually | Project | HMGP / BRIC | High | ps-WF-KC-241 |
| ma-WF-KC-183 | Wildfire | PE&A - Public Education & Awareness | Ongoing | 2005 | County of Kern | Defensible Space, Public Education | Kern County FD | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | 5% | HMGP / BRIC , FP&S | High | ps-WF-KC-232, ps-WF-KC-233, ps-WF-KC-234, ps-WF-KC-235, ps-WF-KC-236, ps-WF-KC-240 |
| ma-WF-KC-184 | Wildfire | PE&A - Public Education & Awareness | Ongoing | 2005 | County of Kern | Education, Fire Department Personnel | KCFD | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | Medium - Project will have a long-term impact on the reduction of risk exposure for life and property, or project will not provide an immediate reduction in the risk exposure for property. | Ongoing | 5% | FP&S | Medium | ps-WF-KC-232, ps-WF-KC-233, ps-WF-KC-234, ps-WF-KC-235, ps-WF-KC-236, ps-WF-KC-240 |
| ma-WF-KC-180 | Wildfire | PPRO - Property Protection | Ongoing | 2005 | County of Kern | Greater Tehachapi Area Community Wildfire Protection Plan (was Hazardous Wildland Fuels Mitigation, Greater Tehachapi Area) | KCFD | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | HMGP / BRIC | High | ps-WF-KC-236 |



| Mitigation No. | Hazard Type | Mitigation Type | Status | Year | Primary Agency | Title/Description | Responsible Party | Estimated Cost | Estimated Benefit | Time Frame | HMA Activity Type | Potential Grant Source | Priority | Related Problem Statements |
|----------------|-------------|----------------------------|---------|------|----------------|--|-------------------|---|--|------------|-------------------|------------------------|----------|----------------------------|
| ma-WF-KC-181 | Wildfire | PPRO - Property Protection | Ongoing | 2005 | County of Kern | Mount Pinos Community Wildfire Protection Plan (was Hazardous Wildland Fuels Mitigation, Frazier Mtn Area) | KCFD | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | HMGP / BRIC , FMA | High | ps-WF-KC-234 |
| ma-WF-KC-182 | Wildfire | PPRO - Property Protection | Ongoing | 2005 | County of Kern | Kern River Valley Community Wildfire Protection Plan (formerly Hazardous Wildland Fuels Mitigation, Kern River Valley) | KCFD | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | FP&S | High | ps-WF-KC-233 |
| ma-WF-KC-286 | Wildfire | PPRO - Property Protection | Ongoing | 2020 | County of Kern | Retrofit care facilities (adult care, child care, schools) with fire-resistant materials and or create defensible space around structures. | Kern County Fire | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | 3-5 Years | Project | FP&S | High | ps-WF-KC-238, ps-WF-KC-239 |
| ma-WF-KC-287 | Wildfire | PPRO - Property Protection | Ongoing | 2020 | County of Kern | The Alta Sierra CWPP details mitigation needed to protect 7 structure protection groups throughout the WUI in Alta Sierra Community. | Kern County Fire | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | FP&S | High | ps-WF-KC-232 |
| ma-WF-KC-288 | Wildfire | PPRO - Property Protection | Ongoing | 2020 | County of Kern | Myers Canyon CWPP Mitigation Projects | Kern County Fire | Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years. | High - Project will provide an immediate reduction of risk exposure for life and property. | Ongoing | Project | FP&S | High | ps-WF-KC-235 |
| ma-WF-KC-289 | Wildfire | PPRO - Property Protection | Ongoing | 2020 | County of Kern | Make high visibility address markers available to all residents within the WUI | Kern County Fire | Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | High - Project will provide an immediate reduction of risk exposure for life and property. | 1-3 Years | Project | FP&S | High | ps-WF-KC-237 |

Note: As a living document, project descriptions and actions in the tables above will be modified to reflect current conditions over time in MAST.



Section 6. Plan Implementation and Maintenance

It is important that this plan becomes a usable, used tool for all participating jurisdictions to ensure reductions in possible damage from a natural hazard event. This section discusses adopting, implementing, monitoring, evaluating, and updating the MJHMP, which should help ensure that the MJHMP remains relevant. This section describes incorporation of the MJHMP into existing planning mechanisms, and how the jurisdictions will continue to engage the public.

6.1 Plan Adoption

To comply with DMA 2000, the Kern County Board of Supervisors has officially adopted the Kern County Multi-Jurisdiction Hazard Mitigation Plan. The adoption of the MJHMP recognizes the County's commitment to reducing the impacts of natural hazards within the County. A copy of the MJHMP adoption resolution is included immediately following the Executive Summary.

6.2 Plan Implementation

Over time, implementation strategies for mitigation actions will become more detailed. MAST will be extremely useful to plan for updates to this MJHMP and to update individual mitigation actions as implemented or revised. In conjunction with the progress report processes, implementation strategy worksheets will be extremely useful as a plan of record tool for updates. Each implementation strategy worksheet provides individual steps and resources need to complete each priority mitigation action. The following are considerations for developing future implementation strategies:

- **Use processes that already exist.** Take advantage of tools and procedures identified in the capability assessment in Section 5.3. Using planning mechanisms already in use and familiar to participating jurisdictions will give the planning implementation phase a strong initial boost.
- **Updated work plans, policies, or procedure.** Incorporating hazard mitigation concepts and activities can help integrate the HMP into daily operations. These changes can include how major development projects and subdivision reviews are addressed in hazard prone areas or ensure that hazard mitigation concerns are considered in the approval of major capital improvement projects.
- **Job descriptions.** Working with department or agency heads to revise job descriptions of government staff to include mitigation-related duties, including designating a "mitigation lead" within a department, can further institutionalize hazard mitigation with little financial expenditure or programmatic overhaul.

6.2.1 Steering Committee

The Steering Committee oversaw the development of the plan and made recommendations on key elements of the plan, including the maintenance strategy. The Steering Committee recommended that an



oversight committee, referred to herein as the MJHMP Steering Committee, should have an active role in the plan maintenance strategy. Therefore, it is recommended that the MJHMP Steering Committee become involved in key elements of the plan maintenance strategy. The new MJHMP Steering Committee should strive to include representation from the planning partners, as well as other stakeholders in the planning area.

The new MJHMP Steering Committee will review the annual progress report and provide input to Kern County on possible improvements or action steps to be considered at the next update. Keeping this new MJHMP Steering Committee intact will also jump start future updates. Completion of a progress report is the responsibility of each participating jurisdiction, not the responsibility of the steering committee. It will simply be the MJHMP Steering Committee's role to review the progress report in an effort to identify issues needing to be addressed by future plans.

6.3 Monitoring, Evaluating and Updating the MJHMP

This section describes the schedule and process for monitoring, evaluating, and updating the MJHMP.

6.3.1 Schedule

Monitoring the progress of the mitigation actions will be ongoing throughout the five-year period between the adoption of the MJHMP and the next update effort. The newly-formed MJHMP Steering Committee will meet biannually to monitor the implementation of mitigation actions and develop updates as necessary.

The MJHMP will be updated every five years, as required by DMA 2000. The update process will begin at least one year prior to the expiration of the MJHMP. However, should a significant disaster occur within the County, the MJHMP Steering Committee will reconvene within 30 days of the disaster to review and update the MJHMP as appropriate. The Board of Supervisors will adopt written updates to the MJHMP as a DMA 2000 requirement.

6.3.2 Mitigation Action Support Tool (MAST) Updates

Hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for Kern County, available on project website, (<http://mitigatehazards.com/county-of-kern/>), to ensure this MJHMP stays a living document.

MAST is a web-based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdiction staff and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts. Users can update the status of their mitigation projects throughout the planning lifecycle and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including the initial grant application processes through Cal OES.



6.3.3 Process

The MJHMP Steering Committee will coordinate with responsible agencies/organizations identified for each mitigation action. These responsible agencies/organizations will monitor and evaluate the progress made on the implementation of mitigation actions and report to the MJHMP Steering Committee on an annual basis. These responsible departments will assess the effectiveness of the mitigation actions and modify them as appropriate. MAST will assist mitigation project managers in reporting on the status and assessing the effectiveness of the mitigation actions. Most updates to the HMP will occur easily through MAST. Figure 6-1 displays MAST viewing details for problem statements and mitigation actions.

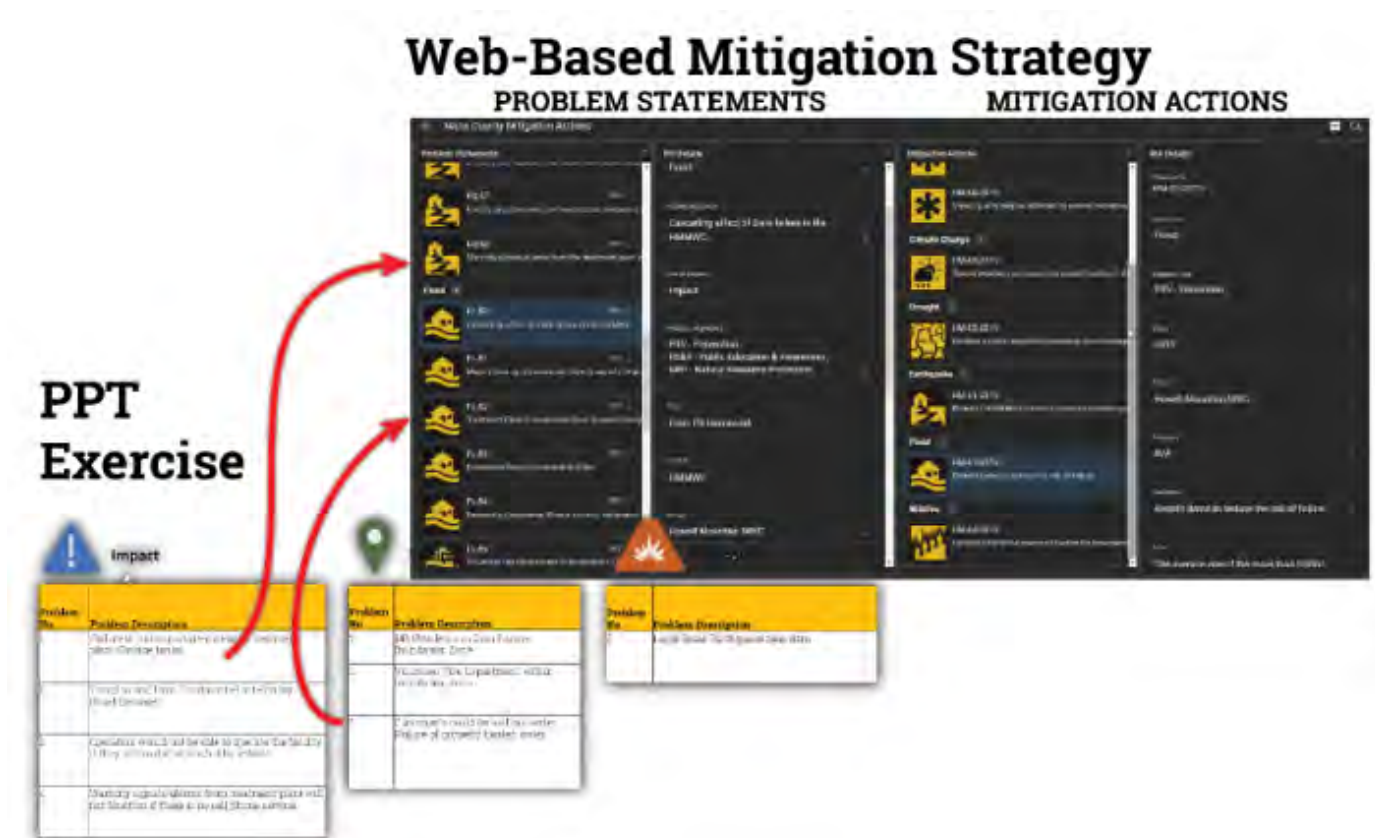


Figure 6-1 Diagram of MAST viewing details



Information from the mitigation leads within responsible departments will be used to monitor mitigation actions and annual evaluation of the MJHMP. The following questions will be considered in evaluating MJHMP effectiveness:

- Has the nature or magnitude of hazards affecting the County and other jurisdictions changed?
- Are there new hazards that have the potential to impact the County and other jurisdictions?
- Do the identified goals and actions address current and expected conditions?
- Have mitigation actions been implemented or completed?
- Has the implementation of identified mitigation actions resulted in expected outcomes?
- Are current resources adequate to implement the MJHMP?
- Should additional local resources be committed to address identified hazards?

Future updates to the MJHMP will account for any new hazard vulnerabilities, special circumstances, or new information that becomes available. Issues that arise or updates made during monitoring and evaluating the MJHMP will be incorporated into the next update of the MJHMP in 2024. The questions identified above would remain valid during the preparation of the 2025 update.

6.3.4 Continuing Public Involvement

During the five-year update cycle, County staff will involve the public through public workshops and meetings. Information on upcoming public events related to the MJHMP or solicitation for comments will be announced via newspapers, mailings, and on the County MJHMP website (<http://mitigatehazards.com/county-of-kern/>). An electronic copy of the current MJHMP document will be accessible through the County website. Hard copies will be placed in each of the open Kern County branch libraries. The MJHMP Planning Committee will, as much as practicable, incorporate the following concepts into its public outreach strategy to ensure continued public involvement in the MJHMP planning process:

- Work with public service clubs, i.e., the Bakersfield Breakfast Lions.
- Collaborate with faith-based organizations, i.e., Kern River Valley Christian Church, Discovery Church, Unitarian Universalist Fellowship of Kern County, Temple Beth El, etc.
- Create story ideas for media outlets, such as newspapers, local radio, and TV
- Distribute emails and postcards/mailers to County/ City/ Town residents about hazard mitigation updates
- Post meeting announcements at City Halls, community centers, coffee houses, grocery stores, etc.
- Educate and collaborate with insurance companies.
- Participate in other existing local community meeting places, i.e., Haggin Oaks Farmers' Market, Valley Farmers' Market, Brimhall Farmers' Market, etc.
- Distribute information through K-12 schools
- Continue to use the County website as a distribution point of hazard mitigation information



6.3.5 HMA Monitoring

FEMA's Hazard Mitigation Assistance (HMA) Program is the catalyst that drives increased understanding and supports proactive community action to reduce losses from natural hazards. To support this vision, FEMA funds three grant programs under HMA. The three programs are the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Program, and Building Resilient Infrastructure and Communities (BRIC) Program.⁸

- **HMGP** assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration
- **BRIC** provides funds for hazard mitigation planning and projects on an annual basis
- **FMA** provides funds for planning and projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis.

HMGP funding is generally 15% of the total amount of Federal assistance provided to a State, Territory, or federally-recognized tribe following a major disaster declaration. BRIC and FMA funding depends on the amount congress appropriates each year for those programs. The HMGP supports cost-effective post-disaster projects and is the longest running mitigation program among FEMA's three grant programs. A 2017 study by the National Institute of Building Sciences' (NIBS) Multihazard Mitigation Council have shown that every federal dollar spent on mitigation saves six dollars in response and recovery costs.

MAST will be extremely useful in applying for Cal OES funding. Plan maintenance will be primarily done through MAST. Figure 6-2 demonstrates how MAST information will translate into Cal OES NOIs and grant Sub application requests.

⁸ In August of 2020, the BRIC program replaced Pre-Disaster Mitigation (PDM) grant program.

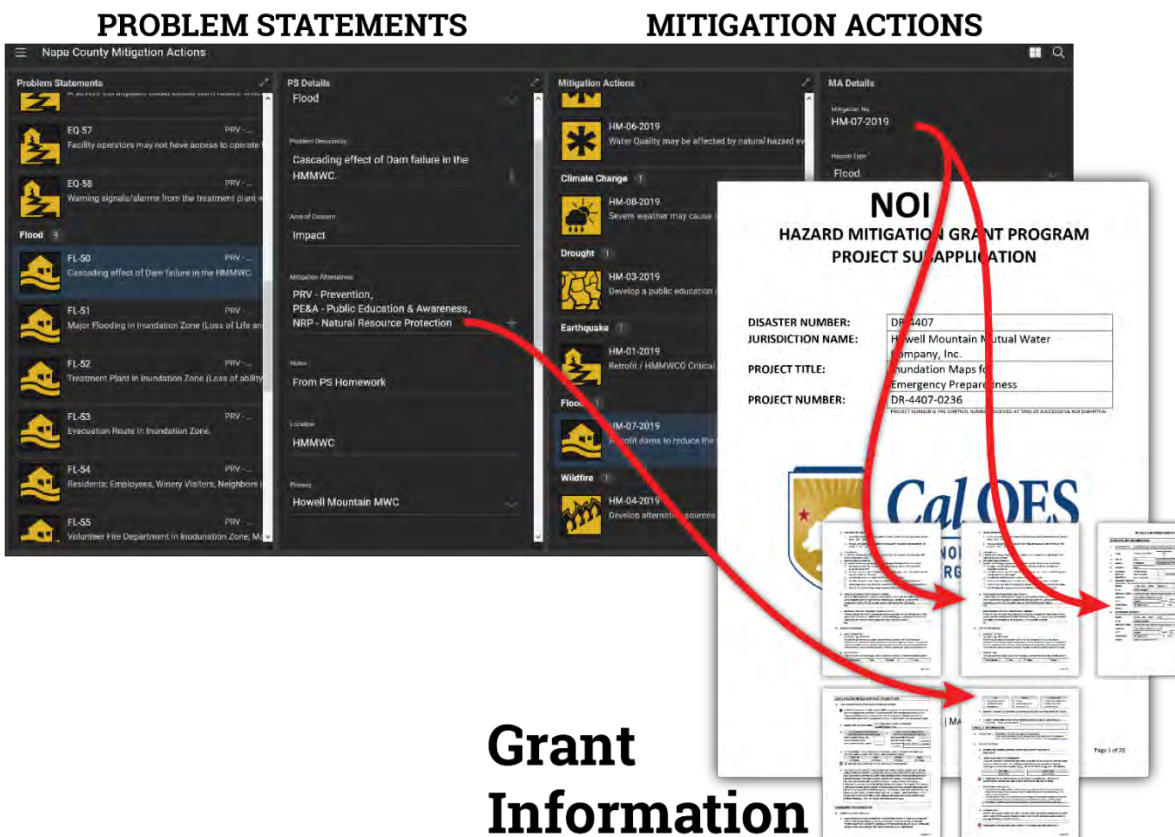


Figure 6-2: MAST and Cal OES Grant Applications

Following a disaster, California Office of Emergency Services (Cal OES) and local Kern County officials, in a joint effort with FEMA, will perform Preliminary Damage Assessments (PDA) of the areas that sustained damage. Cal OES submits, through the FEMA Regional Office, the information collected along with a damage estimate to request a declaration from the President. A Presidential Major Disaster Declaration provides for the availability of HMGP funds at the request of a state's Governor in eligible communities within a state, tribe, or territory. Figure 6-3 depicts this.

Figure 6-3 shows a timeline of how projects should be developed and administered by local government and FEMA under the HMGP program. HMGP grant recipients will have 36 months from the close of the application period to complete projects.



Figure 6-3: HMGP Timeline

For More information on HMGP project development process visit:
www.fema.gov/hazard-mitigation-grant-program-guide-state/local-governments

6.3.6 Incorporation into Other Planning Mechanisms

For the HMP to be successful, the recommendations and underlying principles of the MJHMP should be incorporated into community planning and development such as capital improvement budgeting, building and zoning codes, general plans and regional plans. Integration into a variety of departments at the County and participating jurisdiction level provides an opportunity to network, identify, and highlight mitigation activities and opportunities at all levels of government. It is also important to monitor funding opportunities which can be leveraged to implement the mitigation actions.

The Capabilities Assessment in Section 5.3 includes an evaluation of which planning processes might incorporate the HMP in the future. For example, the information from this MJHMP can be incorporated into:

- **Kern County and Municipal General Plans:** The MJHMP will provide information that can be incorporated into the Safety, Land Use, and Conservation Elements of General Plans for municipalities and the County as they are updated. Many jurisdictions will update the Safety Element of the General Plan to incorporate the MJHMP in compliance with AB 2140. Specific risk and vulnerability information from the Kern County MJHMP will assist to identify areas where development may be at risk to potential hazards, which in turn can be incorporated into General Plans. For example, jurisdictions may consider instituting a hazard overlay zone that requires additional scrutiny because of close proximity to certain hazards..
- **Building / Development Codes and Zoning Ordinances:** The MJHMP provides information to enable the County and municipalities to make decisions on appropriate building/development codes and ordinances. Appropriate building codes and ordinances can increase resilience against natural disasters. Some County and municipal mitigation actions directly recommend updates or new regulations as mitigation for hazard risks; those mitigation actions indicate priorities for regulatory updates in participating jurisdictions.



- **Community Wildfire Protection Plans (CWPP):** The MJHMP will provide information that can be incorporated into CWPPs and Strategic Fire Plan updates for areas within the County. The MJHMP likewise captured mitigation actions derived from CWPPs.
- **Water/ Flood Management Plans:** The MJHMP will provide information that can be included in updates of the Kern County Groundwater Monitoring Plan, Stormwater Management Plan, the Kern River Flood Management Plan, and other water/ flood management plans. While the process for updating these types of plans will vary by jurisdiction, the flood data developed for the MJHMP can be used in other mechanisms along with exposure and damage estimation information.
- **Planning Mechanisms for Special Districts.** Special districts and other participating jurisdictions likely have specific planning documents that will incorporate elements of the MJHMP as well. These will vary by jurisdiction and are explored more specifically in each Annex Capability Assessment. These include capital improvement plans, maintenance plans, emergency response or operations plans, and other relevant planning documents. Mitigation actions prioritize what plans may need to be updated to reflect this MJHMP information. Valuable information includes exposure and damage estimation and granular spatial footprint information from RAMP.

6.3.7 Planning Integration Processes

With adoption of this plan, Kern County and participating jurisdictions will be responsible for the plan implementation and maintenance. The County and the MJHMP Steering Committee will continue to:

- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to Kern County communities;
- Ensure hazard mitigation risk assessments and maps remain a consideration for safety decisionmakers;
- Report on plan progress and recommended changes; and
- Inform and solicit input from the public.



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Appendix A. Analysis Methodology

KERN COUNTY

MULTI-JURISDICTION

HAZARD MITIGATION PLAN



A GIS-based vulnerability assessment was conducted for each of the priority hazards identified by the Planning Committee. Several sources of data are necessary to conduct a vulnerability analysis. This appendix presents an outline of the data inputs, processing steps, and outputs used to create the vulnerability analysis results presented in the Hazard Mitigation Plan. The analysis methodology is presented first, followed by an overview of the analysis data.

A.1. Natural Hazard Exposure

The natural hazard exposure analysis (see C. Natural Hazard Exposure in Figure 7-4) is an inventory of population, parcels, critical facilities, and other assets within each natural hazard area. As shown in Figure 7-1, the presence of a structure inside a natural hazard area (the flood zone in this example) qualifies that structure as exposed to the natural hazard.



Figure 7-1: Hazard Exposure

The total counts of parcels, people, facilities, assets and the sum of values within the planning area which could be exposed to a hazard event is referred to as the “exposure” in this plan. A natural hazards overlay was developed to reflect the combination of many known natural hazard spatial footprints. The spatial overlay method enables summarization of building values, parcel counts, population exposure, and critical facility exposure within a hazard’s geographic extents (see C. Natural Hazard Exposure in Figure 7-4). The input data is used to evaluate exposure for earthquakes, landslides, flooding, dam inundation, wildfire, and subsidence.

A.1.1. Damage Estimation with Hazus

FEMA’s Hazus software was implemented to conduct a detailed loss estimation for flood and earthquake. Hazus is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. For purposes of this planning effort, Hazus was used to generate damage estimations due to possible earthquakes and flooding. The



estimated damage and losses provided by the Hazus Software provides the ability to understand possible widescale damage to buildings and facilities (see D. Hazus Damage Estimations in Figure 7-4).

In the hypothetical geography shown in Figure 7-3, even though both structures are exposed to flooding, it is expected that the structure with a first floor height below the depth of flooding will receive significantly more damage than the structure with a first floor height above the expected water depth. Note that not all building data contains first floor height and first floor height is an example of the type of field utilized by Hazus in calculating damage estimates.

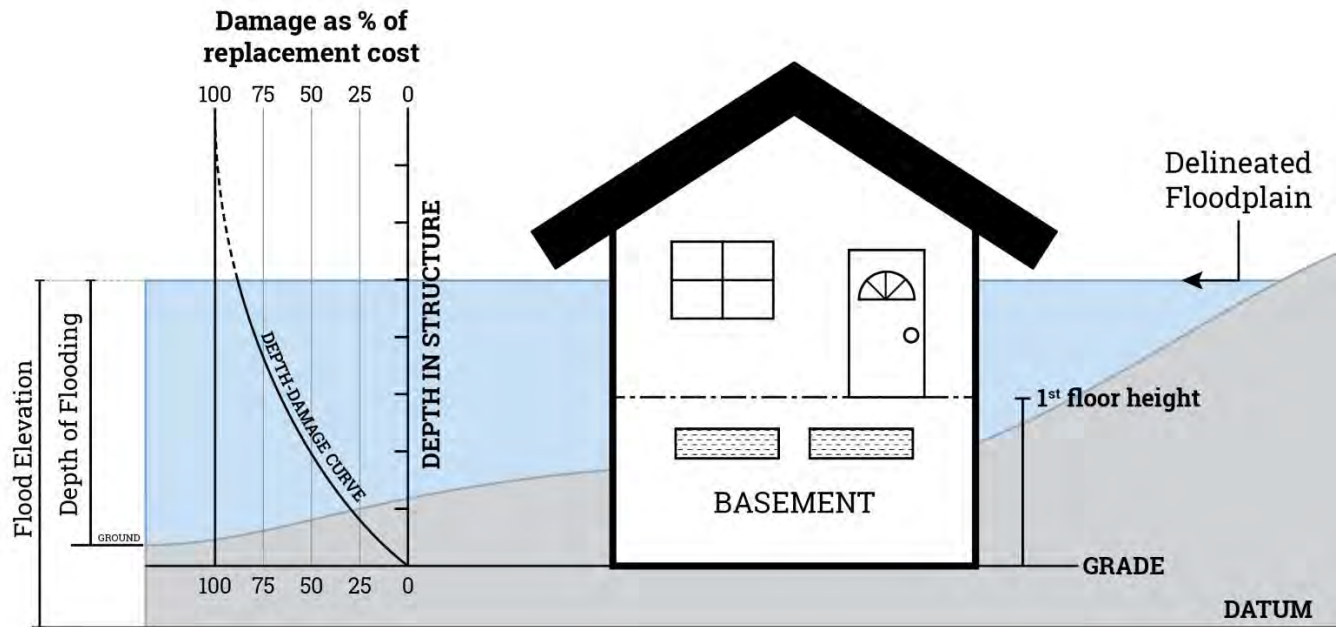


Figure 7-2: Flood Depth and Damage Curves



Figure 7-3: Hazus Damage Estimations

Hazus is a FEMA product with highly detailed documentation provided on the analysis steps and algorithms performed against the input data and associated scenarios in the process of obtaining loss estimates. The explanation in this appendix section is simplified. Refer to the full documentation and technical manuals from FEMA for greater explanation on Hazus specifics.



A.1.2. Distinguishing Results – Natural Hazard Exposure Analysis vs Hazus Results

Table and chart references throughout the hazard mitigation plan are explicitly called out for Hazus results as “Damage Estimates”. There are expected differences in the results between estimations of Natural Hazard overlays and detailed Hazus results. Snapshot tables and Natural Hazard Exposure sections do not contain Hazus estimates.

A.2. Analysis Data

A.2.1. Assets, Value, and Population

A.2.1.1. Parcels

County provided parcel geometry was joined with county assessor data. In some cases, there were multiple building attributed to a single parcel. Centroids were created to represent parcels at a single location. Where multiple building values were represented in the parcel roll, multiple overlapping centroids were created. In situations where building values were duplicated among overlapping points, the points were weighted for equal and accurate representation of the parcel totals. Building type, year built, number of stories, use code, area, and valuation data were all fields that were input into the analyses. Earthquake building design level attribution was based on year built and building code adaptation chronology. Improved residential parcels were chosen for the parcels dataset by a query of improvement value presence and residential construction type codes. The parcel inputs were supplemented with point geometries from the Asset Insurance Schedule.

A.2.1.2. Asset Insurance Schedules

County assessor data does not include detailed information for tax exempt structures, such as federal and local government buildings. This data was added to the GIS utilizing insurance schedule tables for the county. The Insurance Schedule data was consolidated with the county parcel dataset.

A.2.1.3. Population

Population estimates were derived from 2015 5-year Census American Community Survey (ACS) numbers as applied to census block groups and then processed through GIS modeling to break down the proportional population for smaller units of area.

A.2.1.4. Critical Infrastructure

Critical facilities and transportation/lifeline typically include hospitals, fire stations, police stations, storage of critical records, and similar facilities. These data came from a collection of sources including but not limited to: County GIS, County and local jurisdiction insurance data, CDSS, CEC, FCC, Hazus, USACE,



FEMA, and NPS. All data sources have a level of accuracy acceptable for planning purposes. See Table 7-2 for a list of Critical Infrastructure data used in the analysis.

A.2.1.5. Hazus Inputs

Hazus data inputs can be customized in several different ways including hazard scenario data and detailed building data. The GIS team conducted a Level 2 analysis utilizing user-defined buildings with refined building characteristic parameters as inputs for the damage estimation calculations (See A.2.1.1 and A.2.1.2). Both countywide building data and government assets were used as inputs in this level 2 analysis. The customized user defined building dataset allows for more accurate results for damage estimation based upon detailed building characteristics.

Note: FEMA's Hazus software utilizes different user defined building information inputs to develop loss estimates depending on the hazard module. The Hazus flood and earthquake modules use fragility curves based upon the user's definition of building characteristics including but not limited to:

- ***Area***
- ***Year Built***
- ***Construction Type***
- ***Number of Stories***
- ***EQ Design Level***
- ***Occupancy Type (Residential, Government, etc)***
- ***Building Values***

A default set of field values is utilized in lieu of missing values where required by Hazus.

A.2.2. Natural Hazard Data

A.2.2.1. Dam Inundation Zones

Dam inundation zone GIS data were provided by the County. These represent the estimated flood extent in the event of dam failure for individual dams.

A.2.2.2. Earthquake Shaking

The CGS 2 percent chance – 50-yr probability map was used as a qualitative guide in selecting an earthquake epicenter based shakemap scenario for analyses. The South San Andreas Mojave North M7.7 Scenario was chosen for use in Hazus for damage estimations.

A.2.2.3. Subsidence

Obtained from DWR vertical movement subsidence dataset. Classified from low-lift to high-subsidence.

**A.2.2.4. Flood Zones**

The input parameters for Hazus analysis of Flood exposure included depth grids created with the FEMA Flood Zone data mentioned in section A.2.2.4. 100-YR, 500-YR, and Areas Protected by Levee were all scenarios that were used to analyze the exposure to Hazus inputs as depicted in Figure 7-4.

A.2.2.5. Landslide Susceptibility

GIS layer with geographic boundaries defining the likelihood of deep-seated landslides. Underlying geology and slope angle are used in the creation of this layer by the California Geological Society. High landslide classes were chosen as summary classes for this plan.

A.2.2.6. Wildfire Hazard Severity

A proprietary DP+S composite layer derived from Wildland Urban Interfaces, California Public Utilities Commission fire threat areas and Fire Hazard Severity Zones. See Table 7-1.

Table 7-1 Wildfire Hazard Severity Classification

| Hazard | Native Class | Description |
|-----------|--------------|---|
| Moderate | Tier 1 | HHZs are zones in direct proximity to communities, roads, and utility lines, and are a direct threat to public safety. |
| | 1 | WUI is the potential treatment zone in which projects could be conducted to reduce wildland fire threats to people. |
| | 1 / Moderate | See Cal Fire FHSZ (State Responsibility Area [SRA] & Local Responsibility Area [LRA]) |
| High | Tier 2 | Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. |
| | High | See Cal Fire FHSZ (State Responsibility Area [SRA] & Local Responsibility Area [LRA]) |
| Very High | Tier 3 | Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. |
| | Very High | Classification of a zone as moderate, high or very high fire hazard is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings. Each area of the map gets a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas. Final zone class (moderate, high and very high) is based on the averaged scores for the zone. |

Source: Moderate - Cal Fire Tree Mortality, WUI, FHSZ; High - CPUC Utility Threat, Cal Fire FHSZ; Very High - High - CPUC Utility Threat, Cal Fire FHSZ (SRA & LRA)



A.2.3. Methodology Overview

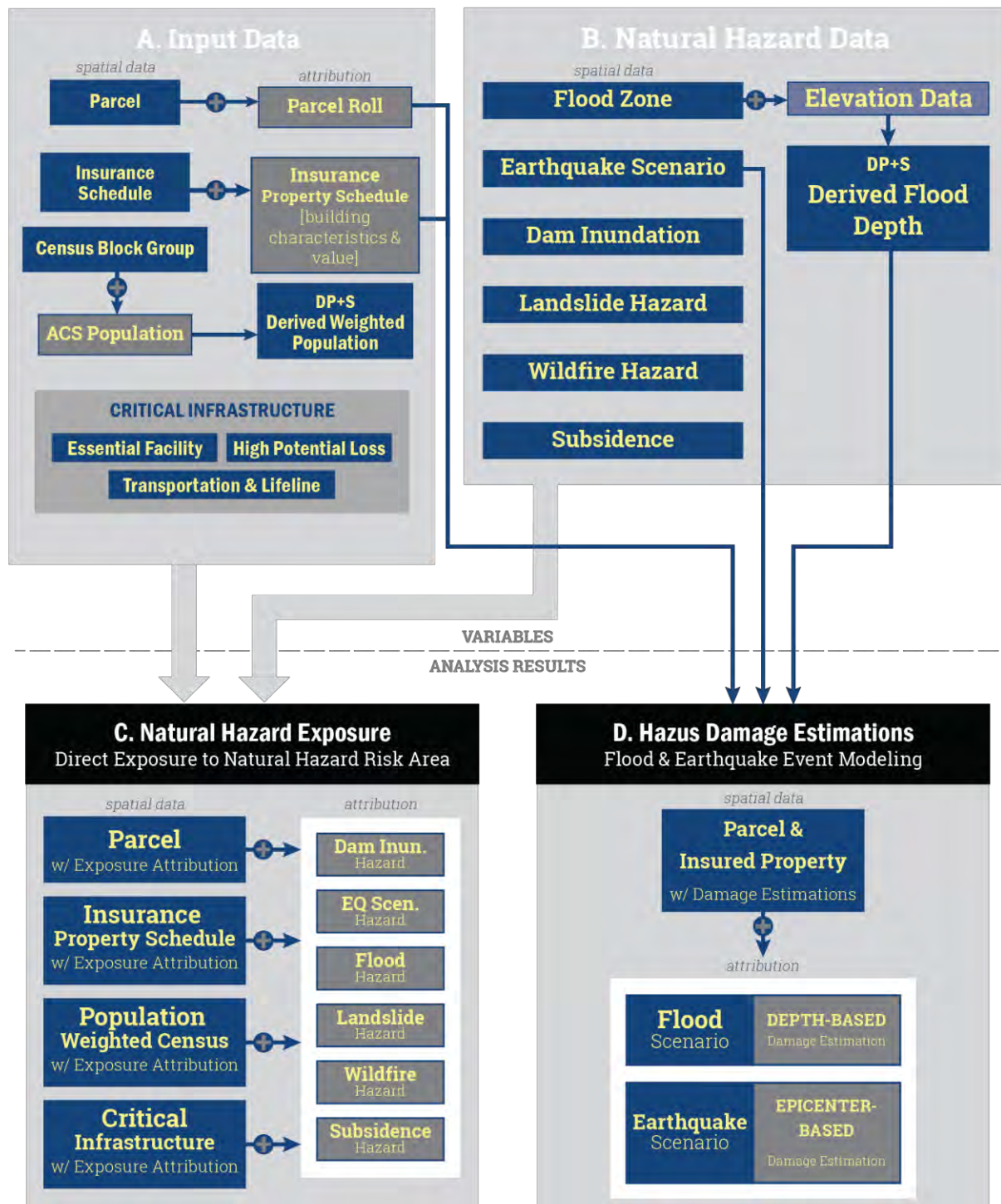


Figure 7-4: Data Analysis Methodology



A.2.4. Data Dictionary

Table 7-2: Data Dictionary

| Dataset | Data Steward | Notes |
|-------------------------------|----------------------------------|--|
| Airport Districts | Local Jurisdiction | Received from local jurisdiction |
| Community Service Districts | Local Jurisdiction | Received from local jurisdiction |
| County | Census, Esri | County boundary and planning area extent |
| Incorporated Cities | Census, Local Jurisdiction | Received from local jurisdiction |
| Mosquito Abatement District | Local Jurisdiction | Received from local jurisdiction |
| Recreation And Park Districts | Local Jurisdiction | Received from local jurisdiction |
| Sanitation Districts | Local Jurisdiction | Received from local jurisdiction |
| School Districts | Local Jurisdiction | Received from local jurisdiction, consolidated with CDE School Ownership |
| Water Districts | USBR, Local Jurisdiction | Received from local jurisdiction |
| DEM | NED | 1/3 Arc Second |
| Place | Census | TIGER dataset |
| Stream | Esri, NHD | Multiple stream basemap layers for various cartographic products |
| Water | Esri | Downloaded from Esri dataset |
| GNIS | USGS | Downloaded from USGS |
| Parcel Geometry | Local Assessors | Received from local jurisdiction |
| Parcel Roll | Local Assessors | Received from local assessor office |
| Building Roll | Local Assessors | Received from local assessor office |
| Emergency Operations Center | Local Jurisdiction | Geocoded from notes |
| Fire | Local Jurisdiction | Received from local jurisdiction |
| Hospital | Local Jurisdiction | Received from local jurisdiction |
| Police | Hazus, Local Jurisdiction | Reconciled police and sheriff with Hazus and Local data |
| Sheriff | Local Jurisdiction | Reconciled police and sheriff with Hazus and Local data |
| Adult Res Facility | CA Department of Social Services | Geocoded with ESRI streetfile |
| Child Care Center | CA Department of Social Services | Geocoded with ESRI streetfile |
| Family Child Care Home | CA Department of Social Services | Geocoded with ESRI streetfile |
| Foster Family Agency | CA Department of Social Services | Geocoded with ESRI streetfile |
| Home Care Organization | CA Department of Social Services | Geocoded with ESRI streetfile |
| Res Child Care | CA Department of Social Services | Geocoded with ESRI streetfile |
| Res Elder Care Facility | CA Department of Social Services | Geocoded with ESRI streetfile |
| Library | Local Jurisdiction | Received from local jurisdiction |
| Healthcare Facility | Local Jurisdiction | Received from local jurisdiction |
| Cooling Center | Local Jurisdiction | Received from local jurisdiction |



| Dataset | Data Steward | Notes |
|--|-------------------------|---|
| City Hall | Local Jurisdiction | Received from local jurisdiction |
| Dam | USACE NID | Have dam locations as provided in NID |
| Historic Building | NPS | National Park Service Data |
| Historic Site | NPS | National Park Service Data |
| Special Needs Facility | Local Jurisdiction | Received from local jurisdiction |
| School | Local Jurisdiction, CDE | Received from local jurisdiction, reconciled with CDE data |
| Potable Water Facility | Hazus | Hazus data is limited |
| Waste Water Facility | Hazus | Hazus data is limited |
| Airport | Hazus | Hazus data compared to other sources |
| Bridge | NBI | National Bridge Inventory data |
| Bus Facility | HAZUS | Hazus data was most complete for this asset |
| Levee | FEMA | From NFHL |
| Levee Flood Wall | USACE NLD | From NLD WFS |
| Levee Levee Centerline | USACE NLD | Do not appear to be any (Also the new WFS does not contain centerlines) |
| NG Facility | Local Jurisdiction | Open Data |
| NG Pipeline | Local Jurisdiction | Open Data |
| Oil Facility | Hazus | Hazus limited |
| Power Plant | Local Jurisdiction | Open Data |
| Railroad | Esri | From Esri dataset |
| Railroad Facility | Hazus | Hauz limited |
| Street | Esri | Esri for classifications |
| Substation | Local Jurisdiction | Open Data |
| Transmission Line | Local Jurisdiction | Open Data |
| Transmission Line Tower | CEC | have statewide dataset |
| Wind Turbine | Local Jurisdiction | Open Data |
| County Insured Assets (Insurance Schedule) | Insurance Provider | Reconcile with CI |
| Census Block | US Census Bureau | TIGER dataset |
| Census Block Group | US Census Bureau | TIGER dataset - appended pops |
| Census Tract | US Census Bureau | TIGER dataset |
| Awareness Zones | DWR | have statewide dataset |
| Dam Inundation | Cal OES | Dam inundation from Cal OES zones |
| EQ Probabilistic MI | USGS, CISON | Used to determine scenarios |
| EQ Scenarios 1-2 | USGS, CISON | Scenarios as determined by Probabilistic composition |
| Flood Hazard | FEMA | NFHL |
| Subsidence | DWR | Classified from Low-Lift to High - Subsidence |
| Landslide Susceptibility | CGS | High class 8-10 from raw data |
| Wildfire Hazard Severity Zone | Cal Fire / CPUC | Proprietary composite layer for DPS including Cal Fire / CPUC data |
| 200 Year Usace | USACE NLD | From National levee Dataset |



| Dataset | Data Steward | Notes |
|------------------------|--------------|----------------------------------|
| EQ Fault Zones | CGS | Used for overview, global source |
| Fire Perimeter Calfire | Cal Fire | Used for overview, global source |
| Fire Regime MFRI | USGS | Used for overview, global source |
| Qfaults | USGS | Used for overview, global source |

A.2.5. Insured Assets Roll

Table 7-3 Insured Assets Roll

| Asset | Building Count | Building Cost | Content Cost | Total Value |
|------------------------------------|----------------|----------------------|----------------------|----------------------|
| Administrative & Office | 68 | \$359,226,983 | \$118,496,490 | \$477,723,473 |
| Admin | 26 | \$281,036,365 | \$2,180,986 | \$283,217,351 |
| Building | 12 | \$22,885,686 | \$1,192,850 | \$24,078,536 |
| Office | 30 | \$55,304,932 | \$115,122,654 | \$170,427,586 |
| Equipment & Storage | 51 | \$57,237,326 | \$5,149,231 | \$62,386,557 |
| Equipment | 5 | \$127,977 | \$3,302,171 | \$3,430,148 |
| Shop | 11 | \$41,016,235 | \$837,660 | \$41,853,895 |
| Storage | 20 | \$6,039,390 | \$446,971 | \$6,486,361 |
| Warehouse | 6 | \$6,387,091 | \$526,728 | \$6,913,819 |
| Yard | 9 | \$3,666,633 | \$35,701 | \$3,702,334 |
| Other Assets | 42 | \$6,182,000 | \$26,036,768 | \$32,218,768 |
| Leased | 31 | \$2,397,883 | \$20,982,229 | \$23,380,112 |
| Misc | 3 | \$203,622 | \$4,770,874 | \$4,974,496 |
| Relay | 4 | \$154,576 | \$21,384 | \$175,960 |
| Vacant | 4 | \$3,425,919 | \$262,281 | \$3,688,200 |
| Recreation | 107 | \$48,550,442 | \$8,536,674 | \$57,087,116 |
| Golf Course | 3 | \$2,927,248 | \$3,000 | \$2,930,248 |
| Museum | 76 | \$19,615,343 | \$6,634,355 | \$26,249,698 |
| Park | 9 | \$10,016,887 | \$1,409,407 | \$11,426,294 |
| Recreation | 19 | \$15,990,964 | \$489,912 | \$16,480,876 |
| Services | 121 | \$438,023,808 | \$56,317,933 | \$494,341,741 |
| Animal | 1 | \$528,591 | \$1,000 | \$529,591 |
| Correctional | 27 | \$288,265,742 | \$193,074 | \$288,458,816 |
| Fire | 47 | \$40,345,749 | \$4,818,942 | \$45,164,691 |
| Health | 5 | \$23,063,560 | \$3,690,348 | \$26,753,908 |
| Library | 18 | \$57,750,901 | \$46,750,699 | \$104,501,600 |
| Sheriff | 19 | \$14,114,343 | \$351,792 | \$14,466,135 |
| Veterans | 1 | \$672,868 | \$184,792 | \$857,660 |
| Warehouse | 1 | \$1,038,472 | \$50,193 | \$1,088,665 |



| Asset | Building Count | Building Cost | Content Cost | Total Value |
|-----------------------|----------------|----------------------|----------------------|------------------------|
| Water | 2 | \$12,243,582 | \$277,093 | \$12,520,675 |
| Transportation | 10 | \$52,335,358 | \$5,564,962 | \$57,900,320 |
| Airport | 9 | \$52,334,358 | \$5,563,962 | \$57,898,320 |
| Bus | 1 | \$1,000 | \$1,000 | \$2,000 |
| Grand Total | 399 | \$961,555,917 | \$220,102,058 | \$1,181,657,975 |



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Appendix B. Process Documentation

KERN COUNTY

MULTI-JURISDICTION

HAZARD MITIGATION PLAN



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Appendix B

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| Public Notice & Press Release Documentation | B2 |
| Survey & Results Documentation..... | B3 |
| Mitigation Strategy Prioritization Process Documentation | B4 |
| Website Documentation | B5 |



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Planning Committee Meeting Documentation

Appendix B.1



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Meeting Agenda

Kern Multi-Jurisdiction 2019-20 MJHMP Update Internal Kick-Off Meeting

Friday, April 12, 2019, 10:00 a.m. – 12:00 p.m.

- **Meeting Objectives**
 - SOW Review
 - Project Management
 - Communication Protocols
 - Website Review
 - Schedule
 - Expectations from Participating Jurisdictions
 - Requirements (DMA2000)
 - Cal OES / FEMA Review Tool Grey Areas
 - Tracking Participation
 - Anticipated Public Outreach (I.e. Canvassing, notices, review times)
 - Data Calls / Data Review

Kick-Off-Agenda 1



COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



Kick-Off Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

April 12, 2019
10:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|---------------|----------------------------------|---------------------------------|-----------------|-----------------------|
| Ter West | NOR/CSA | jwest@norrecreation.org | 392-2000 | |
| Paul Anderson | North of the River Recreation | panderson@ norrecreation.org | 661 392-2000 | |
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Kick-Off Sign-In Sheets 1



Kick-Off Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

April 12, 2019
10:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|----------------|-----------------------|--------------------------------|-------------|-----------------------|
| Lorelei Oviatt | KC Planning | Lorelei@ kerncounty.com | 66-862-8866 | |
| Jon Lifquist | Assessor/ Recorder | lifquist@ kerncounty.com | 866-3315 | |
| Erica Bain | KCFD | ebain@ kerncountyfire.org | 391-7068 | |
| Kenny Seals | Kern High SD | Kenny_seals@ kernhigh.org | 827-3145 | |
| Brianna Carner | City of Bakersfield | bcarner@ bakersfieldcity.us | 326-3745 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



Kick-Off Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

April 12, 2019

10:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------------|----------------------------------|---------------------------------|---------------------------------|--------------------|
| ALIZONA | KERN COUNTY | | | |
| RISK MGMT. | | | | |
| BRAD ARAGON | RISK MGMT. | baragon@kerncounty.com | 661 703-0385 | |
| Nick Cooper | Greenfield County Water District | greenfieldcountywater@gmail.com | 661-301-3823 | |
| Kevin Hamilton | Kern County Public Works | kevinh@kerncounty.com | 661 862 5071 | |
| BRANDEN SMITH | KERN CO. FIRE | BSSMITH@KERNCOUNTYFIRE.ORG | 661 330-0181 | |
| Megan Person | CAD | PersonM@Kerncounty.com | 661-868-3173 Cell - 703.1770 | |
| Michael Heimer | Kern COG | mheimer@Kerncog.org | 635-2909 | |
| Jeffrey Utter | Kern County ITS | utterj@Kerncounty.com | 868-0041 | |
| Troy DePriest | TCCWD | tdepriest@tccwd.com | 703153349 | |
| Chris Hoot | City of Bakersfield | CHoot@BakersfieldCA.gov | 661 326 3751 | |
| Alexa Kolosky | Kern County Public Works | akolosky@Kerncounty.com | 862-5002 | |

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Kick-Off Sign-In Sheets 3



Kick-Off Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

April 12, 2019
10:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|--------------------|--------------------------------|----------------------------|--------------|-----------------------|
| Ben Raymond | KERN COG | BRAYMOND@KERN-COG.ORG | 635-2911 | |
| Robert Voyles | City of Bakersfield | rvoyles@bakersfieldca.gov | 661-326-3105 | |
| Michael Dillenbeck | Public Works County of Kern | cdillenbeck@kerncounty.com | 661-8628913 | |
| David Witt | Fire Dep | dwitt@kerncountyfire.org | | |
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Kick-Off Photo



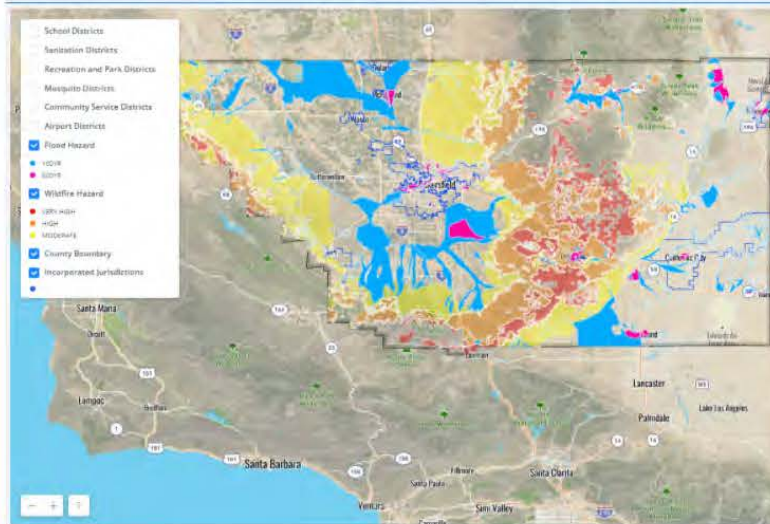
KERN MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

Planning Committee Meeting #1 Reminder

Thursday, May 23rd, 2019

9:00 a.m. to 12:00 p.m.

Kern County/Operational Area Emergency Operations Center (EOC)
2601 Panorama Drive, Building B
Bakersfield



You are cordially invited to attend the first meeting in the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan!

May 2019

23

We are beginning the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP). The purpose of the Kern MJHMP is to reduce property losses and avoid injury and/or casualties resulting from natural disasters. Hazard mitigation is the use of sustained, long-term actions to reduce loss of life, personal injury, and property damage that can result from a disaster. The Plan is multi-jurisdictional in that 63 different Kern County jurisdictions participate in it. As we develop this plan a stakeholder group is necessary and **Your insight is needed (and, for those representing participating jurisdictions, required)** to meet FEMA's strict guidelines for active participation. Under FEMA's guidelines, active participation is a prerequisite for Plan approval.



Meeting 1 MailChimp Notification



Meeting Agenda:

Kern County Multi-Jurisdiction Hazard Mitigation Plan 2019-20 Update

Planning Committee Meeting #1

Thursday, May 23rd, 2019, 9:00 a.m. – 12:00 p.m.

Meeting Objectives

- Welcome and Introductions
- Mitigation Planning Defined
- Expectations from Participating Jurisdictions
- Planning Process Review
 - Project Schedule
 - Website Review
- FEMA Hazard Mitigation Program
- 2012 Mitigation Plan Review
- What has Changed?
- Outreach
- Next Steps

Project Website: mitigatehazards.com

Project Webpage: <http://mitigatehazards.com/county-of-kern/>

Website Password: **Kern2020**

Polling Website for Smartphone: www.pollev.com/dynamicplanning



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|----------------------------|----------------------------|----------------|--------------------|
| SHANE DENTON | KERN COUNTY RANGERS | DentonS@kern-county.com | (661) 381-3189 | 18 mi |
| Biridiana Bishop | City of Wasco | bishop@ci.wasco.ca.us | (661) 390-2601 | 60 miles |
| Regina Houchins | Buttontown Co. Water Co. | agcenter@bakirri.com | 661-764-5223 | 60 miles |
| Justin Gagnon | Los Padres National Forest | justin.gagnon@usda.gov | 661-289-0042 | |
| Jana Marquez | KDWP | jmarquez@kernadelt.org | 661 831-4456 | 30 |
| John Frando | Bakersfield Fire | jfrando@bakersfieldfire.us | 661 326 3652 | |
| JEFF FAIRISS | Kern County Public Health | FAIRISS@kerncounty.ca.us | 661-868 5216 | 3 |
| Rafael Molina | Cal Water | rmolina@calwater.com | 661-827 7606 | |
| Monica Tennant | KCUA | mtennant@kcuwa.com | 661-634-1419 | |
| David Goodell | Cal City Fire | dgoodell@calcityfire.us | 760 643 8981 | |
| JOE ROJAS | CITY OF DELAMAR | jrojas@cityofdelamar.org | 661 720 2281 | 56 |
| Heather Spruce | City of Ridgecrest | hspruce@ridgecrest-ca.gov | 760 499 5063 | |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|---|-----------------------------|--------------|-----------------------|
| Brianna Carner | City of Bakersfield City Managers office | bcarner@bakersfieldcity.us | 661-326-3745 | |
| Joe West | NOR REC & Park Dist | jwest@norrecreation.org | 661-392-2000 | |
| Paul Anderson | NOR REC & Park Dist | panderson@norrecreation.org | 661-392-2000 | |
| Phillip Jimenez | Shafter Recreation & Park District | pjimenez@shafterrec.com | 661-746-3303 | |
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PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|----------------|-------------------|------------------------------|--------------|-----------------------|
| Terri Mejorado | Cal OES | terri.mejorado@caloes.ca.gov | 559-259-9890 | 230 |
| BRACH SMITH | ROSAMOND CSD | BSMITH@ROSAMOND.CSD.CA.GOV | 661-256-3411 | 140 |
| MARRY PERITO | CALWATER | mpapito@calwater.com | 661-979-7341 | |
| Kenny Seals | KHSD Kern High | kenny_seals@kernhigh.org | 661-827-3100 | |
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PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------------|------------------------------|---------------------------|------------------|-----------------------|
| Manco A. Rodriguez | Bakersfield City 2nd Dist | M Rodriguez @ BCSD.org | 661- 631-5883 | 12.42 |
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| Name | Agency | Email | Phone | Miles |
|------------|------------------------------|----------------------|--------------|-------|
| Skye Grass | Kern-Tulare Water Distric | Skye@kern-tulare.com | 661-327-3132 | 25 |

PC Meeting1 Sign In 13



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|-------------------------------------|------------------------------------|----------------|--------------------|
| Kevin Hamilton | Kern County Public Works | kwh@kerncounty.com | 661-262-5071 | 7 miles |
| Fernando Ceja | Arvin-Edison Water Storage District | fceja@newsd.org | 661-444-3296 | 48 20 miles |
| Todd Noble | Edison School District | tnoble@edison.k12.ca.us | 661-340-1150 | |
| Susan Wells | Golden Hills CSD | gm@ghcsd.com | 661-822-3064 | |
| Jackie Villa | Lost Hills USD | jvilla@losthills.k12.ca.us | 661-797-3003 | 90 |
| STEVEN SANTILLAN | Bottomwillow Union School District | ssantillan@bottomwillow-school.com | 661-770-7180 | 64 |
| Brandon Welton | Mojave Air & Space Port FIRE | brandon@mojave-airport.com | (661) 221-1138 | 101 |
| Jeremy Kosick | California City Fire | JKosick@calcityfire.us | 760-803-7546 | |
| Dayne Yancey | PME CERT | kaydly@calheva.org | 661-242-1094 | 130 |
| TOM Yancey | PME CERT | Tom1Yancey@GinAir.com | 242-1094 | 130 |
| Krzysz Gilbert | Tehachap Unified School Dist. | kgilbert@teh.k12.ca.us | 661-822-2120 | 70 |

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PC Meeting1 Sign In 2



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|--------------------|----------------------|---|------------------|-----------------------|
| JEFF TACKETT | CITY OF WASCO | JETACKETT@ CI.WASCO. CA.US | 661-758 7273 | 40 |
| Wayne Jackson | City of Wasco | Wajacksona CI.WASCO.CA.US | 661- 779 0341 | 40 |
| Brian Thoburn | So. Cal. Edison | brian.thoburn @scc.com | 559-685- 3240 | 160 |
| MARK LEWIS | K.C. LIBRARY | LEWISMA@ KERNCLIBRARY. COM | 661-865-0710 | 12 |
| Nick Cullen | KCAS | collenn@kern county.com | 661-229-7453 | 16 |
| Troy DePriest | TCCWD | tdepriest @tccwd.com | 760353349 | 60 |
| JOE GRUBBS | KCLD | joseph.grubbs @kccd.edu | (661)336-5019 | 12 |
| Vargas Humberto | Pond school | huvargas@Pond.k12 -ca.us | 661 778 9764 | 78 |
| Alexander Lee | CITY of McFarland | alex@McFarlandcity.org alex@McFarlandcity.org | 661-792-3011 | 50 |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|--------------|--------------------------------------|---|----------------|--------------------|
| Isela Medina | semitropic WSP | imedina@semitropic.com | 661-758-5113 | 60mi |
| Kaler Ayala | Kern CAO | ayalake@kerncounty.com | 661-868-3164 | 10 mi |
| David Aranda | Stallion Springs CSD | davidaranda300@gmail.com | 661-300-1231 | 75mi |
| Kristen Dand | PG&E | kfd50@pgc.com | 661-398-5989 | 60 mi. |
| Bruce White | WSRPD | Bruce@wsrpd.com | 661 577-2084 | 80 miles |
| PAT OSTLY | North of River SD | postly@norsd.com | 661. 399. 6411 | 15 m. |
| Ed Greyndals | KC Dept of Agriculture & Measurement | aggreynd@kerncounty.com greyndals@kerncounty.com | 661-868-6300 | 10mi |
| Katie Allen | PG&E | kmaed@pgc.com | 661-8658637 | 60mi. |
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PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|---|--|-----------------|-----------------------|
| Dennis McNameam | KC Planning | mcnamand@kerncounty.com | (661) 862-8624 | |
| Taylor Schoene | KC Planning | schoeneta@kerncounty.com | (661) 862-5017 | |
| Jeannie Taylor | KCFD CERT BVCSD DPAC | Jetaylor@kerncountyfire.org JeannieTaylor@gmail.com | 805-603 7424 | ~100 |
| Brian Marsh | Univ of CA Cooperative Extension KC Farm & Home | bmarsh@ucanr.edu | 661-868-6210 | |
| Alexa Kolosky | Kern County Public Works | akolosky@kerncounty.com | 661-862-5002 | |
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**COUNTY OF KERN**

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update

**PC #1 Meeting**

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019

9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|----------------|--|-------------------------|----------------|-----------------------|
| Tim Ruiz | East Niles CSD | trui2eeastnilesd.org | 661-871-2011 | 8 |
| Jason Nardine | Kern Sanitation Authority & Ford City Tubb Heights | nardinej@kerncounty.com | (661) 868-8287 | 14 |
| Jon Yasin | CAL WATER | lyasin@calwater.com | 760-549-3032 | 90 |
| Frank Trotta | CAL Water | FTrotta@CALwater.com | (660) 549-3268 | 90 |
| Wayne Claassen | Shafter | wclaassen@shafter.com | (661) 746-5002 | 20 |
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PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|---------------------|------------------------------|--------------------------|-----------------------|
| ZACK BITTLE | KERN SHERIFF | BITTLEZ@ KERNSHERIFF.ORG | 661-392-6092 378-5014 | 7 |
| Megan Person | Kern CAO | PersonM@ kerncounty.com | 661-868- 3173 | |
| KEVIN KIMMEL | KERN SHERIFF | KIMMEL@ KERNSHERIFF.ORG | 661-369-0564 245-3440 | |
| Stuart Patteson | City of Bakersfield | spatteso@bakersfieldcity.us | 661-326-3575 | |
| STEVE WILLIAMS | KCSO | WILLIAMS@ KERNSHERIFF.ORG | 661-204- 3390 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #1 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|---|----------------------------|----------------------|-----------------------|
| Yuriana Torres | Richland SD | ytorres@ rsdshafter.org | 746-8621 | 46 |
| STEVE DOE | DWR | STEVE.DOE @WATER.CA.GOV | 559 230-3348 | 230 |
| Craig Jones | Taft | CJones@ Cityoftaft.org | 661 763- 1222 | 81 |
| Damon McMinn | Taft Pd | dcmminn@ Cityoftaft.org | 661- 763- 3101 | 81 |
| CRIS LAWRENCE | Westside water District water authority | clawrence@lhw.org | 661-666-1095 | 10. |
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Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

May 23rd, 2019
9:00 AM

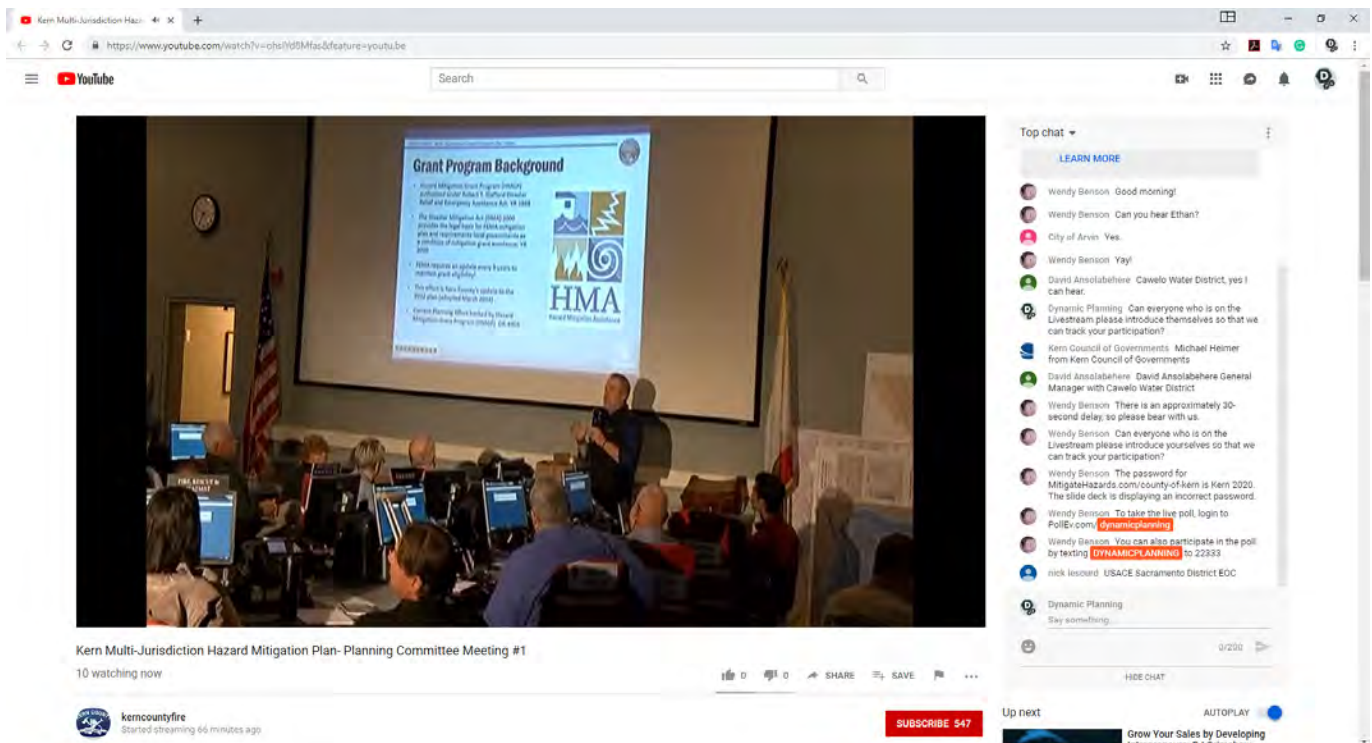
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PC Meeting 1 Photo 1



PC Meeting 1 Photo 2



PC Meeting 1 Photo 3



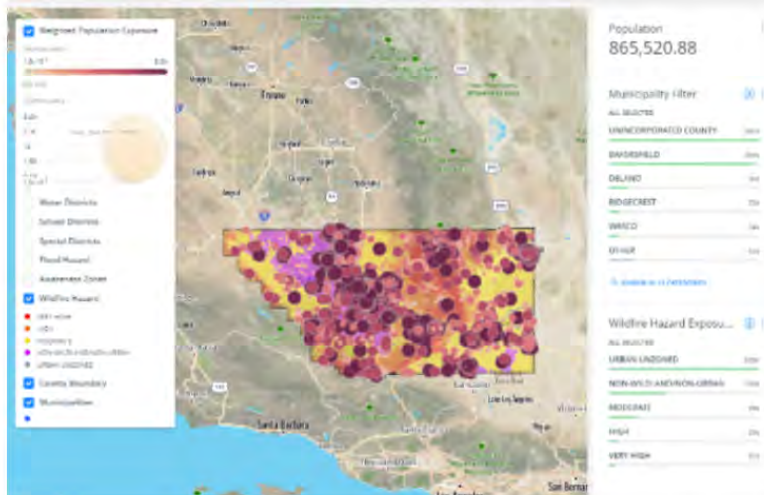
KERN MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

Planning Committee Meeting #2 Reminder

Thursday, July 18th, 2019

9:00 a.m. to 12:00 p.m.

Kern County/Operational Area Emergency Operations Center (EOC)
2601 Panorama Drive, Building B
Bakersfield



You are cordially invited to attend the second meeting in the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan!

July 2019

18

We are continuing the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP). The purpose of the Kern MJHMP is to reduce property losses and avoid injury and/or casualties resulting from natural disasters. Hazard mitigation is the use of sustained, long-term actions to reduce the loss of life, personal injury, and property damage that can result from a disaster. The Plan is multi-jurisdictional in that 63 different Kern County jurisdictions participate in it. As we develop this plan a stakeholder group is necessary and **your insight is needed (and, for those representing participating jurisdictions, required)** to meet FEMA's strict guidelines for active participation. Under FEMA's guidelines, active participation is a prerequisite for Plan approval.



Meeting 2 MailChimp Notification



Meeting Agenda

Kern County Multi-Jurisdiction Hazard Mitigation Plan 2019-20 Update

Planning Committee Meeting #2

Thursday, July 18th, 2019, 9:00 a.m. – 12:00 p.m.

Meeting Objectives

- Welcome and Introductions
- Meeting #1 Recap
- Planning Team Development
- Risk Assessment Data Review
- IRAMP Tool Review
- IRAMP Exercises
- Next Steps

Project Website: mitigatehazards.com

Project Webpage: <http://mitigatehazards.com/county-of-kern/>

Website Password: **Kern2020**

Polling Website for Smartphone: www.pollev.com/dynamicplanning

NOTES:



Kern County Hazard Risk Assessment Criteria

Planning Committee Meeting #2, July 18th, 2019

Probability

What is the likelihood of a hazard event occurring in a given year?

Unlikely - less than 1% annual probability

Possible - between 1 & 10% annual probability

Likely - between 10 & 100% annual probability

Highly likely - 100% annual probability

Impact

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. More than 10% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019

9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|--------------|----------------|------------------------|--------------|-----------------------|
| Joe Rojas | City of Delano | rojas@cityofdelano.org | 661.720-2281 | 60 |
| Jana Manguez | KTDUD | jana@kernadeltah.org | 661 834 4657 | |
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PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|---------------------|---------------------------------|---------------------------------|--------------------------------------|-----------------------|
| Chris HICKERNELL | FRONT WATER Authority | chickernell@ frontwater.org | 559-562-6305 559-631-3628 CELL | |
| Harrison Favreux | Lost Hills Union Sch. | hgfavre@ losthills.k12.ca.us | 661 797-3008 cell 661 496-2167 | |
| Micah Clark | Arvin Edison WSD | mclark@ aewsd.org | 661-864-5573 | 42 |
| Leif Mathiesen | Bureau of Land Management | lmathies@ blm.gov | 661- 391-6055 | 22 |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



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July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|--------|---------------------------------|--------------|-----------------------|
| Nick Cooper | GCWD | Greenfieldcountywater@gmail.com | 661 301-3823 | |
| Jebby Utter | ITS | UTTERJ@KERN-COUNTY.COM | 661-868-0041 | |
| Brandon Smith | KCRD | BSSmith@KernCountyCA.gov | 661-330-0181 | ⊙ |
| Isela Medina | SWSD | imedina@semitropic.com | 661-758-5113 | 60 |
| Kevin Albertson | BFD | Kalbertson@Bakersfieldfire.us | 661 496-0410 | |
| FAT OSTLY | NORSO | Postly@norsd.com | 661.397.6411 | |
| Brian Marsh | UCCE | bmarsh@ucan.edu | 661 868 6210 | |
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PC Meeting 2 Sign In 11



PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|--------------------------|---------------------------|--------------|-----------------------|
| Jenny Hanzel | Kern High | Jenny.hanzel@kernhigh.org | | |
| Megan Person | CAO | | | |
| Genel Hodges | JFMAD | | | |
| Vanessa Yap | KTWD | | | |
| Glenn Imke | Panama - Buena Vista USD | | | |
| Kurtley Fleming | KC CAO-GS | FlemingK | 661-868-3049 | |
| Dennis McNamara | KC Planning | | | |
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Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

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Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

9:00 AM

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PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|---------------|------------------|-------------------------------|--------------|-----------------------|
| BRACH SMITH | ROSAMOND C.S.D. | BSMITH@ ROSAMONDOSP.COM | 661 256 3411 | 140 |
| Zachary Wells | Kern County Fire | zwells@kerncounty fire.org | 661-330-0498 | 300 |
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PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|----------------|-----------------------|----------------------------|------------------|--------------------|
| Wayne Clausen | City of Shafter | wclausen@shafter.com | 661-746-5002 | 24 |
| Monica Tennant | Kern Co. Water Agency | mtennant@kcwa.com | (local) 634-1419 | ~10 |
| Damon McMinn | CITY OF TAFT | dmcminn@cityoftaft.org | (661) 763-3105 | 90 |
| Lynn Boyer | CITY OF TAFT | lboyer@cityoftaft.org | (661) 763-1222 | 90 |
| Tim Ruiz | East Niles CSD | truiz@eastniles.csd.org | 661-871-2011 | 5 |
| JOSE DE LEON | KCFD | JDELEON@KERNCOUNTYPINE.ORG | 661 330 0502 | 10 |
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**COUNTY OF KERN**

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update

**PC #2 Meeting**

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|--------------------------------|-------------------------------------|----------------------------------|--------------------|
| Brandon Welton | Mojave Air & Space Port Fire | b Brandon@mojaveairport.com | (661) 824-5240 (661) 221-1130 | 196 |
| Armando Gonzalez | Shafter Rec & Park District | mando.gonzalez97@gmail.com | (661) 746-3303 (661) 900-2386 | 22 miles |
| Susan Wells | GHCSO | gm@ghcsd.com | 661-822-3064 | |
| Eric Ziegler | City of Maricopa | lrobison@comcast.net @bak.rr.com | (661) 269-8219 | ? |
| Ryan Nunneley | North Municipal Water District | rnunneley@nwdalewater.com | (661) 399-5516 | — |
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PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|---|---|------------------|--------------------|
| Curtis Hilliker | Tehachapi Cummings County Water District | chilliker @ TCWD.com | 661 565 8224 | 80 miles |
| Tim Ashlock | BVWD | tim@bvh20 .com | 661-746-2901 | — |
| Jeff LaRiss | Public Health | | 661-301-9865 | 2 miles |
| Rob Voyle | City of Bakersfield | rvoyle@bakersfield.ca.gov | 661-304-2939 | 5 |
| Regina Hanchin | Buttowanwillow | | | 25 |
| Taylor Schoene | KC Planning Nat. Resources | taylor.schoene@ ag | 661-862-5017 | 5 |
| Jeanne Taylor | KCFD CERT | Jetaylor@ KernCountyFire.org | 661-301 7111 | |
| Carl Brewer | KC GS | brewer.ca@ KernCounty | 661-342- 8334 | |
| Eric McDaniel | Wheeler Ridge Water District | emcdaniel@ wrmwd.com | 661 527 6688 | 70 |
| ED Korman | KERN H.S. DISTRICT POLICE | ED-Korman@ KERNHIGH.ORG | 661 827-3219 | 18 |
| STEVEN SANTILLAN | Buttowanwillow Union School District | Ssantillan@ Buttowanwillow School.com | 661 770-7180 | 25 |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

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PC #2 Meeting

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July 18th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|--------------------------------|---|----------------|--------------------|
| Kevin Hamilton | Kern County Public Works | kevinh@kerncounty.com | 661 862 5071 | 10 miles |
| Adrian Nava | Kern County Public Works | Nava.A@kerncounty.com | 661 - 862-8111 | 10 miles |
| Jeff Tackett | CITY OF WASCO | JTACKETT@CI.WASCO.CA.US | 661-750-7273 | 30 |
| BRAD ARAGON | Kern County Risk Mgmt | baragon@kerncounty.com | 661/713-0385 | 12 |
| Heather Spruice | CITY OF RIDGECREST | hspruice@ridgecrest-ca.gov | 760 499 5063 | |
| JOSHUA VILLA | CITY OF RIDGECREST POLICE DEPT | JVILLA@RIDGECREST-CA.GOV | 509 455 4000 | |
| Paul ANDERSON | NOR REC & PARK | Panderson@norrecaparks.org | 661-619 0481 | 16 |
| Kelly Patterson | Temecula Unified SD | kpatterson@teh.k12.ca.us klibert@teh.k12.ca.us | 661-822-2220 | 60 |
| Joe West | NOR REC & Parks | JWest@norrecaparks.org | 661-392-2000 | 10 |
| Adrianne Kessler | DHS | Kessler@kerncounty.com | 661-7373 | 10 |
| Laura Bova | CITY OF PATTERSON | LBOVA@CITYOFPATTERSON.CA.US | 763 1222 | 90 |

PAGE 7 OF 13

PC Meeting 2 Sign In 7

July 18th, 2019
9:00 AM

PAGE 8 OF 13



PC #2 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

July 18th, 2019
9:00 AM

[illegible]

PAGE 9 OF 13

PC Meeting 2 Sign In 9



PC Meeting 2 Photo 1



PC Meeting 2 Photo 2



KERN MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

Planning Committee Meeting #3 Reminder

Thursday, Sept 19th, 2019

9:00 a.m. to 12:00 p.m.

Kern County/Operational Area Emergency Operations Center (EOC)
2601 Panorama Drive, Building B
Bakersfield



You are cordially invited to attend the
third meeting in the process to update the
Kern Multi-Jurisdiction Hazard Mitigation
Plan!

Sept 2019

19

We are continuing the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP). The purpose of the Kern MJHMP is to reduce property losses and avoid injury and/or casualties resulting from natural disasters. Hazard mitigation is the use of sustained, long-term actions to reduce the loss of life, personal injury, and property damage that can result from a disaster. The Plan is multi-jurisdictional in that 63 different Kern County jurisdictions participate in it. As we develop this plan a stakeholder group is necessary and **your insight is needed (and, for those representing participating jurisdictions, required)** to meet FEMA's strict guidelines for active participation. Under FEMA's guidelines, active participation is a prerequisite for Plan approval.



Meeting 3 MailChimp Notification



Meeting Agenda

Kern County Multi-Jurisdiction Hazard Mitigation Plan 2019-20 Update

Planning Committee Meeting #3

Thursday, September 19th, 2019, 9:00 a.m. – 12:00 p.m.

Meeting Objectives:

- Welcome and Introductions
- Planning Process Recap
- Pinpointing your Vulnerabilities
- Developing a Nexus to HMA Funding
- Next Steps

Project Website: mitigatehazards.com

Project Webpage: mitigatehazards.com/county-of-kern/

Website Password: **Kern2020**

Polling Website for Smartphone:
pollev.com/dynamicplanning

NOTES:



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|---|--------------------------|--------------|-----------------------|
| Taylor Schoene | KC Planning + Natural Resources Dept. | schoeneta@kerncounty.com | 661-862-5017 | |
| Glenn Imke | Panama - Buena Vista | gimke@pbvcsd.net | 661-699-0122 | |
| MARK LEWIS | LIBRARY | LEWISMA@KERNCOUNTY.COM | 661-868-0710 | |
| Monica Tennant | KCUA | mtennant@kcu.com | 661-634-1419 | 10 |
| Ed Gordon | Station Springs CSD | egordon@sscsd.com | 818-288-0365 | 75 |
| Ivan Newberry | Vilcabazo School DISTRICT | | 661-337-9610 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|------------------|--------------------------------|--------------|--------------------|
| JEFF TACKETT | CITY OF WASCO | JTACKETT@CITY.WASCO.CA.US | 661-758-7273 | 60 miles |
| MARIS COUNIS | K.C.C.D. B.C. | CCOUNIS@BAKERSFIELDCOLLEGE.EDU | 661-337-0852 | .5 miles |
| Regina Honda | BWCO | Rhonda@kcpenteraccounting.com | 661-764-5273 | 30 miles |
| MARCOS ROBRUEZ | BSSD | MROBRUEZ@BCSD.COM | 661-631-5883 | 16 miles |
| Bridiana Bishop | wasco | bbishop@ci.wasco.ca.us | 661-390-2401 | 60 miles |
| Vickie Hight | Wasco Recreation | Vhight@wrpd.net | 661-758-3081 | 40 miles |
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PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|---------------------|----------------------------|--------------|-----------------------|
| BRACH SMITH | R.C.S.D. | BSMITH@rcsd.org CSO.Com | 661 256 3411 | 140 |
| Suzanne Forrest | City of Shafter | Sforrest@shafter.ca.gov | 661 744 0572 | 0 |
| Rob Voyle | City of Bakersfield | rvoyle@bakersfieldcity.us | 661-304-2939 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|---------------|---|-------------------------------------|-----------------|-----------------------|
| Ed Rieth | AD Retired Pme | Ed @ Beyond the Call of Duty.com | 530-864-5595 | 140 |
| Ryan Nunnaley | North of the River Municipal Water District | ryan@oldalewater.com | 661-399-5516 | |
| Jana Marquez | Kern Delta Water Dist. | Jana@ Kerndelta.org | 661 834 4656 | |
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PC Meeting 3 Sign In 12



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|----------------------------|--------------------------------|-------------------|-----------------------|
| Brandon Welton | Mojave Air & Space Port | brandon@ Mojaveairport.com | (661) 221-1130 | 196 |
| Benny Wofford | KERN High School Dist. | benny_wofford@ kernhigh.org | (661) 827-3428 | |
| Patrick Blake | Kern High | pblake@ kernhigh.org | 661-827-3427 | |
| Zachary Wells | Kern County Fire Dept | zwells@ kerncountyfire.org | 661-330 0498 | 300 |
| Brandon Smith | KCSD | BSSmith " " | 661 330-0181 | |
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PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------|-------------------|------------------------|--------------|-----------------------|
| Susan Wells | GHCS D | gm@ghcsd.com | 661-822-3064 | ? |
| Tim Ruiz | East Niles CSD | twiz@eastniles-csd.org | 661-971-2011 | — |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|--------------------------------|------------------------------|----------|-----------------------|
| Yuriana Torres | Richland School District | Ytorres@ rdsdshatter.org | 746-8621 | 46 |
| ZACK BITTLE | KCSO | BITTLEZ@ KERN.SHERIFF.ORG | 378-5014 | 19 |
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PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|---------------|-------------------|--------------------------------|----------------|-----------------------|
| Frank Trotta | Cal Water | FTrotta@CalWater.com | (760) 549-3268 | 100 |
| Michael Mata | Kern Co Probation | michael.mata@kernprobation.org | (661) 205-5873 | 10 |
| Kris Lawrence | WDWA | klawrence@hwd.org | 661-666-1095 | 10 |
| Darin Heard | Ag-DA | heard@kerncounty.com | | 10 |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|--|-----------------------------|----------------|--------------------|
| Harrison Faveaux | Cost Hills Sch. Dist | hufavea@costhills.k12.ca.us | (661) 797-3008 | |
| Curtis Hilliker | Tehachapi-Cummings County Water District | chilliker@tcwd.com | (661) 565 8224 | 80 |
| Heather Spurlock | City of Ridgecrest | hspurlock@ridgecrest-ca.gov | 760 497 5063 | |
| David Orr | Cal-City F.D. | dorr@calcityfire.us | (661) 476-7170 | |
| Matt Carter | Delano T. Unit 15 | mcarter@delanotd.org | 661-543-1033 | 60 |
| Adrian Madrona | DJUSD | amadrona@delanotd.org | 661-720-4104 | 60 |
| PATRICK OSTBY | NORS | Postly@norsd.com | 661.399.4111 | 20 |
| AMY ROCHA | NRCS | AMY.ROCHA@USDA-GOV | | |
| EMMANUEL GONZALEZ | NRCS | EMMANUEL.GONZALEZ@USDA-GOV | | |
| JOE ROSAS | CITY OF DELANO | jrosas@cityofdelano.org | 661 720 2111 | 60 |
| | | | | |

PAGE 6 OF 13

PC Meeting 3 Sign In 6



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|--------------------|------------------------------|-------------------------------------|-----------------|-----------------------|
| Nick Cooper | GCWD | greenfieldcounty water@gmail.com | 661-3013823 | |
| Bill Malinen | Bear Valley CSD | bmalinen@ bvcsd.org | 661 821-4428 | |
| Brianna Carner | City of Bakersfield | bcarnere bakersfieldshelton.com | 661 326 3745 | |
| John Frando | Bakersfield Fire | jfrando@ bakersfieldfire.us | 661 326-3652 | |
| Melissa Kielpinski | Tehachapi Unified S.D. | mkielpinski@ tec.kie.ca.us | 661-822-2102 | |
| Greg VanMullem | Assessor/ ITS | vanmullem@ kerncounty.com | 661-301-2259 | |
| Rafael Molina | Cal Water | rmolina@ calwater.com | 661-827-7606 | |
| Jose Pena | Cal water service | jpena@calwater. com | 661-837-7273 | |
| Tommy Aguilera | Taft City School District | taguilera@ taftcity.org | 661-213-6817 | |
| Isela Medina | Semihropic WSD | imedina@ semihropic.com | 661-758-5113 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



PC #3 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

September 19th, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|----------------------------|------------------------------------|----------------|--------------------|
| Jeanni Taylor | Kern Co Fire CERT | jtaylor@KernCountyFire.org | 661-391-7108 | |
| Chris Hickman | FRONT WATER AUTHORITY | chickman@frontwater.org | 559-562-8305 | |
| Bridget Aragon | Kern County Risk Mgmt | baragon@kerncounty.com | 703-0385 | |
| JEFF FARIS | EMS | | | |
| Bryan Aul | Sierra Suds USP Bridgeport | baul@suds.org | 760-608-7174 | |
| Laura Robison | City of Moraga | lrobison@cityofmoraga.com | 661-747-3175 | |
| Kelly Patterson | TUSD | kpatterson@ten.k12.ca.us | 661-822-2120 | |
| Kirk Wilbert | TUSD | kwilbert@ten.k12.ca.us | 661-822-2120 | |
| STEVEN SANTILLAN | Butterwillow School | ssantillan@butterwillow-school.com | (661) 770-7180 | 70 miles |
| KIMBERLY FULTON | COUNTY OF KERN-GS | FLUNT@KERN-GS | 661-968-3049 | |
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PAGE 8 OF 13

PC Meeting 3 Sign In 8

Kern Multi-Jurisdiction 2019-20 MJHMP Update



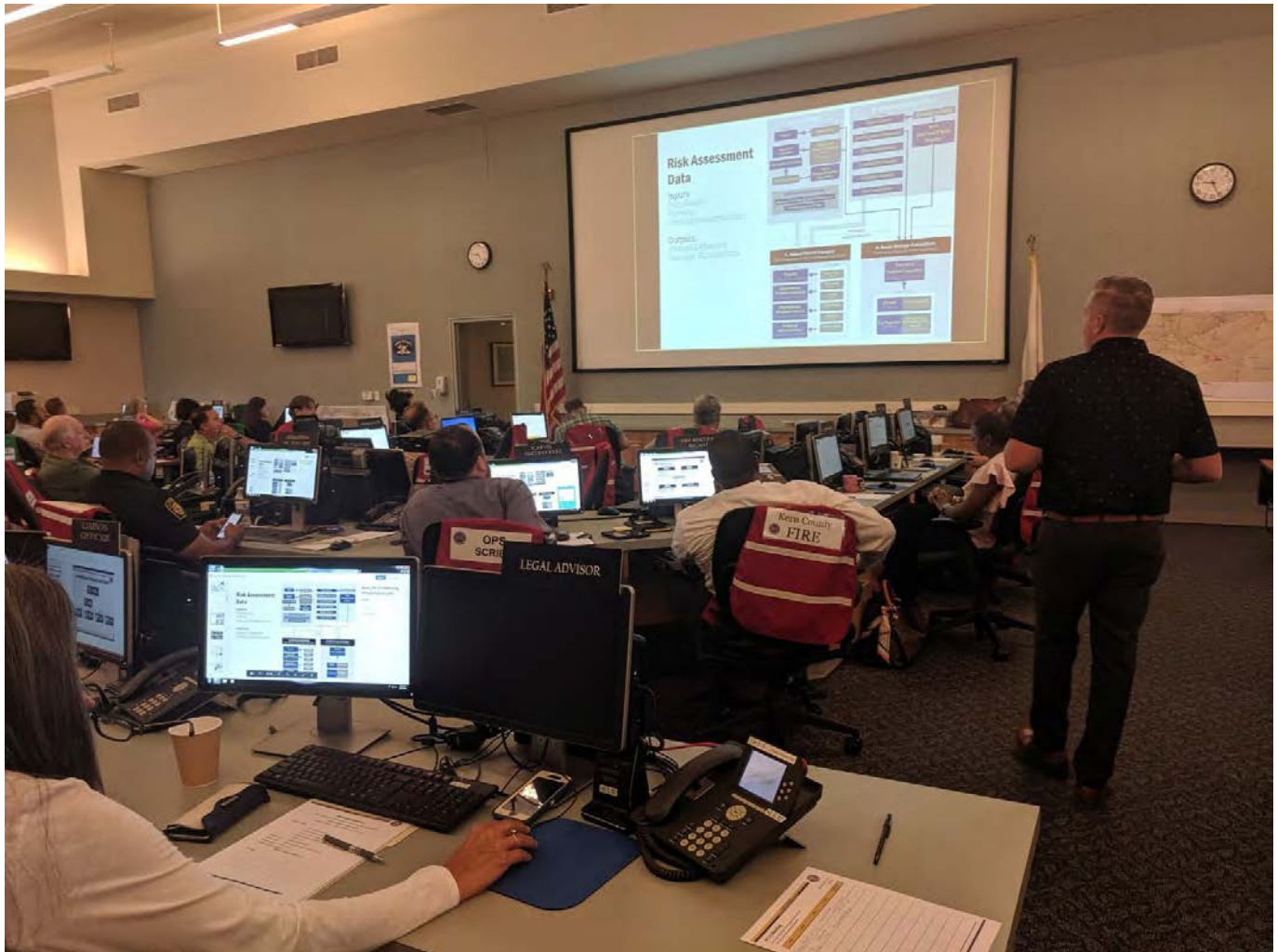
Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

9:00 AM

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PC Meeting 3 Photo 1



PC Meeting 3 Photo 2



PC Meeting 3 Photo 3



KERN MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

Planning Committee Meeting #4 (Final Committee Meeting)

Thursday, November 14th, 2019

9:00 a.m. to 12:00 p.m.

Kern County/Operational Area Emergency Operations Center (EOC)

2601 Panorama Drive, Building B

Bakersfield



You are cordially invited to attend the final Planning Committee meeting in the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan!

We are continuing the process to update the Kern Multi-Jurisdiction Hazard Mitigation Plan (MJHMP). As we update this plan, this stakeholder group is necessary and **your insight is needed (and, for those representing participating jurisdictions, required)** to meet FEMA's strict guidelines for active participation. Under FEMA's guidelines, active participation is a prerequisite for Plan approval.

Nov 2019

14



Meeting 4 MailChimp Notification



Meeting Agenda

Kern County Multi-Jurisdiction Hazard Mitigation Plan 2019-20 Update

Planning Committee Meeting #4

Thursday, November 14th, 2019, 9:00 a.m. – 12:00 p.m.

Meeting Objectives:

- Welcome and Introductions
- Planning Process Recap
- Mitigation Alternatives
- Hazard Areas of Concern
- Goals & Objectives Review (previous plan)
- Updating the mitigation strategy

Project Website: mitigatehazards.com

Project Webpage: mitigatehazards.com/county-of-kern/

Website Password: **Kern2020**

Polling Website for Smartphone: pollev.com/dynamicplanning

NOTES:



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|------------------|--|----------------------------------|----------------|--------------------|
| Kelly Patterson | TENACHAPI Unified SD | Kpatterson@tenachapi.k12.ca.us | 661-822-2120 | 70 |
| Jeffrey Utter | Kern County | utterje@kerncounty.com | 661-868-0041 | — |
| Brianne Camer | City of Bakersfield | bcamer@bakersfield.gov | 661-324-3745 | — |
| Susan Wells | GHCSO | gs@ghcsd.com | 661-822-3064 | ? |
| Chris Hickoxzell | FELANT WATER AUTHORITY | chickoxzell@felantwater.org | 559-562-6305 | — |
| JEFF BELL | STATER PD | JBELL@STATER.COM | 661-746-8914 | — |
| Patrick Alster | Kern High School Dist. | pblake@kernhigh.org | 661-827-3427 | — |
| Dennis McNamara | Kern Co. Planning | menamara@kerncounty.com | (661) 862-8624 | — |
| JEFF FARRIS | EMS PUBLIC HEALTH | FARRIS@kerncounty.com | 661-868-5214 | — |
| Paul Anderson | North of the River Rec & Park District | panderson@northernrecreation.org | 661-619-0481 | — |
| Mark Dawson | Arvin-Edison Water Storage Dist. | mdawson@aedwsd.org | (661) 477-9405 | — |



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHMP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHMP Update



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|----------------|---------------------|-------------------------|--------------|--------------------|
| Laura Robison | City of Maricopa | lrobison-com@bak.rr.com | 661-769-8279 | 80 miles |
| Nehica Tennant | KAWA | ntennant@kawa.com | 661-634-1419 | 12 miles |
| Ed Gordon | STATION SPRINGS CSD | EGORDON.SSCSD@GMAIL.COM | 818-288-0345 | 76 miles |
| JOE ROJAS | CITY OF DELANO | jrojas@cityofdelano.org | 661.720.2287 | 60 |
| Alexander | CITY of McFarland | alee@mcfarland.org | 661-792-3091 | 60 |
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PAGE 10 OF 10

PC Meeting 4 Sign in 10



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------------|------------------------------------|--------------------------------|--------------|-----------------------|
| James Langille | KHSD | James.Langille@kernhigh.org | 661-827-3174 | |
| Peggy H. Vetter | Pine Mt. Club | PEGGYHVZ@gmail.com | 818-383-7928 | |
| Phyllis Throckmorton | Pine Mountain Club | Phyllis.Throckmorton@gmail.com | 205-509-5542 | |
| KARIN Shulman | PMCPDA | gme@pmcpda.com | 661-242-3788 | |
| CHRIS COUNTS | KERN Community College DISTRICT | CCOUNTS@BakersfieldCollege.edu | 661-337-0852 | 10 |
| Yuriana Torres | Richland SD | Ytorres@rsd Shafter.org | 746-8421 | |
| BRANDON Smith | KCFD | BSSMITH@ KernCountyCA.gov | 330-0181 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|------------------------------|----------------------------|--------------|--------------------|
| MARK LEWIS | LIBRARY | LEWISMA@KERNCOUNTY.CO.N | 661-868-0710 | fr |
| JEFF TACKETT | CITY OF WASCO | | 661-979-5615 | 60 |
| Ryan Nunneley | NOR Municipal Water District | rnunneley@oildalewater.com | 661-399-5516 | 10 |
| Biridian Bishop | City of Wasco | bishop@ci.wasco.ca.us | 661-390-2601 | 60 |
| Wayne Jackson | City of Wasco | wjackson@ci.wasco.ca.us | 661-779-0341 | 60 |
| JOSE DE LEON | KCFD | JDELEON@KERNCOUNTYFIRE.ORG | 661-330-0503 | 8 |
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PAGE 3 OF 10

PC Meeting 4 Sign in 3



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|------------------------|----------------------------|--------------|-----------------------|
| Roger Sanchez | KERN High School Dist. | roger.sanchez@kernhigh.org | 827-3119 | |
| Jeremy Kosick | Cal City | JKosick@CalCityFire.us | 762-808-7546 | |
| John Frando | Bakersfield Fire | Jfrando@bakersfieldfire.us | 661-326-3652 | |
| Jeremy Amr | Agony & Adult Services | amrj@kerncounty.com | 805-1034 | |
| KIMBLEY FLEMING | KERN COUNTY GE | FLEMINGK | 805-3049 | |
| Ival Alvarado | Valencia S.D. | | 337-9610 | |
| Tommy Aguilera | Taft City School | | 661-767-1521 | |
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COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-------------------|-----------------------------|--------------------------------|------------------|-----------------------|
| Robert Voyles | City of Bakersfield | rvoyles@ bakersfieldcity.us | 661-326- 3105 | 8 |
| Adrian Nava | KSA & FCTHSD | Nava A @ Kerncounty.ca | 661-862-8888 | 10 |
| Kevin Hamilton | Kern County Public Works | Kevinh@ kerncounty.com | 661-862-5071 | 10 |
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PC Meeting 4 Sign in 5

Kern Multi-Jurisdiction 2019-20 MJHMP Update



Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

9:00 AM

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PC Meeting 4 Sign in 6



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019
9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------|--|--------------------------|------------------|-----------------------|
| Tim Ruiz | East Wiles CSD | truize@eastwiles.org | 661-871-2011 | |
| PAT Ostry | North of River Sanitary District | Postly@ norsd.com | 661-399-6411 | 25 |
| David Orr | Cal-City F.D. | dorrie calcityfire.us | 661-476- 7170 | 70 |
| JOHN LUNA | SEMITROPIC W.S.D. | MLUNA@SEMITROPIC.com | 661-809-2840 | 80 |
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PC Meeting 4 Sign in 7

November 14, 2019
9:00 AM

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B.1-71



COUNTY OF KERN

Kern Multi-Jurisdiction 2020 MJHP Update

COUNTY OF KERN

Kern Multi-Jurisdiction 2019-20 MJHP Update



PC#4 Meeting

Kern County/Operational Area Emergency Operations Center
2601 Panorama Drive, Building B Bakersfield

November 14, 2019

9:00 AM

| NAME | AGENCY | EMAIL | PHONE | ROUND-TRIP MILEAGE |
|-----------------|---------------------|------------------------------|--------------|-----------------------|
| Tarek Bradford | Planning Department | Bradford5@kerncounty.com | 661-862-8653 | 10 miles |
| Keith Garney | Mojave USD | keithgarney@mojave.k12.ca.us | 661-810-3251 | 80 miles |
| Raul Barrera Jr | Arvin CSD | rbarrera@arvincsd.com | 661 205-6432 | 40 |
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PAGE 9 OF 10

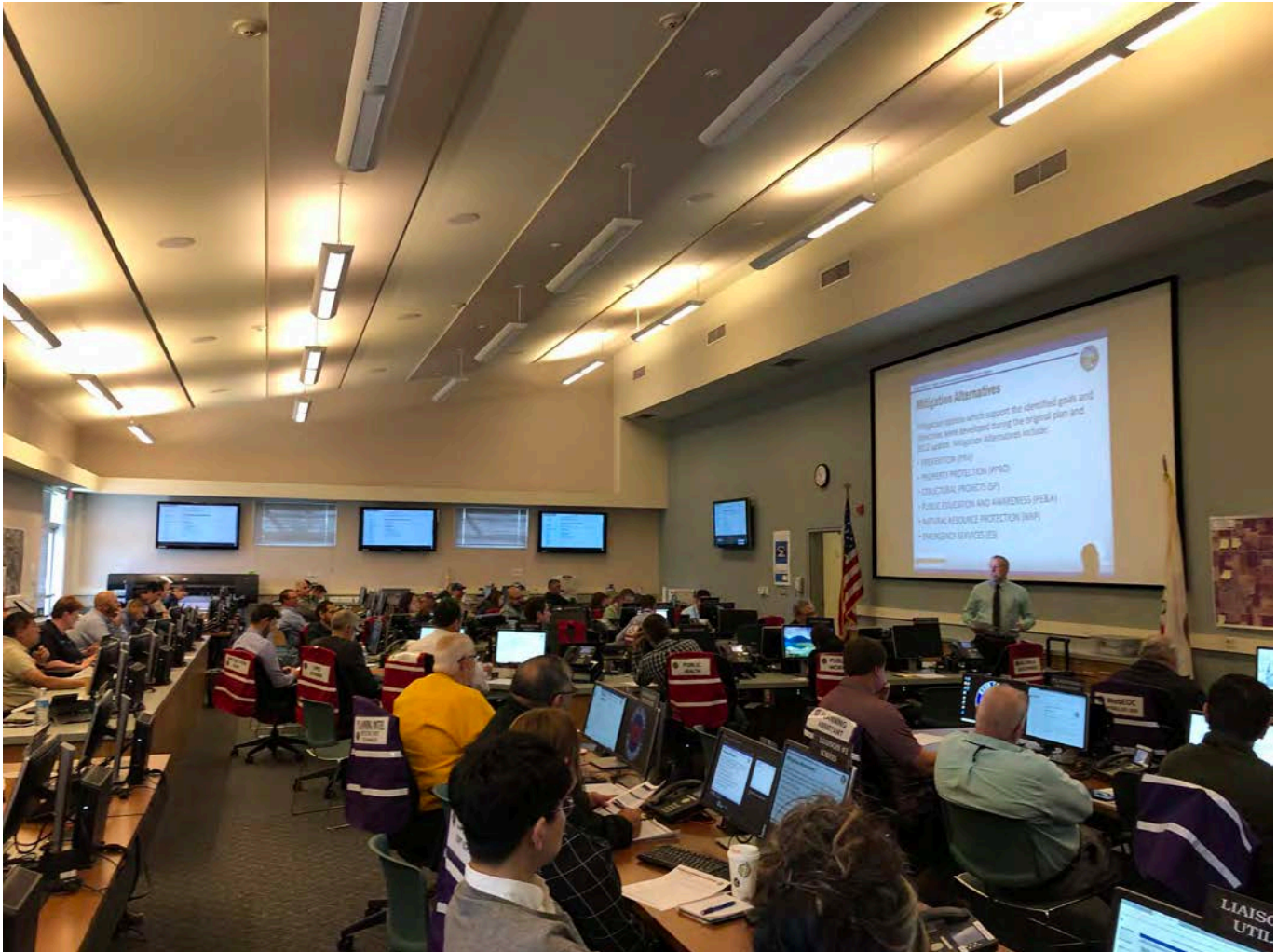
PC Meeting 4 Sign in 9



PC Meeting 4 Photo 1



PC Meeting 4 Photo 2



PC Meeting 4 Photo 3



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Public Notice & Press Release Documentation

Appendix B.2



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WIN

a \$150 voucher
toward **STIHL**® product
from your local True Value

AND OTHER PRIZES!

MITIGATE HAZARDS



WWW.MITIGATEHAZARDS.COM

Help the County become informed about local hazards and take a survey!!! Be entered to win a hazard mitigation home use item!

GRAND PRIZE
\$150 voucher
toward **STIHL® product**

OTHER PRIZES INCLUDE

Tree Loppers
Fire Extinguishers
& other hazard mitigation tools!!!

ACE
Hardware

SURVEY LINK



[www.mitigatehazards.com/
county-of-kern/get-in-
volved/](http://www.mitigatehazards.com/county-of-kern/get-involved/)

survey graphic



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Survey & Results Documentation

Appendix B.3



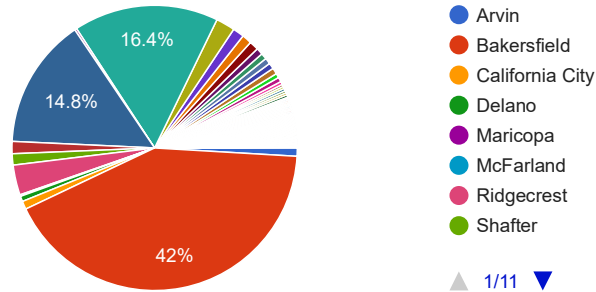
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Please fill out all the survey questions completely. Thanks for your participation.

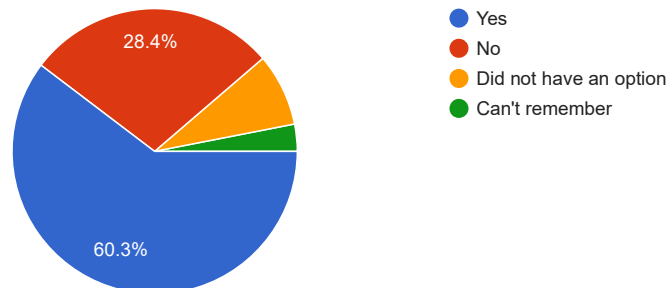
I live in...

1,169 responses



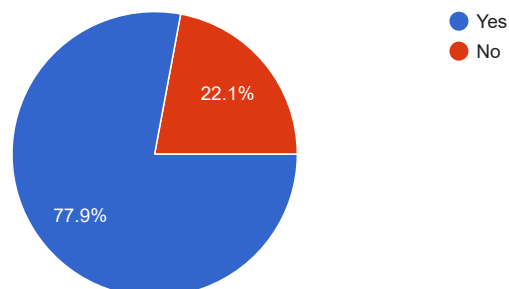
Did you consider the risks of naturally occurring hazards when you chose your home?

1,169 responses



Do you believe your property is at risk from a natural hazard disaster?

1,169 responses

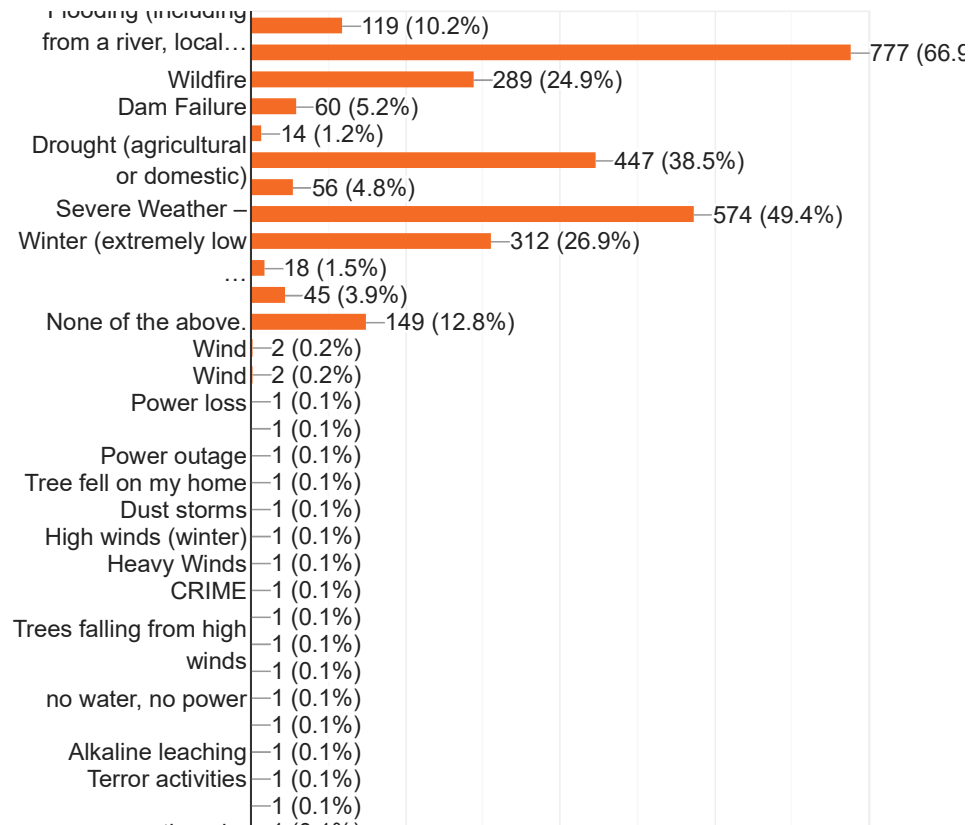


Kern Survey Results Summary



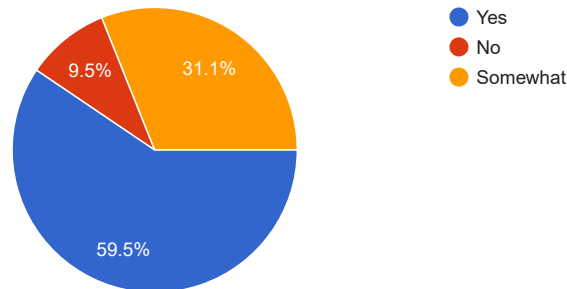
Which of the following types of hazard events have you or someone in your household experienced at your current home?

1,162 responses



Do you think you are well informed about the dangers of natural hazards in this area?

1,169 responses

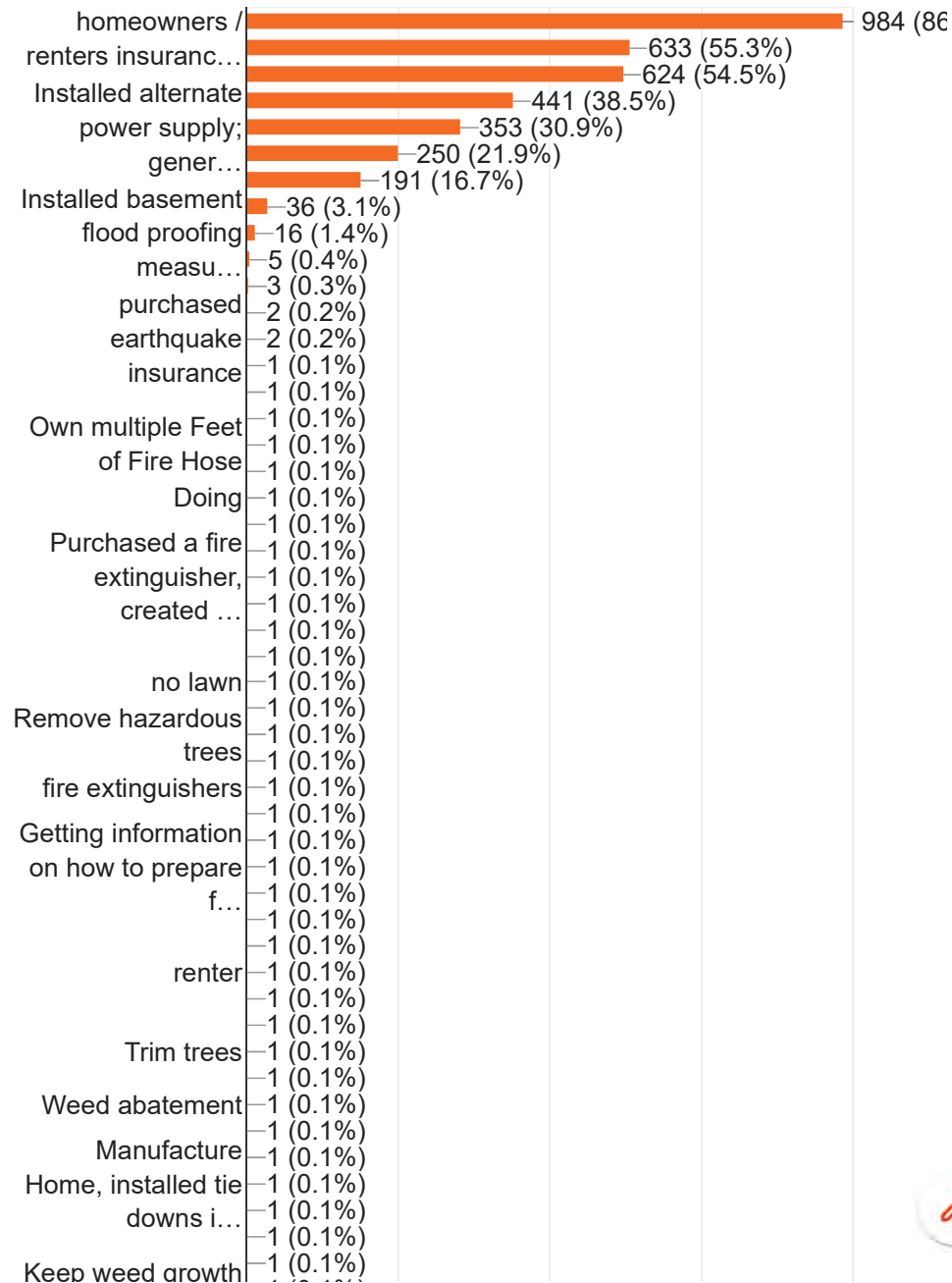


Kern Survey Results Summary



What actions have you taken for your home or property that increase personal safety or reduce risk and injury from potential disasters? (please check all that apply)

1,144 responses

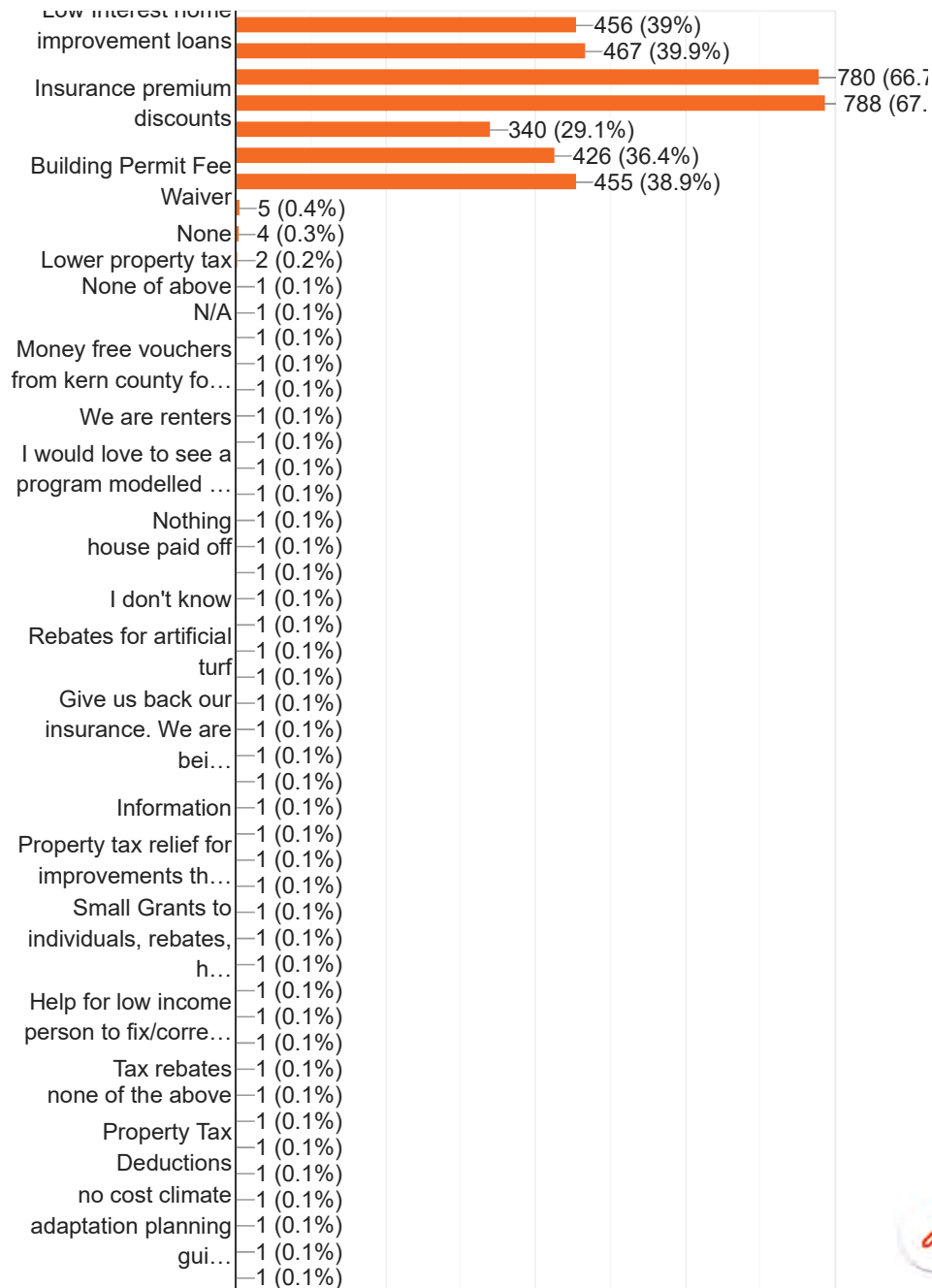


Kern Survey Results Summary



Which of the following incentives would encourage you to protect your home to withstand the impacts of possible natural hazards?

1,169 responses

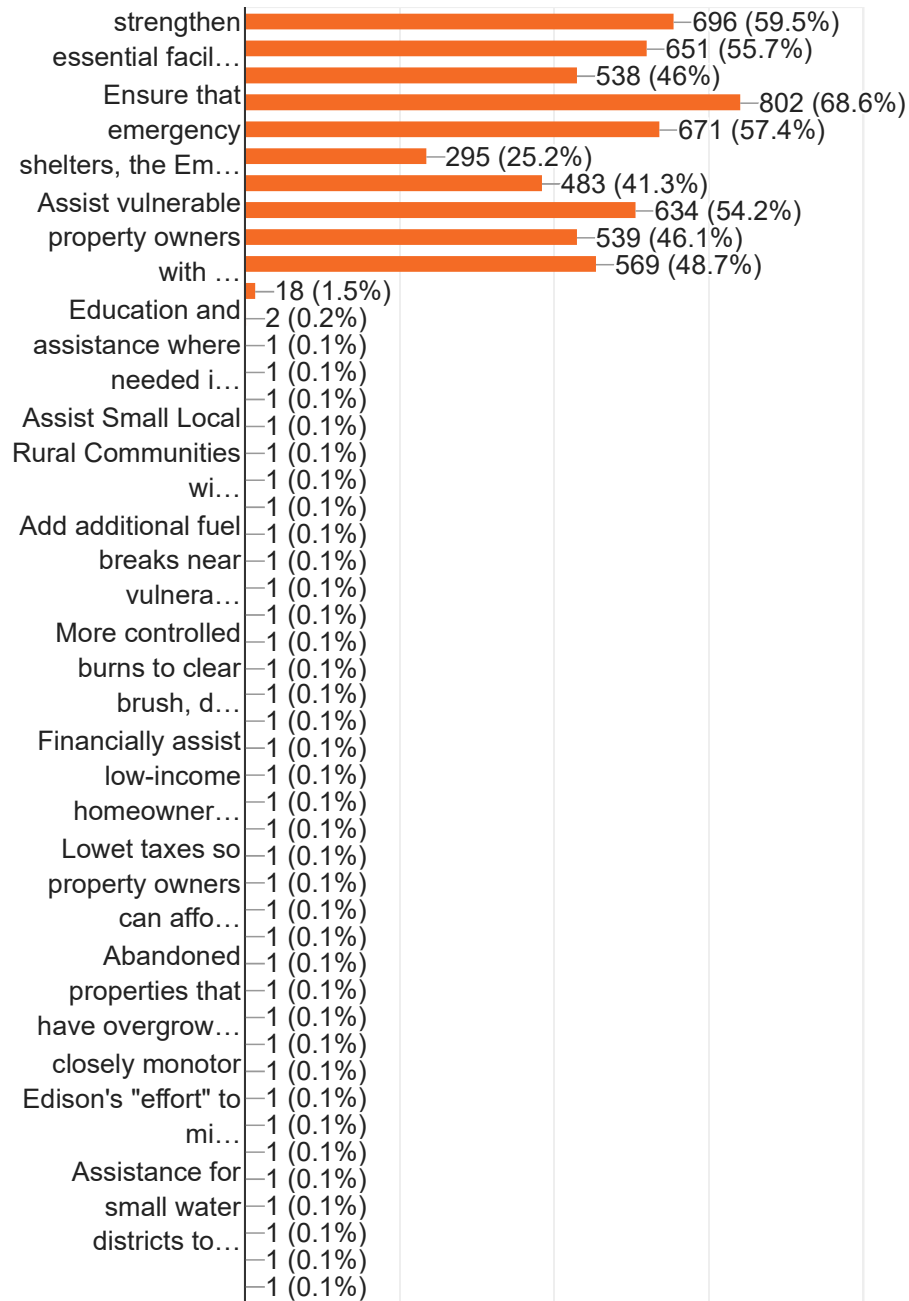


Kern Survey Results Summary



Which of the following mitigation projects do you believe local government agencies should focus on to reduce disruptions of services and to strengthen the community (please check all that apply)

1,169 responses



Kern Survey Results Summary



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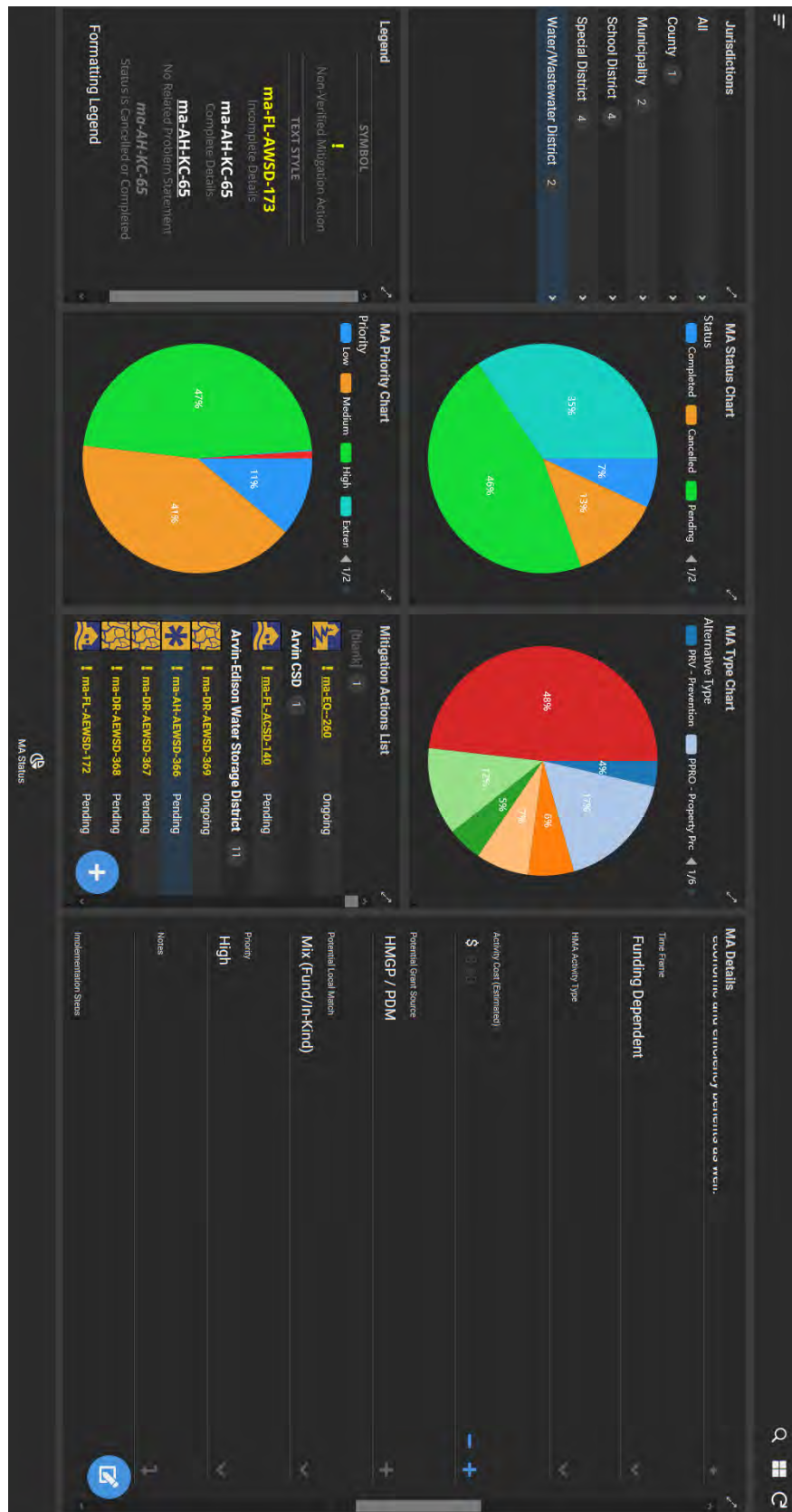


Mitigation Strategy Prioritization Process Documentation

Appendix B.4



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MAST Priority Field



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Website Documentation

Appendix B.5



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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

Executive Summary



Kern County, along with 62 other participating jurisdictions, will develop an update to the 2012-14 Kern Multi-Jurisdiction Hazard Mitigation Plan to reduce losses resulting from natural disasters. Hazard mitigation is the use of sustained, long-term actions to reduce the loss of life, personal injury, and property damage that can result from a disaster. Benefits of mitigation planning include:

- Identifying actions for risk reduction through collaboration with stakeholders and the public,
- Focusing resources on the greatest risks and vulnerabilities,
- Building partnerships by involving citizens, organizations, and businesses,
- Increasing education and awareness of threats and hazards, as well as their risks,
- Communicating priorities to State and Federal officials, and
- Aligning risk reduction with other community objectives.

Planning efforts could include capital projects and other pragmatic activities that can mitigate the impacts of hazards. The 2019-20 MJHMP Update will cover each of the major natural hazards that pose risks to County infrastructure and residents. Recognizing that successful mitigation planning efforts must be communicated and understood by the public, the County approach will include stakeholder participation and input with the use of cutting edge GIS technology to map and update the hazard information for each hazard profiled in the 2019-20 MJHMP.

Participating Jurisdictions

The 2019-20 MJHMP update will include, at a minimum, the jurisdictions listed below. It is understood that the County also encompasses areas of land controlled by Federal and State land management agencies, including the California Department of Forestry and Fire Protection, Bureau of Land Management, and Bureau of Reclamation. While other levels of government have jurisdiction in these parts of the County, the Hazard Mitigation Plan could also be used to document and coordinate mitigation efforts among Federal, State, and local jurisdictions. In addition, it will be important to invite organizations such as public and private utility companies to be stakeholders during the update process.

The following jurisdictions will meet FEMA guidelines and requirements as a formal participating agency:

Municipalities

- City of Arvin
- City of Bakersfield
- City of California City
- City of Delano
- City of Ridgecrest
- City of Shafter
- City of Taft
- City of Tehachapi

Executive Summary



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Kern Multi-Jurisdiction Hazard Mitigation
Plan

2019-20 Update

Mitigation at Home



Perform Mitigation Around Your Home!

Mitigation around your home can better prepare you and your family for an unexpected emergency or disaster incident, and help you recover more quickly. Here are some resources to get you started.

Assess Your Own Risk

Using Cal OES MyHazards, type in your address to assess your risk to natural hazards including earthquakes, flood, fire and tsunami. Learn what you should do to reduce injuries, protect your life and those of others, and reduce damage to your home and property.

Visit [Ready.gov](#) to learn about different hazards and how you can prepare your home or business for these events.

Home Mitigation Ideas

Now that you're familiar with the hazards that have the potential to affect your community, check out some of these mitigation techniques that can be performed around your home.

Wildfire Mitigation Ideas

- **Kern County Fire Hazard Reduction Program:** Home inspections, Defensible Space Planning and Preparation Guide and other local mitigation resources.
- **California Fire Safe Council:** Information on grants/ funding programs and community events.
- **CAL FIRE Why 100?** Video from CAL FIRE with defensible space guidelines for your home.
- **CAL FIRE Ready for Wildfire:** CAL FIRE website for preparing your home for wildfire.
- **CAL FIRE Ready for Wildfire (Get Ready):** CAL FIRE tips on defensible space, hardening your home, and fire-resistant landscapes.
- **CAL FIRE Ready for Wildfire (Prevention):** CAL FIRE "One Less Spark" wildfire prevention tips for equipment use, debris burning, campfires and more.

Earthquake Mitigation Ideas

- **FEMA Earthquake Home Hazard Hunt:** FEMA recommendations for reducing earthquake hazards in your home.
- **California Earthquake Brace and Bolt Program:** California EBB provides \$3,000 grants to be used toward a code-compliant seismic retrofit for houses that qualify. Find out more about the program and if your house qualifies.

Flood Mitigation Ideas

- **FEMA Flood Mitigation:** Tips for preparing your home or workplace, collecting sources of information, developing an emergency communications plan and knowing what to do when a flood is approaching your home or business.
- **California Flood Preparedness Tips:** Tips on how to divert water away from your home during a flood including sandbag filling and placement.

Severe Weather Mitigation Ideas

- **Severe Storm Mitigation:** Tips to equip your home with the accessories it will need to survive a storm from the National Association of Home Builders.

Drought Mitigation Ideas

- **Water Association of Kern County:** Water conservation tips for homeowners.
- **Save Our Water:** Tips and resources for water conservation in and around the home.

Reduce Personal Risk or Injury

Create a Plan

Every household should have a disaster plan. Meet with your family members and discuss why you need to prepare for a disaster. Discuss and explain the dangers of the various hazards that may impact your home or your community.

Build an Emergency Kit

An emergency kit is assembled so that in case of an emergency you are prepared ahead of time. It is possible that you will need to survive on your own after an emergency and this kit should have all the basic yet essential items you will need for at least 72 hours. Your kit should contain food and water, items in case there is a power shortage, and other items such as personal hygiene supplies and copies of important documents.

Mitigation at Home



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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

Other Planning Documents



Hazard Mitigation Plan:

2012 Kern Multi-Jurisdiction Hazard Mitigation Plan

- Part 1: [Executive Summary, TOC, Chapters 1, 2, 3](#)
- Part 2: [Chapter 4, Part 1](#)
- Part 3: [Chapter 4, Part 2](#)
- Part 4: [Chapters 5, 6, 7](#)
- Part 5: [Appendices A through H](#)

Other Local Planning Documents:

[Kern County General Plan](#)

[2018 State of California Multi-Hazard Mitigation Plan Draft](#)

[California Drought Contingency Plan](#)

[Kern County Fire Department Unit Strategic Fire Plan](#)

[Kern County Fire Department Wildland Fire Management Plan](#)

[Kern County and Incorporated Cities Hazardous Waste Management Plan](#)

[Kern County Flood Hazard Mitigation Plan](#)

[Kern Lake Coordinated Resource Management and Planning Group Project Master Plan – Preliminary Status Report](#)

[Metropolitan Bakersfield Habitat Conservation Plan](#)

Community Wildfire Protection Plans (CWPPs):

[Alta Sierra CWPP](#)

[Kern River Valley CWPP](#)

[Mount Pinos CWPP](#)

[Meyers Canyon CWPP](#)

[Greater Tehachapi Area CWPP](#)

Other Planning Documents



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Kern Multi-Jurisdiction Hazard Mitigation
Plan

2019-20 Update

Get Involved



The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and their property from hazards. The County of Kern developed the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) update to make the County, its residents and visitors less vulnerable to future hazard events.

Take a Survey!

Tell us what you think...

COMMUNITY SURVEY

ENCUESTA SOBRE LA COMUNIDAD

Survey Results

Total Surveys...

1,156

Your opinion matters! The information you provide will help us identify and coordinate projects focused on reducing the risk of injury or damage to property from future hazard events (e.g. wildfires, floods, earthquakes).

The survey should take approximately 5 minutes to complete and is anonymous.

REVIEW THE HAZARD MITIGATION PLAN!

Coming soon!

Throughout the planning process, draft sections of the 2020 Kern County Multi-Jurisdictional Hazard Mitigation Plan will be made available for review and comment; documents can be found on the ["Documents"](#) page.

Discover County Planning Documents

Does your neighborhood have its own Community Wildfire Protection Plan? Do you know where the flood zones are in the County? There are a lot of great resources available to the public and they can all be found [here](#).

Events

Come take the survey in person and get your mitigation questions answered at one of our upcoming events.

*Event details coming soon!***Get Involved**



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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

Learn More



History of the MJHMP

On behalf of the entire County, Kern County's Board of Supervisors adopted the original Multi-Jurisdictional Multi-Hazard Mitigation Plan in 2006. The 2019-20 update will be the County's "third" plan update and a demonstration of the County's continuing effort to reduce or eliminate future loss of life and property resulting from natural disasters.

Kern Multi Jurisdiction Hazard Mitigation Plan
Comprehensive Update
September 2012



Disasters in Kern County

- 15 Fire
- 6 Flood
- 5 Severe Storm(s)
- 3 Freezing
- 1 Coastal Storm
- 1 Drought
- 1 Hurricane



There have been 32 declared disasters that have occurred in Kern County since 1953. [Click here](#) for more detail including the types of declared disasters and the months and years that they have occurred.

[Learn More](#)



MITIGATE HAZARDS



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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

Documents



2020 Kern County Multi-Jurisdictional Hazard Mitigation Plan

This is your opportunity to be heard! Click below to open the Public Review PDF's for Volume 1 and find each volume 2 annex of the County's 2020 Hazard Mitigation Plan. For additional help on PDF commenting, use the instructions below in the "How to Comment on the PDF" section. Note the files may take a few moments to load due to the size of the documents and the interactive commenting feature.

The County's Multi-Jurisdictional Hazard Mitigation Plan is available in Volume 1 for review at the link below:

[CLICK HERE - DRAFT 2020](#)

[MIHMP - VOLUME 1](#)

You can also download the PDF and provide comments via the form linked below or by emailing our team directly: [Download MIHMP VOL 1](#)

HOW TO COMMENT!

Tell us what you think...

Option 1

Click the link left to comment on the Draft Volume 1
For Volume 1

Option 2

Submit a [Comment Form](#).
For Volume 1 or 2 Annexes

Option 3

[Email your comments!](#)
For Volume 1 or 2 Annexes

Volume 2 Draft Annexes

The Jurisdictional Annexes to Volume 1 are available in Volume 2 within the groups below:

MUNICIPALITIES

SPECIAL DISTRICTS

SCHOOL DISTRICTS

WATER/WASTEWATER DISTRICTS

HOW TO COMMENT

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Kern Multi-Jurisdiction Hazard Mitigation Plan

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UPDATES

5/1/2020: All RAMP interfaces have been updated to RAMP 2.0 to provide a better user experience - see the [user guide link above](#) for more information.

7/25/2019: Population Maps updated to improve population summary accuracy within municipal boundaries.

Using RAMP

The links below allow you to access each version of the Risk Assessment Mapping Platform "RAMP". Please see the user documentation for more details on how to use the mapping applications. If you need help navigating these mapping tools, please email brian@dynamicplanning.co



LAUNCH MUNICIPALITIES RAMP



LAUNCH SPECIAL DISTRICTS RAMP



LAUNCH SCHOOL DISTRICTS RAMP



LAUNCH WATER DISTRICTS RAMP

RAMP Resources

The RAMP user guide details RAMP's user interface and how to use the mapping application.

RAMP USER GUIDE

The hazards legend provides full details for each class of hazard portrayed in RAMP and provides data sources.

HAZARDS LEGEND

The GIS data dictionary itemizes the status of each GIS data layer that will be used in the project.

GIS DATA DICTIONARY

If you need additional help navigating these mapping tools or have any questions regarding data sources, analysis methods, etc., please email brian@dynamicplanning.co.

RAMP



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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

Planning Process Library



This library includes links to view map products or exercises completed by each jurisdiction to meet or exceed FEMA planning requirements outlined in 44 CFR § 201.6 – Local Mitigation Plans (44 CFR Part 201 – Mitigation Planning). Most importantly §201.6(c)(2)(iii) requires that in multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Risk Assessment – explore or download each hazard exposure & damage estimation map

Hazard Prioritization – hazard prioritization risk matrices

Areas of Concern – identifies hazard problem statements

Capability Assessments – details specific technical, fiscal, and regulatory resources

If you need help navigating these mapping products, please email brian@dynamicplanning.co.

COUNTY / MUNICIPALITIES

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WATER/WASTEWATER DISTRICTS

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Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

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KICK-OFF MEETING

PLANNING COMMITTEE MEETING #1

PLANNING COMMITTEE MEETING #2



PLANNING COMMITTEE MEETING #3

Planning Committee Meeting #4

Date: November 14th, 2019

Time: 9:00 AM-12:00 PM

Location: Kern County/Operational Area Emergency Operations Center, 2601 Panorama Drive, Building B,
Bakersfield, CA

[Livestream](#)

Meeting Materials

[Live Polling with PollEV](#)

[Mitigation Action Application](#)

username: kernmjhmp@gmail.com

password: KernHMP2020

[Kern PC #4 Meeting Slide Deck](#) [View](#) | [Download](#)

[Kern County Meeting #4 Agenda](#) [View](#) | [Download](#)

[Mitigation Alternatives Handout](#) [View](#) | [Download](#)

[2012-14 Mitigation Action Worksheets](#) [View](#) | [Download](#)

Links

[Mitigation Ideas Handbook](#) [View](#) | [Download](#)

[Wildfire Hazard Mitigation Handbook for Public Facilities](#) [View](#)

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970-323-4335

Water District Lead

[Gary Sturdivan](#)

909-658-5974

Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

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[PM Team](#)

Project Contacts

Kern County

[WENDY J. BENSON](#)

661-873-2603

Dynamic Planning + Science

[ETHAN MOBLEY](#)

970-323-4331

[BRIAN GREER](#)

510-253-0054

[ALEX KREBS](#)

970-422-1213

Municipal Lead

[Bob Lagomarsino](#)

916-347-2786

Special District Lead

[Torie Jarvis](#)

970-323-4330

School District Lead

[Ty Johnson](#)

970-323-4335

Water District Lead

[Gary Sturdivan](#)

909-658-5974

Kern Multi-Jurisdiction Hazard Mitigation Plan

2019-20 Update

PM Team



PM TRACKING APPLICATION

Project Management Team



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STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director
Charles Sobolewski, Public Works Deputy Director

DATE: January 19, 2021

SUBJECT: Approval of the Acceptance of the Finance and Planning Annex Shade Structure Project and Authorization for the City Clerk to file the Notice of Completion.

Recommendation:

Staff recommends the City Council review and accept the Notice of Completion and Acceptance, and authorize the City Clerk to file the Notice of Completion.

Discussion:

Council awarded a bid in the amount of \$49,765.00 to Courts and Greens on September 8, 2020. The Finance and Planning Annex Shade Structure Project authorized the City Manager to make quantity adjustments and approve change orders needed in an amount not to exceed \$25,000. The scope of work included saw cutting existing concrete, auger foot holes, set threaded rod assemblies and rebar cages, assembly of structures and fabrics, finishing concrete and anchor bolts, engineering, and permits. Staff has reviewed and inspected the Project and found it to be within substantial conformance with the Project Plans and Specifications.

The total project costs included the following:

Engineering and Design
Permits and Bonds
Labor (Prevailing Wage)
Materials

Total - \$49,765.00

The project is 100% funded by Coronavirus Aid, Relief, and Economic Security Act funding awarded to the City of Wasco in 2020.

**Fiscal Impact:**

None to the City. Federal funds are allocated and dispersed by Kern County through the Coronavirus Aid, Relief, and Economic Security Act. The total costs did not exceed the original budget of \$49,765.00.

Attachments:

1. Notice of Acceptance
2. Notice of Completion



NOTICE OF ACCEPTANCE

NOTICE IS HEREBY GIVEN that the Public Works Director, City of Wasco, State of California, by and through the powers vested in his office by the Members of the City Council has reviewed and accepted as complete the work performed under contract by the Contractor.

The information pertinent to this Notice is as follows:

1. Owner: City of Wasco
2. Contractor: Courts and Greens
3. Surety of Faithful Performance and Labor and Material Bond: American Contractors Indemnity Company
4. Contract For: Annex Building Shade Structure
5. Date of Contract: September 8, 2020
6. Date of Completion: December 18, 2020

I, Biridiana Bishop, hereby declare under penalty of perjury that the foregoing is true and the provisions of the contract have been met and are accepted on January 19, 2021.

Biridiana Bishop
Public Works Director
City of Wasco

| | |
|---|--|
| Recording Requested By: CITY OF WASCO Maria O. Martinez, City Clerk | |
| When Recorded Mail to: City of Wasco 746 8th Street Wasco, CA 93280 | |

NOTICE OF COMPLETION

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is **OWNER** or Agent of the **OWNER** of the interest or estate stated below in the property hereinafter described.

2. The **FULL NAME** of the **OWNER** is City of Wasco

3. The **FULL ADDRESS** of the **OWNER** is 746 8th Street, Wasco CA 93280

4. The **NATURE OF THE INTEREST** or **ESTATE** of the undersigned is: In Fee.

(if other than fee, Strike "In Fee" and insert, for example, "Purchaser under contract of purchase," or "Lessee.")

5. The **FULL NAMES** and **FULL ADDRESSES** of **ALL PERSONS**, if any, **WHO HOLD SUCH INTEREST** or **ESTATE** with the undersigned as **JOINT TENANTS IN COMMON** are:

Names

Addresses

6. The full names and full addresses of the predecessors in interest of the undersigned if the property was transferred subsequent to the commencement of the work of improvement herein referred to:

Names

Addresses

7. A work of improvement on the property hereinafter described was **COMPLETED** December 18, 2020

8. The work of improvement completed is described as follows:

Design, construct, and install sidewalk shade structures in sidewalk frontage of City of Wasco Finance and Planning Annex buildings

9. The **NAME OF THE ORIGINAL CONTRACTOR**, if any, for such work of improvement is: Courts and Greens

10. The street address of said property is: 764 E St. Wasco, CA 93280

11. The property on which said work of improvement was completed is in the City of Wasco, County of Kern, State of California, and is described as follows:

Finance and Planning Annex sidewalk frontage

1/19/2021

Date

Mr. Alexandro Garcia, Mayor, City of Wasco

Verification for **INDIVIDUAL** owner

I, the undersigned, declare under penalty of perjury under the laws of the State of California that I am the owner of the aforesaid interest or estate in the property described in the above notice; that I have said notice, that I know and understand the contents thereof, and that the facts stated therein are true and correct.

NOT APPLICABLE

NOT APPLICABLE

Date and Place

Signature of Owner named in paragraph 2

Verification for **NON-INDIVIDUAL** owner: I, the undersigned, declare under penalty of perjury under the laws of the State of California that I am the **Mayor** of the aforesaid interest or estate in the property described in the above notice; that I have read the said notice, that I know and understand the contents thereof, and that the facts stated therein are true and correct.

1/19/2021, City of Wasco, CA

Date and Place

Mr. Alexandro Garcia , Mayor, City of Wasco



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Keri Cobb, Community Development Director

DATE: January 19, 2021

SUBJECT: Adopt a Resolution to Authorize the City Manager to enter into a three-year Agreement with Adams Ashby Group Inc. To perform all annual monitoring tasks as required by HOME for an amount not to exceed \$9,000.

Recommendation:

Staff recommends adoption of a resolution authorizing the City Manager to agree with Adams Ashby Group Inc. to provide consulting services to perform all annual monitoring tasks as required by the HOME program loan made by the City in 2006 in an amount not to exceed \$9,000 over three years.

Discussion:

In 2006, the City made a \$950,000 HOME loan to assist the borrower in the construction of the Poso Place Seniors Apartments at 830 Almond Court. This funding requires annual monitoring and reporting to the State. Adams Ashby Group had conducted this annual monitoring and reporting since 2015 when the City dissolved its Housing Program Division.

Fiscal Impact:

\$9,000 over three years (\$3,000/yr) budgeted in the Community Development Department Professional Services Budget.

Attachment:

1. Resolution
2. Agreement

RESOLUTION NO. 2021 - _____

A RESOLUTION OF THE CITY COUNCIL OF WASCO AUTHORIZING THE CITY MANAGER TO ENTER INTO AN AGREEMENT WITH ADAMS ASHBY GROUP INC. FOR COMPLIANCE MONITORING FOR A HOME LOAN THE CITY HAS WITH THE POSO PLACE SENIOR'S APARTMENTS AT 830 ALMOND COURT.

WHEREAS, the City wishes to secure a consultant to conduct compliance monitoring for a HOME loan the City has with the Poso Place Senior's apartments at 830 Almond Court; and

WHEREAS, the services to be purchased are described in the agreement attached in Attachment 1; and

WHEREAS, said purchase will be made in the form and manner prescribed by the City of Wasco Municipal Code and the California Public Contract Code; and,

WHEREAS, the Professional Services Agreement shall be governed by and construed in accordance with the laws of the State of California; and,

WHEREAS, the total cost associated with this agreement shall not exceed \$9,000.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes the City Manager to execute an agreement with Ashby Adams Group, Inc as shown in Attachment 1.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021 - _____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021 by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

AGREEMENT No. 2021 -

THIS AGREEMENT (the "Agreement") made this _____ day of _____, 2021, by and between the CITY OF WASCO ("City") and the ADAMS ASHBY GROUP, INC., a California Corporation (the "Consultant").

W I T N E S S E T H:

WHEREAS, City wishes to hire Consultant for compliance monitoring for a HOME Loan the city has with the Poso Place Senior's apartments and as more particularly described in Exhibit "A" attached hereto and by this reference made a part thereof (the "Services").

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth hereinafter, the parties agree as follows:

1. The parties incorporate the foregoing recitals as if fully set forth herein verbatim.

2. City hereby contracts with Consultant to perform the Services under the terms and conditions described hereinafter and Consultant is agreeable thereto. Consultant shall maintain its financial records as more particularly described in Exhibit "B" attached hereto and by this reference made a part hereof. Consultant shall comply with the compliance provisions attached hereto as Exhibit "C" and by this reference made a part hereof.

3. Consultant shall perform the Services for a fee of \$3,000.00 per year (the "Fee"). City shall pay Consultant from written invoices submitted by Consultant annually which shall include a description of all Services performed and such additional information as required by the City Manager. The City Manager or his designated representative shall have the right of reasonable review of the invoices and the Services described therein and, at the conclusion of the review, shall place the matter on the agenda for the next available City Council meeting for consideration. Upon approval of each invoice by the City Council, Consultant shall be paid in the regular cycle of payments made by the City for other bills and claims.

4. The term of this Agreement shall be from the date hereof to and through December 31, 2023. City may terminate this Agreement at any time by giving Consultant thirty (30) days prior written notice, provided that in such event Consultant shall be entitled to payment for those Services rendered through the date of termination, provided satisfactory to City.

5. Consultant shall indemnify, defend (upon request by City) and hold harmless City, its officers, Councilpersons, employees, and agents from any and all claims, liabilities, expenses, and damages of any nature, including attorney's fees, for injury to or death of any person, and for damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with any act or omission by or on behalf of Consultant.

6. Without limiting Consultant's obligations under Paragraph 5 of this Agreement, Consultant shall obtain and maintain during the life of this Agreement:

(a) Comprehensive general liability insurance coverage, including premises – operations, products/completed operations, broad form property damage and blanket contractual liability, in an amount not less than \$1 million per occurrence and automobile liability for owned, hired, and non-owned vehicles;

(b) Such workers compensation insurance as required by statute.

Consultant shall provide City with appropriate certificates of insurance and endorsements for all of the foregoing in which City, its officers, Councilpersons, Commissioners, employees, and agents are named as additional insureds and specifically designating all such insurance as "primary and providing further that same shall not be terminated nor coverage reduced without ten days prior written notice to City.

7. Consultant shall not assign its interest herein or any part thereof and any attempted assignment shall be void.

8. All reports, information, data and exhibits drafted or provided by Consultant and all copyrights shall be the property of City and shall be delivered to City upon demand without additional costs or expense to City.

9. All notices required to be given under this Agreement or by law shall be in writing and shall be deemed received by the party to whom directed if personally served or if mailed by certified mail, return receipt requested with the date of execution of the return receipt (or refusal to sign) as the date of service or when sent by facsimile transmission or when sent by electronic mail ("email") or when deposited in the United States mail, postage prepaid, addressed as follows: If to City — City Manager, 746 8th Street, Wasco, California 93280; Fax – (661) 758-7239; Email: daortiz@cityofwasco.org or if to Consultant,-- Lorie Adams, 770 L Street, Suite 950, Sacramento California 95814; Fax – 916-449-3934 [Email—ladams@adamsashbygroup.com](mailto:ladams@adamsashbygroup.com). Any party may change its address by giving notice to the other party in the manner herein described.

10. Consultant shall not assign its interest herein or any part thereof and any attempted assignment shall be void.

11. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

12. This Agreement constitutes the entire Agreement between the parties with regard to the subject matter herein and supersedes all prior oral and written agreements and understandings between the parties with respect thereto.

13. This Agreement may not be altered, amended, or modified except by a writing executed by duly authorized representatives of all parties.

14. In the event any action or proceeding is instituted arising out of or relating to this Agreement, the prevailing party shall be entitled to its reasonable attorneys' fees and actual costs.

15. This Agreement may be executed in counterparts. A facsimile or electronic copy of this Agreement shall be as effective as the original for all purposes.

16. Waiver by a party of any provision of this Agreement shall not be considered a continuing waiver or a waiver of any other provision, including the time for performance of any such provision.

17. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, successors, and assigns.

18. If any term, provision, covenant or condition of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions shall remain in full force and effect and not be affected, impaired, or invalidated thereby.

19. City and Consultant each acknowledge that each party and their respective legal counsel have reviewed this Agreement and agree that this Agreement is the product of negotiations between the parties. This Agreement shall be interpreted without reference to the rule of interpretation of documents that uncertainties or ambiguities therein shall be determined against the party so drafting the Agreement.

///

///

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first hereinabove written.

DANIEL ORTIZ HERNANEZ, City Manager
City of Wasco, California, "**City**"

ADAMS ASHBY GROUP, INC., a
California Corporation, "**Consultant**"

By: _____
LORIE ADAMS, _____

EXHIBIT “A”
[Scope of Services]

1. DESCRIPTION OF SERVICES

Contractor shall perform all annual monitoring tasks as required by HOME - to ensure compliance with HOME requirements for Fiscal Year 2021, 2022 and 2023. Such tasks shall include:

1. Inspect required number of units as prescribed by HOME.
2. Review and audit tenant files as prescribed by HOME.
3. Ensure compliance with Regulatory Agreement.
4. Review the Annual Affirmative Marketing Analysis Report to ensure compliance with HOME requirements.

2. REPORTING REQUIREMENTS

Ten days before the date by which those documents listed below are to be submitted to HOME, Contractor shall submit to City the following completed documents:

1. Annual Monitoring Report.
2. Annual Project Compliance Report.
3. Form HUD-52667, Allowance for Tenant Furnished Utilities and Other Services.
4. Copy of Summary Letter that had been sent to management.
5. Copy of Clearance Letter that had been sent to management.
6. Copy of Annual Affirmative Marketing Analysis Report.

3. MONITORING REQUIREMENTS

Contractor shall be subject to monitoring by the City, allowing full access to the information requested for monitoring purposes.

4. RECORDS RETENTION

Contractor shall prepare, maintain and/or make available to the City upon request, all records and documentation pertaining to this Contract, including financial, statistical, property, recipient and service records and supporting documentation for a period of four (4) years from the date of final payment of this Contract. If at the end of the retention period, there is ongoing litigation or an outstanding audit involving the records, Contractor shall retain the records until resolution of litigation or audit. After the retention period has expired, Contractor assures that confidential records shall be shredded and disposed of appropriately.

5. GRIEVANCE

Contractor agrees to provide a procedure through which recipients of Contract services shall have the opportunity to grieve or complain regarding service.

EXHIBIT “B”
[Fiscal Provisions]

1. CONTRACTOR’S FINANCIAL RECORDS

Contractor shall keep financial records for funds received hereunder, separate from any other funds administered by Contractor, and maintained in accordance with Generally Accepted Accounting Principles and Procedures and the Office of Management and Budget’s Cost Principles.

EXHIBIT “C”
[Compliance Provisions]

1. INFORMATION INTEGRITY AND SECURITY

A. Contractor ensures that personal, sensitive and confidential information is protected from inappropriate or unauthorized access or disclosure in accordance with Welfare and Institutions Code Section 10850, Health Insurance Portability and Accountability Act (HIPAA), and all other applicable laws, regulations and policies.

B. Contractor shall immediately notify City of any known or suspected breach of personal, sensitive and confidential information related to Contractor’s work under this Contract.

2. NON-DISCRIMINATION

A. Contractor shall not unlawfully discriminate against any qualified worker or recipient of services because of race, religious creed, color, sex, sexual orientation, national origin, ancestry, physical disability, mental disability, medical condition, marital status or age.

3. DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

A. The Contractor certifies to the best of its knowledge and belief, that it and its subcontractors:

1. Are not presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
2. Have not, within a three-year period preceding this Contract, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction; violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity with commission of any of the offenses enumerated in the preceding paragraph; and
4. Have not, within a three-year period preceding this Contract, had one or more public transactions terminated for cause or default.

B. Contractor shall report immediately to Director, in writing, any incidents of alleged fraud and/or abuse by either Contractor or Contractor's subcontractor. Contractor shall maintain any records, documents, or other evidence of fraud and abuse until otherwise notified by Director.

5. CHILD SUPPORT

Contractor shall comply with Public Contract Code Section 7110(a), recognizing the importance of child and family support obligations and enforcement including, but not limited to, disclosure of information and compliance with earnings assignment orders as provided in Chapter 8 (commencing with Section 5200) of Part 5 of Division 9 of the Family Code.

6. PAYROLL TAXES AND DEDUCTIONS

Contractor shall promptly forward payroll taxes, insurances, and contributions to designated governmental agencies.

7. INDEMNIFICATION AND HOLD HARMLESS

Contractor shall indemnify and defend the City and its officers, employees, and agents against and hold them harmless from any and all claims losses, damages, and liability for damages, including attorney's fees and other costs of defense incurred by City, whether for damage to or loss of property, or injury to or death of person, connected with Contractor's operations hereunder or the performance of the work described herein, unless such damages, loss, injury or death is caused solely by the negligence of City.

8. STANDARD OF CARE

Contractor represents that it is specially trained, licensed, experienced and competent to perform all the services, responsibilities and duties specified herein and that such services, responsibilities and duties shall be performed, whether by Contractor or designated subcontractors, in a manner according to generally accepted practices.

9. INTEREST OF CONTRACTOR

Contractor assures that neither it nor its employees has any interest, and that it shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of services hereunder.

10. INSURANCE

A. Contractor shall procure and maintain Workers' Compensation Insurance for all of its employees.

B. Contractor shall procure and maintain Comprehensive Public Liability Insurance,

both bodily injury and property damage, in an amount of not less than one million dollars (\$1,000,000) combined single limit coverage per occurrence, including but not limited to endorsements for the following coverage: personal injury, premises-operations, products and completed operations, blanket contractual, and independent contractor's liability.

C. Contractor shall procure and maintain Comprehensive Automobile Liability Insurance, both bodily injury and property damage, on owned, hired, leased and non-owned vehicles used in connection with Contractor's business in an amount of not less than one million dollars (\$1,000,000) combined single limit coverage per occurrence.

E. Contractor shall not commence work under this Contract until it has obtained all the insurance required hereinabove and submitted to CITY certificates of insurance naming the City of Wasco as additional insured. Contractor agrees to provide to CITY, at least 30 days prior to expiration date, a new certificate of insurance.

F. In case of any subcontract, Contractor shall require each subcontractor to provide all of the same coverage as detailed hereinabove. Subcontractors shall provide certificates of insurance naming the City of Wasco as additional insured and shall submit new certificates of insurance at least 30 days prior to expiration date. Contractor shall not allow any subcontractor to commence work until the required insurances have been obtained.

G. Any failure of Contractor to maintain the insurance required by this paragraph, or to comply with any of the requirements of this paragraph, shall constitute a material breach of the entire contract.

11. ATTORNEY'S FEES AND COSTS

If any action at law or in equity is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled.

12. ASSIGNMENT

Contractor shall not assign any interest in this Contract and shall not transfer any interest in the same without the prior written consent of Director except that claims for money due or to become due Contractor from CITY under this Contract may be assigned by Contractor to a bank, trust company, or other financial institution without such approval. Written notice of any such transfer shall be furnished promptly to CITY. Any attempt at assignment of rights under this Contract except for those specifically consented to by both parties or as stated above shall be void.

13. INDEPENDENT CONTRACTOR

It is specifically understood and agreed that in the making and performance of this Contract, Contractor is an independent contractor and is not an employee, agent or servant

of the City of Wasco.

14. OWNERSHIP

All non-proprietary reports, drawings, renderings, or other documents or materials prepared by Contractor hereunder are the property of CITY.

15. SEVERABILITY

If any provision of this Contract is held to be unenforceable, the remainder of this Contract shall be severable and not affected thereby.



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Isarel Perez-Hernandez, Finance Director

DATE: January 19, 2021

SUBJECT: Approve a Resolution authorizing a transfer of \$7 million of cash currently held in Wells Fargo Bank and Mission Bank money market accounts to the State of California Local Agency Investment Fund (LAIF).

Recommendation:

Staff recommends the City Council approved a Resolution authorizing a transfer of \$7 million of cash currently held in Wells Fargo Bank and Mission Bank money market accounts to the State of California Local Agency Investment Fund (LAIF).

Discussion:

The Investment concentration of the City's portfolio as of December 31, 2020, is as shown in the chart below:

| <u>Investments</u> | <u>Market Value</u> | <u>% of Portfolio</u> |
|---|---------------------|-----------------------|
| Local Agency Investment Fund (LAIF) | \$ 26,537,093 | 59.22 % |
| Other Cash Pools | 6,179,415 | 13.79 % |
| Demand Deposits | | |
| Wells Fargo Bank | 8,650,332 | 19.30 % |
| Mission Bank | 326,415 | 0.73 % |
| | | |
| Invested by UnionBanc Investment Services | | |
| CDs | 3,102,440 | 6.92 % |
| Fidelity Treasury Mmkt Capital Reserves | 16,038 | 0.04 % |
| Total UnionBanc Investment Services | 3,118,478 | 6.96 % |
| | | |
| Total | \$ 44,811,733 | 100.00 % |
| | | |

The \$9 million held by Wells Fargo Bank and Mission Bank is currently earning 0.01%. Staff believes these funds could be utilized to earn greater returns.

The City's Investment Policy stresses that investments should be evaluated using three criteria 1) Safety, 2) Liquidity, and 3) yield. Staff considered the following options:

- A. Maintain the \$7 million in Wells Fargo and Mission Bank accounts, earning 0.01%.
- B. Move the \$7 million into the City's LAIF account with the State of California averaging 0.84% yield quarter ended September 30, 2020.

Volatility reflects changing market conditions. High volatility means that a security price can change dramatically over a short time period in either direction. A lower volatility means that a security's value does not fluctuate dramatically but changes in value at a steady pace over a period of time.

With interest rates down, the risk of the City losing money due to market volatility is reduced.

Because 1) LAIF ranks second to US Treasury investments in terms of safety and; 2,) funds invested in LAIF can be available if necessary within a few days and 3) since LAIF is currently yielding higher than money market account as measured in September 2020, staff recommends transferring funds available in the money market accounts held through Wells Fargo Bank and Mission Bank to the City's LAIF account.

Government Code Section 16429.4 was added during the 2002 legislative session to provide protection to agencies investing in LAIF. The Government Code states, "the right of a city, county, city and county, special district, nonprofit corporation, or qualified quasi-governmental agency to withdraw its deposited monies from the Local Agency Investment Fund, upon demand, may not be altered, impaired, or denied, in any way, by any state official or state agency based upon the state's failure to adopt a State Budget by July 1 of each new fiscal year."

Fiscal Impact:

At the current earnings differential, the City portfolio as a whole should earn approximately \$139,411 more on an annual basis.

Attachments:

- 1. Resolution
- 2. LAIF Mission and Goals
- 3. Procedures for LAIF Transactions
- 4. LAIF Quarterly Report

RESOLUTION NO. 2021 - _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO AUTHORIZING A TRANSFER OF \$7,000,000 OF FUNDS CURRENTLY HELD BY WELLS FARGO BANK AND MISSION BANK MONEY MARKET ACCOUNTS TO THE STATE OF CALIFORNIA LOCAL AGENCY INVESTMENT FUND (LAIF)

WHEREAS, the City of Wasco currently has approximately \$7,000,000 of cash available in Wells Fargo Bank and Mission Bank,

WHEREAS, the rate on cash available is earning less than the State of California Local Agency Investment Fund ("LAIF");

WHEREAS, the City of Wasco has determined that LAIF is second only to US Treasury Securities in terms of safety and;

WHEREAS, the funds held by LAIF are safe and highly liquid;

WHEREAS, the City prioritizes its investments on safety and liquidity over yield;

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes a transfer of \$7,000,000 of funds currently held in Wells Fargo Bank and Mission Bank money market accounts to the State of California Local Agency Investment Fund (LAIF).

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

Attest:

ALEXANDRO GARCIA
MAYOR of the City of Wasco

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

Overview of the Investment Division

Mission, Purpose and History

The mission of the Investment Division is to prudently manage the Pooled Money Investment Account (PMIA) Portfolio, the Time Deposit Program (TDP), and the Local Agency Investment Fund (LAIF) Program under the statutory authority granted by state law and consistent with the investment objectives of Safety, Liquidity, and Yield.

The State Treasurer invests taxpayer's money safely, while minimizing service costs and maximizing investment yields. The investments help manage cash flow and enhance local governments' financial security. These duties are carried out through the PMIA.

The LAIF program allows cities, counties and special districts to place money in a major portfolio at no additional costs to taxpayers, using the expertise of the Investment Division staff. Participating agencies can withdraw their funds from LAIF at any time.

Under the TDP, the PMIA deposits money with community banks at competitive rates. Eligible institutions are commercial banks, savings banks and credit unions that are federally insured and licensed to accept deposits in the State of California. Banks which receive time deposit funds can use the money to expand economic opportunities and create jobs in the communities they serve.

The Investment Division staff invests PMIA funds in a wide range of securities, using more than 75 brokers, dealers, banks and direct issuers. The PMIA is governed by the Pooled Money Investment Board (PMIB) created by the Legislature in 1955, while LAIF, created in 1977, receives oversight and guidance from the Local Investment Advisory Board (LIAB). The State Treasurer chairs both the PMIB and LIAB.

Investment Division Goals

Goal 1: Continuously monitor the credit quality of a diversified list of approved issuers of eligible securities, provide for the liquidity needs of PMIA participants, while obtaining a competitive yield from our investments.

Goal 2: Maintain a highly skilled, knowledgeable, and resourceful staff that is fully cross-trained to increase operational flexibility, to ensure organizational continuity, and to ensure the Division's ability to respond to new or unexpected market changes.

Goal 3: Utilize technological innovations to enable staff to more efficiently manage their workload and to provide new and useful services to our local government partners.

Goal 4: Increase training opportunities and other efforts to prepare for generational change in staffing and management.



California State Treasurer
Fiona Ma, CPA



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LOCAL AGENCY INVESTMENT FUND

Procedures for LAIF Transactions

- Office hours: Monday – Friday, 7:30 am to 4:00 pm
- LAIF Online hours: Monday – Friday, 7:00 am to 7:00 pm
- Prior to the transfer of funds, an authorized person must initiate a transaction with LAIF
- Deposit transfers from your bank should be received on the effective date of the transaction
- Same day transactions must be completed by 10:00 am
- Transactions completed after 10:00 am will be effective the next business day. Transactions may be scheduled up to 10 calendar days in advance
- Please provide LAIF one day prior notice for deposits and withdrawals of \$10 million or more
- Minimum \$5,000 transaction amount in increments of \$1,000
- Maximum 15 transactions (combination of deposits and withdrawals) per month

When calling in a transaction, the authorized official or trustee must call (916) 653-3001 and provide the following information:

| Deposits | Withdrawals | | | | | | | | |
|--|---|-----------------|------------------|-----------|----------------|------------------|----------------|------------------|---|
| <ul style="list-style-type: none"> • LAIF PIN Number • Name of Agency • Name of Caller • Transfer Date • Deposit Amount • Bank Name • Know Your Bank Wire Limit | <ul style="list-style-type: none"> • LAIF PIN Number • Name of Agency • Name of Caller • Transfer Date • Withdrawal Amount • Bank Name and Account Number | | | | | | | | |
| Confirmation number will be provided after LAIF staff enters the transaction. | Confirmation number will be provided after LAIF staff enters the transaction. | | | | | | | | |
| <p>After calling LAIF, agency needs (to instruct its bank) to transfer funds to one of the following LAIF depository banks.</p> <table> <tr> <td>Bank of America</td><td>MUFG Union Bank</td></tr> <tr> <td>Bank of the West</td><td>U.S. Bank</td></tr> <tr> <td>Citibank, N.A.</td><td>Wells Fargo Bank</td></tr> <tr> <td>JPMorgan Chase</td><td>Westamerica Bank</td></tr> </table> | Bank of America | MUFG Union Bank | Bank of the West | U.S. Bank | Citibank, N.A. | Wells Fargo Bank | JPMorgan Chase | Westamerica Bank | <p>Transfer will be processed only through bank account(s) authorized by the agency in writing and currently on file with LAIF. The bank account(s) must be in the agency's name.</p> |
| Bank of America | MUFG Union Bank | | | | | | | | |
| Bank of the West | U.S. Bank | | | | | | | | |
| Citibank, N.A. | Wells Fargo Bank | | | | | | | | |
| JPMorgan Chase | Westamerica Bank | | | | | | | | |
| <p>LAIF participants should keep a record of the following: name of the LAIF staff who took the deposit or withdrawal, the date and the time phone call was made, the effective date of the transaction, the LAIF confirmation number and the name of the agency's bank representative that executed the transfer.</p> <p>Transactions may also be initiated online using the LAIF Online service.</p> | | | | | | | | | |

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PMIA/LAIF Performance Report as of 10/14/20



PMIA Average Monthly Effective Yields⁽¹⁾

| | |
|-----|-------|
| Sep | 0.685 |
| Aug | 0.784 |
| Jul | 0.920 |

Quarterly Performance Quarter Ended 09/30/20

| | |
|--|---------------------|
| LAIF Apportionment Rate ⁽²⁾ : | 0.84 |
| LAIF Earnings Ratio ⁽²⁾ : | 0.00002309407394024 |
| LAIF Fair Value Factor ⁽¹⁾ : | 1.004114534 |
| PMIA Daily ⁽¹⁾ : | 0.65% |
| PMIA Quarter to Date ⁽¹⁾ : | 0.80% |
| PMIA Average Life ⁽¹⁾ : | 169 |

Pooled Money Investment Account Monthly Portfolio Composition ⁽¹⁾ 09/30/20 \$109.2 billion

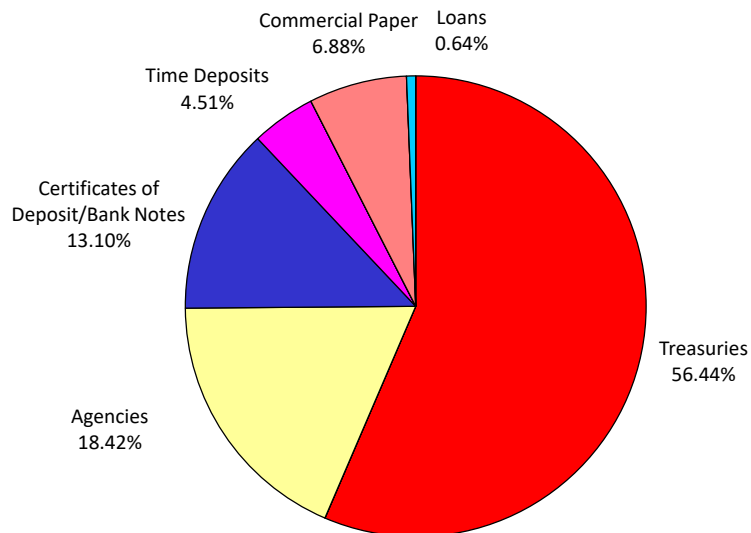


Chart does not include 0.01% of mortgages. Percentages may not total 100% due to rounding.

Daily rates are now available here. [View PMIA Daily Rates](#)

Notes: The apportionment rate includes interest earned on the CalPERS Supplemental Pension Payment pursuant to Government Code 20825 (c)(1) and interest earned on the Wildfire Fund loan pursuant to Public Utility Code 3288 (a).

Source:

⁽¹⁾ State of California, Office of the Treasurer

⁽²⁾ State of California, Office of the Controller



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Isarel Perez-Hernandez, Finance Director

DATE: January 19, 2021

SUBJECT: Adopt a Resolution authorizing the City Manager to enter into an Agreement with William C. Statler for financial management services.

Recommendation:

Staff recommends adopting a Resolution authorizing the City Manager to enter into an Agreement with William C. Statler for financial management services.

Background:

On November 17, 2020, City Council approved Resolution No. 2020-3557, which authorized the City Manager to negotiate a professional Services agreement with William C. Statler.

As outlined in the proposal from Mr. Statler, the work program consists of six tasks organized into two phases:

Phase A: Financial Planning

1. Five-year General Fund financial plan
2. Short-range Water Fund financial plan

These two plans have been identified by City staff as the top priorities.

Phase B: Other Financial Management Services

3. Interfund transfer assessment
4. Budget and fiscal policy review and development
5. 2020-21 mid-year budget review and 2021-22 budget preparation
6. Other financial management advice and services as needed

Detailed descriptions of the work program are provided in the Agreement and proposal, summarized as follows:

Task 1: Five-Year General Fund Financial Plan

Making good resource decisions in the short term as part of the budget process requires considering their impact on the City's fiscal condition down the road. Developing good solutions requires knowing the size of the problem the City is trying to solve. In short, the City cannot fix a problem it hasn't defined. And in this economic and fiscal environment,

looking only one year ahead has the strong potential to misstate the size and nature of the fiscal challenges – and opportunities – ahead of the City.

For those local agencies that have prepared long-term forecasts and financial plans, this did not magically make their fiscal problems disappear: they still had tough decisions to make. However, it allowed them to better assess their longer-term outlook, more closely define the size and duration of the fiscal challenges facing them, and then make better decisions accordingly for both the short and long run. This will be true for the City as well.

Task 2: Short-Range Water Fund Financial Plan

On one hand, the City needs to prepare a long-term financial plan for the Water Fund that includes a comprehensive CIP master plan, which is likely to be the most significant factor driving future revenue requirements and rates. The City's most recent master plan for water improvements was prepared in 2007. As such, it is highly unlikely that it can be effectively used in guiding needed improvements over the next ten to twenty years; and developing a meaningful master plan CIP is likely to take 6 to 12 months to prepare.

On the other hand, until then, the City's to prepare a short-range Water Fund financial plan that addresses near-term revenue requirements and rate needs in funding several key CIP projects totaling approximately \$35 million.

On October 6, 2020, the Council approved Resolution NO. 2020-3534 authorizing the City Manager or designee to sign and file a loan application of \$25.8 million to the State Water Resources Control Board (SWRCB) for four key projects:

- Replace four groundwater wells
- Treat 1,2,3 TCP at Well 12
- Construct storage tank and booster pump station
- Implement advanced metering infrastructure (remote meter reading)

Additionally, an estimated \$2.8 million is needed for engineering and land acquisition to be funded on a pay-as-you-go basis. The following summarizes estimated costs for these projects:

| | |
|---|---------------------|
| Construction: SWRCB Loan | |
| Replacement of four wells (\$4,172,300 per well) | 16,689,200 |
| 1,2,3 TCP treatment at Well 12 | 2,229,700 |
| Storage tank and booster pump station | 3,750,000 |
| Advanced metering infrastructure (AMI): remote metering | 3,200,000 |
| Total | 25,868,900 |
| Pay-As-You-Go | |
| Engineering | 1,360,000 |
| Land acquisition | 1,500,000 |
| Total | 2,860,000 |
| TOTAL | \$28,728,900 |

These amounts are in addition to the revised \$4.8 million for CIP projects already budgeted for 2020-21, of which \$2.4 million is related to these four projects.

In short, the City has committed to approximately \$35 million in CIP projects to be awarded in the near term (1 to 3 years). These are significant costs when placed in the context of the Water Fund's annual total revenues of approximately \$3.2 million. Accordingly, financial planning to meet these near-term cost increases needs to begin now.

Task 3: Interfund Transfer Assessment

The City makes extensive use of inter-fund transfers that may result in more complicated and less transparent accounting of restricted funds. The purpose of this task is to document and assess the purpose of the City's approach to inter-fund transfers and to make recommendations as needed.

Task 4: Budget and Fiscal Policy Review and Development

When clearly articulated (and followed), budget and fiscal policies provide an essential foundation for effective financial decision-making and in protecting the City's fiscal health.

The City's fiscal health is a lot like personal health: it isn't what you live for, but it is hard to enjoy your life without it. Cities don't exist to be fiscally healthy: they exist to make communities better places to live, work, and play. However, this requires the fiscal capacity to link community goals with the resources needed to achieve them. In short, fiscal health is not an end in itself; but it is an important part of the tool kit in achieving "ends."

And like personal health, fiscal health is rarely luck. The strength of the local economy is obviously an important fiscal health factor – just as genes are in personal health. However, regardless of the strength of its local economy, no agency is immune to economic downturns or unexpected expenditure needs.

For this reason, clearly articulated policies are a city's "north star" in guiding the preparation and implementation of budgets and financial plans. They help make tough decisions easier by stating an organization's values before they are placed under stress by adverse circumstances. The organization might still choose to do something different (effective policies are guides, not straightjackets), but they are a powerful starting point: but for "this," the organization should do what?

Stated simply, articulating and then following prudent fiscal policies is the most effective and proven way for government agencies to ensure their long-term fiscal health. They are both preventative and curative: clearly articulated policies help prevent problems from arising in the good times; and help respond to bad times when they do occur. They also help provide continuity as elected officials and staff change. Lastly, they are most powerful when it is put in place before the need for them arrives.

This task consists of two key elements:

4.1. Review current policies. The City currently has a budget and fiscal policies covering the following areas:

- Balanced budget

- Investments
- Debt management
- Reserves
- Budgetary procedures and authority
- Revenues

These policies will be reviewed to determine if modifications for clarity, comprehension, or scope would be appropriate. Special focus will be provided for reserve policies using the Government Finance Officers Association of the United States and Canada (GFOA) structured approach for assessing risk and establishing minimum reserve targets accordingly.

4.2 Other policy areas. Other areas where the City should consider adopting the budget and fiscal policies include:

- Budget purpose and organization
- User fee cost recovery: when should user fees fund services versus general-purpose revenues?
- Financial reporting
- CIP management
- Purchasing
- Human resources management

Task 5: 2020-21 Mid-Year Budget Review and 2021-22 Budget Preparation

During this transition period, it is likely that the Finance Director will require assistance in preparing the 2020-21 mid-year budget review and 2021-22 Budget. This will include recommended changes in accordance with the California Society of Municipal Finance Officers (CSMFO) and GFOA budget “best practices” criteria.

Task 6. Other Financial Management Advice and Services

These will be provided on an as-needed basis, such as annual and interim financial reporting, organizational issues, and other financial management practices that may surface through the end of the current fiscal year.

Consultant Qualifications:

As detailed in the attached proposal, Mr. Statler is highly qualified to do this work. He has extensive experience in all facets of the work program as a senior financial manager, consultant, trainer, and author.

His work ranges from San Luis Obispo to volunteer service helping the troubled City of Bell reform their government.

His senior management experience includes serving as the Director of Finance & Information Technology/City Treasurer for the City of San Luis Obispo for 22 years and as the Finance Officer for the City of Simi Valley for ten years before that. Since retiring from local government in 2010, the “third act” of his career includes over 60 consulting assignments for a wide range of local and state government agencies.

His experience also includes playing key leadership roles in the profession, which included serving as a member of the Board of Directors of the League of California Cities, President of the League's Fiscal Officer Department and President of the CSMFO; and setting accounting and financial reporting standards as a member of the California Committee on Municipal Accounting.

He has also published extensively on municipal finance best practices, including co-authoring the *Guide to Local Government Finance in California*, which has gained wide recognition as the industry standard on this topic and provided highly-rated training for a number of professional organizations.

He has worked with the City of Shafter in preparing the 2020/2021 budget and fiscal policies.

Lastly, along with this background, his recent experience with the City in assessing the Finance Department's organization, policies, and practices make him uniquely qualified to do this work.

Fiscal Impact:

There will be limited direct fiscal impact in contracting for this work. All costs will be offset by staffing savings from vacancies in the Accounting Supervisor and Financial Analyst/Staff Accountant positions in the Finance Department.

Consultant costs for performing this work are summarized as follows:

Phase A Services

General Fund Five-Year Financial Plan
Fixed Fee: \$9,750.00, including expenses

Water Fund Short-Range Financial Plan
Fixed Fee: \$5,750.00, including expenses

Phase B Services

Given the priority of Phase A services, the focus of the proposed Agreement is on detailed work programs and costs for these Plans. Accordingly, separate detailed proposals will be submitted to the City Manager for the four tasks under Phase B services.

- For Tasks 3, 4.1, and 4.2, it is anticipated that these will be individual fixed fee proposals, each within the City Manager's approval authority.
- For Tasks 5 and 6, due to their indeterminate nature, it is anticipated that these will be separate proposals based on time and materials, at \$165.00 per hour, not to exceed \$10,000 per task without Council authorization.

However, in no case will total compensation for Phase B services exceed \$28,750 without prior Council approval.

Attachments:

1. Resolution
2. Agreement
3. Proposal

RESOLUTION NO. 2021 - _____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO AUTHORIZING THE CITY
MANAGER TO ENTER INTO A PROFESSIONAL SERVICES AGREEMENT WITH
WILLIAM C. STATLER**

WHEREAS, the City has not formally reviewed its financial policies in the past 10 years;
and

WHEREAS, the City's Finance Department has experienced staff turnover in key
positions over the past 10 years; and

WHEREAS, the City needs to prepare a long-term financial plan for the Water Fund that
includes a comprehensive CIP master plan, which is likely to be the most significant factor
driving future revenue requirements and rates. The City's most recent master plan for water
improvements was prepared in 2007; and

WHEREAS, the City's to prepare a short-range Water Fund financial plan that addresses
near-term revenue requirements and rate needs in funding several key CIP projects
totaling approximately \$35 million; and

WHEREAS, the Council approved Resolution NO. 2020-3534 authorizing the City Manager
or designee to sign and file a loan application of \$25.8 million to the State Water Resources
Control Board (SWRCB) for four key projects: Replace four groundwater wells, Treat 1,2,3 TCP
at Well 12, Construct storage tank and booster pump station, and Implement advanced
metering infrastructure (remote meter reading); and

WHEREAS, the City wishes to enter into Professional Services Agreement for financial
management services with William C. Statler; and

WHEREAS, the services to be provided are described in the Agreement attached as
Exhibit "A"; and

WHEREAS, the Professional Services Agreement shall be governed by and construed in
accordance with the laws of the State of California.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes the City Manager to enter into an agreement with William C. Statler
as shown in Exhibit "A."

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA
MAYOR of the City of Wasco

Attest:

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

AGREEMENT No. 2020- 065

THIS AGREEMENT (the "Agreement") made this 14th day of January, 2021, by and between the CITY OF WASCO ("City") and WILLIAM C. STATLER, (the "Consultant").

W I T N E S S E T H:

WHEREAS, City wishes to hire Consultant to provide financial planning services and other financial management services as more particularly described in Exhibit "A" attached hereto and by this reference made a part hereof (the "Services") pursuant to the terms and conditions hereinafter described and Consultant is agreeable thereto.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth hereinafter, the parties agree as follows:

1. The parties incorporate the foregoing recitals as if fully set forth herein verbatim.

2. City hereby contracts with Consultant to perform the Services under the terms and conditions described hereinafter, and Consultant is agreeable thereto.

3. (a) Consultant shall perform the Services identified as Task 1 of Phase A for a fixed fee of \$9,750.00, which includes expenses and Task 2 of Phase A for a fixed fee of \$5,750.00 which includes expenses. With regard to the Phase A Services, there shall be five onsite briefings/meetings as follows: project kickoff: Tasks 1.1 and 2.1 (one briefing for both General and Water Funds); briefings on draft results with key City staff with regard to Tasks 1.5 and 2.5, and briefing with the City Council for Tasks 1.6 and 2.6. Any additional onsite visits will be charged on a time and materials basis at \$165.00 per hour and travel time billed at \$82.50 per hour.

(b) With regard to the Phase B Services, Consultant shall not proceed with performing any Phase B Services until Consultant has presented detailed proposals to the City Manager and executed an amendment to this Agreement. Proposals for Tasks 3, 4.1 and 4.2 shall be individual fixed fee proposals . Tasks 5 and 6 shall be separate proposals which the fee shall be based on time and materials chargeable at the rate of \$165.00 per hour and not to exceed \$10,000.00 for each of Tasks 5 and 6. In no event shall the total compensation for Phase B Services exceed \$28,750.00. All written materials will be provided to City in electronic form by

email in Excel, Word, Adobe Acrobat, or PowerPoint as appropriate. Hard copy reproductions shall be at City's expense.

(c) City shall pay Consultant by written invoices submitted no more often than monthly which shall include a description of all Services performed and such additional information as required by the City Manager. The City Manager or his designated representative shall have the right of reasonable review of the invoices and the Services described therein and, at the conclusion of the review, shall place the matter on the agenda for the next available City Council meeting for consideration. Upon approval of each invoice by the City Council, the Consultant shall be paid in the regular cycle of payments made by the City for other bills and claims.

4. The term of this Agreement shall be to and through June 30, 2021. Depending on staff availability and the date of the "kickoff" briefing in Tasks 1.1 and 2.1, a draft report for the Water Fund (Task 2.5) shall be delivered within 90 days after written notice to proceed from the City. A report for the General Fund shall be delivered within 150 days from a notice to proceed from the City. Completion dates for Phase B Services shall be determined when proposals are presented to the City Manager and incorporated into an amendment to this Agreement.

(a) City may terminate this Agreement at any time by giving the Consultant ten (10) days prior written notice, provided that in such event the Consultant shall be entitled to payment for those Services rendered through the date of termination, provided satisfactory to City. Provided, however, that if the termination is for Consultant's breach of its obligations hereunder, Consultant shall not receive payment for any of the Services performed as a result of its default.

5. Consultant shall indemnify, defend (upon request by City) and hold harmless City, its officers, Councilpersons, employees, and agents from any and all claims, liabilities, expenses, and damages of any nature, including attorney's fees, for injury to or death of any person, and for damage to any property, including consequential damages of any nature resulting therefrom, arising out of or in any way connected with any act or omission by or on behalf of Consultant.

6. Without limiting Consultant's obligations under Paragraph 5 of this Agreement, the Consultant shall obtain and maintain during the life of this Agreement:

(a) Comprehensive general liability insurance coverage, including premises – operations, products/completed operations, broad form property damage, and blanket contractual liability, in an amount not less than \$1 million per

occurrence and automobile liability for owned, hired, and non-owned vehicles;

- (b) Such workers compensation insurance as required by statute.

Consultant shall provide City with appropriate certificates of insurance and endorsements for all of the foregoing in which City, its officers, Councilpersons, Commissioners, employees, and agents are named as additional insureds and specifically designating all such insurance as "primary and providing further that same shall not be terminated nor coverage reduced without ten days prior written notice to City.

7. Consultant shall not assign its interest herein, or any part thereof, and any attempted assignment shall be void.

8. All reports, information, data and exhibits drafted or provided by Consultant and all copyrights shall be the property of City and shall be delivered to City upon demand without additional costs or expense to City.

9. All notices required to be given under this Agreement or by law shall be in writing and shall be deemed received by the party to whom directed if personally served or if mailed by certified mail, return receipt requested with the date of execution of the return receipt (or refusal to sign) as the date of service or when sent by facsimile transmission or when sent by electronic mail ("email") or when deposited in the United States mail, postage prepaid, addressed as follows: If to City — City Manager, 746 8th Street, Wasco, California 93280; Fax – (661) 758-7239; Email: daortiz@cityofwasco.org or if to Consultant,-- William Statler, 124 Cerro Romauldo Avenue, San Luis Obispo, California 93405; Email bstatler@pacbell.net. Any party may change its address by giving notice to the other party in the manner herein described.

10. Time is of the essence with regard to each covenant, condition and provision of this Agreement.

11. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

12. This Agreement constitutes the entire Agreement between the parties with regard to the subject matter herein and supersedes all prior oral and written agreements and understandings between the parties with respect thereto.

13. This Agreement may not be altered, amended, or modified except by a writing executed by duly authorized representatives of all parties.

14. In the event any action or proceeding is instituted arising out of or relating to this Agreement, the prevailing party shall be entitled to its reasonable attorneys' fees and actual costs.

15. This Agreement may be executed in counterparts. An electronic or facsimile copy of this Agreement shall be as effective as the original for all purposes.

16. Notwithstanding any provision to the contrary, this Agreement shall not become effective and shall not be binding as to any party until all of the parties have executed this Agreement.

17. Waiver by a party of any provision of this Agreement shall not be considered a continuing waiver or a waiver of any other provision, including the time for performance of any such provision.

18. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, successors, and assigns.

19. If any term, provision, covenant or condition of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions shall remain in full force and effect and not be affected, impaired, or invalidated thereby.

20. City and Consultant each acknowledge that each party and their respective legal counsel have reviewed this Agreement and agree that this Agreement is the product of negotiations between the parties. This Agreement shall be interpreted without reference to the rule of interpretation of documents that uncertainties or ambiguities therein shall be determined against the party so drafting the Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first hereinabove written.

DANIEL ORTIZ HERNANDEZ,
City Manager,
City of Wasco, California, "**City**"

WILLIAM C. STATLER, "**Consultant**"

EXHIBIT “A”

Financial Management Services Proposal

Project Management

Independent Contractor. While I will work in close consultation with City staff, I will serve as an independent contractor.

City Project Manager. Israel Perez-Hernandez, Finance Director, will serve as the City’s project manager for this work.

Phase A: Financial Planning

The proposed Phase A workscope responds to the City’s interest in preparing financial plans for the General and Water Funds that assess the:

1. *General Fund’s* ability in the longer term to continue current services in the aftermath of the worst recession since the Great Depression, address long-term liabilities and achieve capital improvement plan (CIP) goals; and if the forecast projects a negative gap between revenues and expenditures, to identify realistic options for the City’s consideration in closing the gap.
2. *Water Fund’s* near-term financial needs (one-to three years) in funding key CIP projects. On one hand, the City needs to prepare a long-term financial plan for the Water Fund that includes a comprehensive CIP master plan, which is likely to be the most significant factor driving future revenue requirements and rates. The City’s most recent master plan for water improvements was prepared in 2007. As such, it is highly unlikely that it can be effectively used in guiding needed improvements over the next ten to twenty years; and developing a meaningful master plan CIP is likely to take 6 to 12 months to prepare.

On the other hand, until then, the City needs to prepare a short-range Water Fund financial plan that addresses near-term revenue requirements and rate requirements in funding several key CIP projects totaling about \$35 million. On October 6, 2020, the Council approved submitting a loan application of \$25.8 million to the State Water Resources Control Board (SWRCB) to construct several of these projects. Additionally, an estimated \$2.8 million is needed for engineering and land acquisition to be funded on a pay-as-you-go basis for these projects. These amounts are in addition to the revised \$4.8 million for CIP projects already budgeted for 2020-21, of which \$2.4 million is related to these projects.

Stated simply, given the priority and size of these projects in the context of Water Fund annual revenues of \$3.2 million, planning to meet these near-term cost increases needs to begin now.

Task 1: Five-Year General Fund Financial Plan

Background: short and long-term decision-making consequences. Making good resource decisions in the short term as part of the budget process requires considering their impact on the City’s fiscal condition down the road. Developing good solutions requires knowing the size of the problem the City is trying to solve. In short, the City cannot fix a problem it hasn’t

defined. And in this economic and fiscal environment, looking only one year ahead has the strong potential to misstate the size and nature of the fiscal challenges – and opportunities – ahead of the City.

For those local agencies that have prepared long-term forecasts and financial plans, this did not magically make their fiscal problems disappear: they still had tough decisions to make. However, it allowed them to better assess their longer-term outlook, more closely define the size and duration of the fiscal challenges facing them, and then make better decisions accordingly for both the short and long run. This will be true for the City as well.

Plan purpose. The purpose of the General Fund long-term financial plan (Plan) is to identify the City's ability over the next five years – on an "order of magnitude" basis – to continue current services in the aftermath of the worst recession since the Great Depression and subsequent Covid-19 impacts, address long-term liabilities and achieve CIP goals.

The Plan will do this by projecting ongoing revenues and subtracting from them likely operating, debt service and capital costs in continuing current service levels. If positive, the balance remaining is available to fund "new initiatives" such as implementing CIP goals, addressing unfunded liabilities or improving service levels. On the other hand, if negative, it shows the likely "forecast gap" if the City continues current service levels or funds CIP/major maintenance projects without corrective action. In this case, the Plan will present realistic "high level" options for closing the gap.

Operating or CIP projects beyond the "Baseline." The approach outlined above focuses on maintaining current service levels as established in the 2020-21 Budget. However, if the City is also interested in assessing the impact of addressing unmet operating or CIP needs, this can be easily accomplished as "what ifs" within the same analytical framework.

One forecast or several scenarios? There are advantages and disadvantages to either approach. In my experience, policy makers are better served with "one" forecast that reflects the best set of assumptions for effective decision-making. However, the model will be capable of addressing several "what ifs" in assessing the sensitivity of the forecast to different assumptions.

Meaningful involvement of Finance and other key City staff. In preparing the Plan, key staff as identified by the City will be meaningfully involved in developing and reviewing the assumptions that drive the Plan; and in understanding the methodology used in preparing it to ensure that results are transparent (and not arrived at by a mysterious black box). As discussed further below, one of the key deliverables will be the underlying forecast model in Excel that staff will be able to update in the future.

Key caveat on plan results. It is important to stress that the Plan is not the budget. As such, while it may project "gaps" that will need to be closed as part of the budget process, it will not project "deficits." Why? Because as it has in the past, the City will take the corrective action needed to ensure annual balanced budgets.

In comparison with the budget process, it doesn't make expenditure decisions; it doesn't make revenue decisions. As noted above, its sole purpose is to provide an "order of magnitude" feel for the City's ability to continue current service levels, address may unmet needs and achieve CIP goals.

Ultimately, this Plan cannot answer the question: "Can the City afford new initiatives?" This is a basic question of priorities, not of financial capacity per se. However, making trade-offs is what the budget process is all about in determining the highest priority uses of the City's limited resources. And by identifying and analyzing key factors affecting the City's long-term fiscal health, the Plan can help assess how difficult making these priority decisions will be. And as noted above, if the Plan projects a negative gap between revenues and expenditures, it will present realistic options for the City's consideration in closing the gap.

Stated simply, this Plan is not the budget. However, it will set forth the challenges – and opportunities – ahead of the City in adopting a balanced budget, next year and beyond.

Detailed work program. The following summarizes key tasks and work products in preparing the five-year General Fund Plan,

1.1 Finalize Workscope/Kick-Off Briefing

- a. Finalize workscope and schedule.
- b. Hold on-site briefing with key staff on the Plan purpose, their role in the process and answer any questions. By briefing all key staff at the same time before launching the project, we can make sure everyone receives the same background information and address any concerns. This briefing will cover both the General and Water Fund Plans (see below).

1.2 Gather Data and Review Key Fiscal Documents

Gather data and review key fiscal documents, such as the Budget, audited financial statements, CalPERS and retiree health care actuarial studies, fiscal policies and interim financial reports.

1.3 Prepare Trend Analyses

The past is the first place to look in projecting the future. The past does not determine the future—but if the future is going to be different than the past: why?

Based on information largely provided by City staff, prepare ten-year trend analyses for the key fiscal factors, such as:

- a. Key revenues reflecting at least 80% of General Fund revenues.
- b. Operating, debt service and CIP expenditures.
- c. Changes in fund balance.
- d. City population growth, new housing units and building permit valuations.
- e. Changes in the consumer price index.

1.4 Develop Plan Assumptions and Model

Working closely with City staff, develop Plan assumptions for key revenues, operating expenditures, debt service obligations, population growth and other demographic factors, such as:

- a. **Key revenues.** Based on past trends and forecast factors from a variety of sources, such as the UCLA forecast for California, regional forecasts, economic trends reported in the national media and information provided by the State Legislative Analyst, State Department of Finance, State Controller, League of California Cities and the City's sales tax advisor.
- b. **Operating expenditures.** Based on past trends and assumptions for any key variables, such as compensation policies, energy and fuel costs, insurance, pension and retiree health care costs. This would also include any significant General Fund support to or from other funds.
- c. **Debt service.** Based on current obligations and any assumptions for new ones that should be made based on current plans.
- d. **CIP expenditures.** There are several approaches for preparing General Fund CIP cost projections. One is to use adopted long-term improvement plans. However, these tend to be more ambitious than an agency's current fiscal capacity, even in "good times." As such, we will also want to consider how this compares with actual experience and the current CIP budget, and whether the adopted CIP adequately funds maintenance or replacement of existing facilities, infrastructure and equipment.
- e. **Key under-funded operating programs and capital improvements.** These will be based on cost assessments by staff.
- f. **Population growth and other demographic factors.** Based on past trends and assessment by City staff under current policies.

1.5 Prepare Draft Plan and Presentation Materials

- a. Prepare draft report based on the Plan assumptions and model.
- b. Present draft report and findings to key City staff. The purpose of this task is to review findings at an early stage to identify and resolve any unexpected or unintended results.

1.6 Prepare and Present Final Report

- a. Incorporate staff comments and any changes from Task 5.
- b. Prepare and issue final Plan in an electronic format (Word, Excel, PowerPoint and Adobe Acrobat).
- c. Present results to the Council and staff.

Task 2: Short-Range Water Fund Financial Plan

Project overview. As discussed above, the City has committed to constructing significant water CIP improvements in the near-term, summarized as follows

| | |
|---|---------------------|
| Construction: SWRCB Loan | |
| Replacement of four wells (\$4,172,300 per well) | 16,689,200 |
| 1,2,3 TCP treatment at Well 12 | 2,229,700 |
| Storage tank and booster pump station | 3,750,000 |
| Advanced metering infrastructure (AMI): remote metering | 3,200,000 |
| Total | 25,868,900 |
| Pay-As-You-Go | |
| Engineering | 1,360,000 |
| Land acquisition | 1,500,000 |
| Total | 2,860,000 |
| TOTAL | \$28,728,900 |

As noted above, in addition to these projects, the City has already budgeted \$4.8 million for CIP projects on 2020-21, of which \$2.4 million is related to the projects above. In short, the City has committed to about \$35 million in CIP projects to be awarded in the near term (1 to

Financial Management Services Proposal

3 years). These are significant costs when placed in the context of the Water Fund's annual total revenues of \$3.2 million.

SWRCB loan/grant. It is highly likely that \$25.8 million of the proposed projects will qualify for the SWRCB loan program, which has two significant advantages compared with conventional financing options:

- ***Below market interest rates.*** Typically, these are based on 50% of the State's borrowing interest rate, which would result in an interest rate to the City of 1.4% under current market conditions over a 30-year repayment term. However, based on the City's median household income, it is possible that the City would be eligible for 0% interest financing.
- ***Possible grant/principal forgiveness.*** Based on the City's demographics, it may be eligible for up to 75% of the loan amount to be forgiven. (There is a maximum limit of \$60,000 per service connection; however, with 5,500 connections, the City would be far below this limit.) At 75%, this would result in a grant of \$19.4 million and a net loan principal amount to be repaid of \$6.5 million.

Project schedule. Before the loan application can be finalized, the SWRCB is requiring environmental review of needed land acquisitions. This review process is likely to take about 6 months. (And based on my experience, the City will encounter other hurdles in satisfying the SWRCB). After the applications are deemed complete, it is likely that it will take at least another year before the City is actually in the "queue" for financing. Debt repayments typically begin one-year after the first draw-down, based on the total amount drawn-down at that point. Thus, the City needs a revenue plan for at least the next 30 months – and possibly longer.

However, this provides the City with the opportunity to phase-in rate increases, rather than implementing a significant one-time jump when the debt service begins.

Detailed work program. The detailed work program for the short-range Water Fund plan is similar to that for the General Fund plan.

2.1 Finalize Workscope/Kick-Off Briefing

- a. Finalize workscope and schedule.
- b. Hold on-site briefing with key staff on the Plan purpose, their role in the process and answer any questions. By briefing all key staff at the same time before launching the project, we can make sure everyone receives the same background information and address any concerns. As noted above, this briefing will cover both the General and Water Fund Plans.

2.2 Gather Data and Review Key Fiscal Documents

Gather data and review key fiscal documents for the Water Fund, such as the Budget, audited financial statements, long-term capital improvement plans, development impact fee studies, rate studies, interim financial reports and the SWRCB loan application.

2.3 Prepare Trend Analyses

Based on information largely provided by City staff, prepare five-year trend analyses for the key Water Fund fiscal factors, such as:

- a. Key revenues: water service charges, development impact fees and other service fees.
- b. Operating, debt service and CIP expenditures.
- c. Changes in working capital.
- d. Customer account growth.
- e. Changes in the consumer price index.

2.4 Develop Plan Assumptions and Model

Working closely with City staff, develop Plan assumptions for key revenues, operating expenditures (including any increases that will be needed to operate and maintain the new facilities), capital improvement plans, customer growth and other demographic factors.

This will include assessing needed water rate increases (on an across-the-board basis) as well as "order of magnitude" assessment of non-rate revenues such as development impact fees. It will also include assessing the impact of alternative SWRCB financing programs, such as grant/loan forgiveness and interest rate options.

2.5 Prepare Draft Plan and Presentation Materials

- a. Prepare draft report based on the Plan assumptions and model.
- b. Present draft report and findings to key City staff. The purpose of this task is to review findings at an early stage to identify and resolve any unexpected or unintended results.

2.6 Prepare and Present Final Report

- a. Incorporate staff comments and any changes from Task 5.
- b. Prepare and issue final Plan in an electronic format (Word, Excel, PowerPoint and Adobe Acrobat).
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As a Finance Director and consultant, I have extensive experience in preparing fiscal assessments and financial plans for a broad range of enterprise operations, including water, wastewater and solid waste.

Phase B: Other Financial Management Services

Task 3: Interfund Transfer Assessment

The City makes extensive use of interfund transfers that may result in more complicated and less transparent accounting of restricted funds. The purpose of this task is to document and

assess the purpose of the City's approach to interfund transfers and to make recommendations as needed.

Task 4: Budget and Fiscal Policy Review and Development

When clearly articulated (and followed), budget and fiscal policies provide an essential foundation for effective financial decision-making and in protecting the City's fiscal health.

The City's fiscal health is a lot like personal health: it isn't what you live for; but it is hard to enjoy your life without it. Cities don't exist to be fiscally healthy; they exist to make communities better places to live, work and play. However, this requires the fiscal capacity to link community goals with the resources needed to achieve them. In short, fiscal health is not an end in itself; but it is an important part of the tool kit in achieving "ends."

And like personal health, fiscal health is rarely luck. The strength of the local economy is obviously an important fiscal health factor – just as genes are in personal health. However, regardless of the strength of its local economy, no agency is immune from economic downturns or unexpected expenditure needs.

For this reason, clearly articulated policies are a city's "north star" in guiding the preparation and implementation of budgets and financial plans. They help make tough decisions easier by stating an organization's values before they are placed under stress by adverse circumstances. The organization might still choose to do something different – effective policies are guides, not straightjackets – but they are a powerful starting point: but for "this," the organization should do what?

Stated simply, articulating and then following prudent fiscal policies is the most effective and proven way for government agencies to ensure their long-term fiscal health. They are both preventative and curative: clearly articulated policies help prevent problems from arising in the good times; and help respond to bad times when they do occur. They also help provide continuity as elected officials and staff change. Lastly, they are most powerful when it put in place before the need for them arrives.

Formal statements of key budget and fiscal policies provide the foundation for assuring long-term fiscal health by establishing a clear framework for effective and prudent financial decision-making.

4.1. Review Current Policies

The City currently has budget and fiscal policies covering the following areas:

- Balanced budget
- Investments
- Debt management
- Reserves
- Budgetary procedures and authority
- Revenues

Financial Management Services Proposal

These policies will be reviewed to determine if modifications for clarity, comprehension or scope would be appropriate. Special focus will be provided for reserve policies using the GFOA's structured approach for assessing risk and establishing minimum reserve targets accordingly.

4.2 Other Policy Areas

Other areas where the City should consider adopting budget and fiscal policies include:

- Budget purpose and organization
- User fee cost recovery: when should user fees fund services versus general purpose revenues?
- Financial reporting
- CIP management
- Purchasing
- Human resources management

Financial Management Services Proposal

Task 5: 2020-21 Mid-Year Budget Review and 2021-22 Budget Preparation

During this transition period, it is likely that the Finance Director will require assistance in preparing the 2020-21 mid-year budget review and 2021-22 Budget. This will include recommended changes in accordance with CSMFO and GFOA budget "best practices" criteria.

Budget Preparation Experience. I have extensive budget preparation experience as a Finance Director and consultant for a wide variety of local government agencies. As Finance Director in San Luis Obispo, I led the award-winning budget process for 22 years, which received national recognition for its two-year budget and integration of goal-setting into the budget process. I have also assisted the cities of Shafter, Madera and Monterey with their budgets process and documents.

Task 6. Other Financial Management Advice and Services

These will be provided on an as needed basis, such as:

- Annual financial reporting, including CAFR preparation and monthly closing policy to ensure timely audits and reconciliations.
- Interim financial reporting, such as quarterly newsletters to the Council and organization.
- Organizational issues.
- Assistance in reviewing development impact fees.
- Understanding Proposition 218.
- Assistance with sanitation rate study analysis by City's consultant.
- Planning for water and sewer rate study.
- High level review of cost recovery options for storm drain maintenance.
- Other financial management practices that may surface through the end of the current fiscal year.

William C. Statler

Fiscal Policy ■ Financial Planning ■ Analysis ■ Training ■ Organizational Review

December 21, 2020



Proposal to the City of Wasco FINANCIAL MANAGEMENT SERVICES

This proposal is in response to the City of Wasco's interest in contracting with a qualified consultant for a broad range of financial management services in assisting with the transition to the first "regular" Finance Director in over two years as well as addressing longstanding financial management issues.

The following outlines my proposed work program, compensation, schedule and qualifications for providing these services.

❶ WORK PROGRAM

Overview

As detailed below, the work program consists of six tasks organized into two phases:

Phase A: Financial Planning

1. Five-year General Fund financial plan
2. Short-range Water Fund financial plan

These two plans have been identified by the City as the top priorities.

Phase B: Other Financial Management Services

3. Interfund transfer assessment
4. Budget and fiscal policy review and development
5. 2020-21 mid-year budget review and 2021-22 budget preparation
6. Other financial management advice and services as needed

Forecast Timeframe

Five years is typically the "Goldilocks" solution in setting the time frame that balances taking a forward look with uncertainty as the forecast period lengthens. This is the proposed timeframe for the General Fund forecast (which should fully account for the phase-in of CalPERS rate increases).

Project Management

Independent Contractor. While I will work in close consultation with City staff, I will serve as an independent contractor.

City Project Manager. Israel Perez-Hernandez, Finance Director, will serve as the City's project manager for this work.

Phase A: Financial Planning

The proposed Phase A workscope responds to the City's interest in preparing financial plans for the General and Water Funds that assess the:

1. *General Fund's* ability in the longer term to continue current services in the aftermath of the worst recession since the Great Depression, address long-term liabilities and achieve capital improvement plan (CIP) goals; and if the forecast projects a negative gap between revenues and expenditures, to identify realistic options for the City's consideration in closing the gap.
2. *Water Fund's* near-term financial needs (one-to three years) in funding key CIP projects. On one hand, the City needs to prepare a long-term financial plan for the Water Fund that includes a comprehensive CIP master plan, which is likely to be the most significant factor driving future revenue requirements and rates. The City's most recent master plan for water improvements was prepared in 2007. As such, it is highly unlikely that it can be effectively used in guiding needed improvements over the next ten to twenty years; and developing a meaningful master plan CIP is likely to take 6 to 12 months to prepare.

On the other hand, until then, the City needs to prepare a short-range Water Fund financial plan that addresses near-term revenue requirements and rate requirements in funding several key CIP projects totaling about \$35 million. On October 6, 2020, the Council approved submitting a loan application of \$25.8 million to the State Water Resources Control Board (SWRCB) to construct several of these projects. Additionally, an estimated \$2.8 million is needed for engineering and land acquisition to be funded on a pay-as-you-go basis for these projects. These amounts are in addition to the revised \$4.8 million for CIP projects already budgeted for 2020-21, of which \$2.4 million is related to these projects.

Stated simply, given the priority and size of these projects in the context of Water Fund annual revenues of \$3.2 million, planning to meet these near-term cost increases needs to begin now.

Task 1: Five-Year General Fund Financial Plan

Background: short and long-term decision-making consequences. Making good resource decisions in the short term as part of the budget process requires considering their impact on the City's fiscal condition down the road. Developing good solutions requires knowing the size of the problem the City is trying to solve. In short, the City cannot fix a problem it hasn't

defined. And in this economic and fiscal environment, looking only one year ahead has the strong potential to misstate the size and nature of the fiscal challenges – and opportunities – ahead of the City.

For those local agencies that have prepared long-term forecasts and financial plans, this did not magically make their fiscal problems disappear: they still had tough decisions to make. However, it allowed them to better assess their longer-term outlook, more closely define the size and duration of the fiscal challenges facing them, and then make better decisions accordingly for both the short and long run. This will be true for the City as well.

Plan purpose. The purpose of the General Fund long-term financial plan (Plan) is to identify the City’s ability over the next five years – on an “order of magnitude” basis – to continue current services in the aftermath of the worst recession since the Great Depression and subsequent Covid-19 impacts, address long-term liabilities and achieve CIP goals.

The Plan will do this by projecting ongoing revenues and subtracting from them likely operating, debt service and capital costs in continuing current service levels. If positive, the balance remaining is available to fund “new initiatives” such as implementing CIP goals, addressing unfunded liabilities or improving service levels. On the other hand, if negative, it shows the likely “forecast gap” if the City continues current service levels or funds CIP/major maintenance projects without corrective action. In this case, the Plan will present realistic “high level” options for closing the gap.

Operating or CIP projects beyond the “Baseline.” The approach outlined above focuses on maintaining current service levels as established in the 2020-21 Budget. However, the if the City is also interested in assessing the impact of addressing unmet operating or CIP needs, this can be easily accomplished as “what ifs” within the same analytical framework.

One forecast or several scenarios? There are advantages and disadvantages to either approach. In my experience, policy makers are better served with “one” forecast that reflects the best set of assumptions for effective decision-making. However, the model will be capable of addressing several “what ifs” in assessing the sensitivity of the forecast to different assumptions.

Meaningful involvement of Finance and other key City staff. In preparing the Plan, key staff as identified by the City will be meaningfully involved in developing and reviewing the assumptions that drive the Plan; and in understanding the methodology used in preparing it to ensure that results are transparent (and not arrived at by a mysterious black box). As discussed further below, one of the key deliverables will be the underlying forecast model in Excel that staff will be able to update in the future.

Key caveat on plan results. It is important to stress that the Plan is not the budget. As such, while it may project “gaps” that will need to be closed as part of the budget process, it will not project “deficits.” Why? Because as it has in the past, the City will take the corrective action needed to ensure annual balanced budgets.

In comparison with the budget process, it doesn't make expenditure decisions; it doesn't make revenue decisions. As noted above, its sole purpose is to provide an "order of magnitude" feel for the City's ability to continue current service levels, address may unmet needs and achieve CIP goals.

Ultimately, this Plan cannot answer the question: "Can the City afford new initiatives?" This is a basic question of priorities, not of financial capacity per se. However, making trade-offs is what the budget process is all about in determining the highest priority uses of the City's limited resources. And by identifying and analyzing key factors affecting the City's long-term fiscal health, the Plan can help assess how difficult making these priority decisions will be. And as noted above, if the Plan projects a negative gap between revenues and expenditures, it will present realistic options for the City's consideration in closing the gap.

Stated simply, this Plan is not the budget. However, it will set forth the challenges – and opportunities – ahead of the City in adopting a balanced budget, next year and beyond.

Detailed work program. The following summarizes key tasks and work products in preparing the five-year General Fund Plan,

1.1 Finalize Workscope/Kick-Off Briefing

- a. Finalize workscope and schedule.
- b. Hold on-site briefing with key staff on the Plan purpose, their role in the process and answer any questions. By briefing all key staff at the same time before launching the project, we can make sure everyone receives the same background information and address any concerns. This briefing will cover both the General and Water Fund Plans (see below).

1.2 Gather Data and Review Key Fiscal Documents

Gather data and review key fiscal documents, such as the Budget, audited financial statements, CalPERS and retiree health care actuarial studies, fiscal policies and interim financial reports.

1.3 Prepare Trend Analyses

The past is the first place to look in projecting the future. The past does not determine the future—but if the future is going to be different than the past: why?

Based on information largely provided by City staff, prepare ten-year trend analyses for the key fiscal factors, such as:

- a. Key revenues reflecting at least 80% of General Fund revenues.
- b. Operating, debt service and CIP expenditures.
- c. Changes in fund balance.
- d. City population growth, new housing units and building permit valuations.
- e. Changes in the consumer price index.

1.4 Develop Plan Assumptions and Model

Working closely with City staff, develop Plan assumptions for key revenues, operating expenditures, debt service obligations, population growth and other demographic factors, such as:

- a. **Key revenues.** Based on past trends and forecast factors from a variety of sources, such as the UCLA forecast for California, regional forecasts, economic trends reported in the national media and information provided by the State Legislative Analyst, State Department of Finance, State Controller, League of California Cities and the City's sales tax advisor.
- b. **Operating expenditures.** Based on past trends and assumptions for any key variables, such as compensation policies, energy and fuel costs, insurance, pension and retiree health care costs. This would also include any significant General Fund support to or from other funds.
- c. **Debt service.** Based on current obligations and any assumptions for new ones that should be made based on current plans.
- d. **CIP expenditures.** There are several approaches for preparing General Fund CIP cost projections. One is to use adopted long-term improvement plans. However, these tend to be more ambitious than an agency's current fiscal capacity, even in "good times." As such, we will also want to consider how this compares with actual experience and the current CIP budget, and whether the adopted CIP adequately funds maintenance or replacement of existing facilities, infrastructure and equipment.
- e. **Key under-funded operating programs and capital improvements.** These will be based on cost assessments by staff.
- f. **Population growth and other demographic factors.** Based on past trends and assessment by City staff under current policies.

1.5 Prepare Draft Plan and Presentation Materials

- a. Prepare draft report based on the Plan assumptions and model.
- b. Present draft report and findings to key City staff. The purpose of this task is to review findings at an early stage to identify and resolve any unexpected or unintended results.

1.6 Prepare and Present Final Report

- a. Incorporate staff comments and any changes from Task 5.
- b. Prepare and issue final Plan in an electronic format (Word, Excel, PowerPoint and Adobe Acrobat).
- c. Present results to the Council and staff.

Long-term financial planning experience. I have extensive experience in preparing long-term financial plans as a Finance Director and consultant for a wide variety of local government agencies. Examples of the General Fund Plans that I have prepared for cities of Salinas, Camarillo, Carpinteria, San Luis Obispo, Grover Beach, Pismo Beach, Twentynine Palms, Bell and the Bear Valley Community Services District are available on-line (click on the agency below):

[City of Salinas](#)

[City of Camarillo](#)

[City of Carpinteria](#)

[City of San Luis Obispo](#)

[City of Grover Beach](#)

[City of Pismo Beach](#)

[City of Twentynine Palms](#)

[City of Bell](#)

[Bear Valley Community Services District](#)

Lastly, I have provided highly-rated training on long-term financial planning “best practices” for the California Society of Municipal Finance Officers (CSMFO) and Government Finance Officers Association of the United States and Canada (GFOA); and I have published extensively on this topic.

Task 2: Short-Range Water Fund Financial Plan

Project overview. As discussed above, the City has committed to constructing significant water CIP improvements in the near-term, summarized as follows

| | |
|---|---------------------|
| Construction: SWRCB Loan | |
| Replacement of four wells (\$4,172,300 per well) | 16,689,200 |
| 1,2,3 TCP treatment at Well 12 | 2,229,700 |
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| Engineering | 1,360,000 |
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As noted above, in addition to these projects, the City has already budgeted \$4.8 million for CIP projects on 2020-21, of which \$2.4 million is related to the projects above. In short, the City has committed to about \$35 million in CIP projects to be awarded in the near term (1 to

3 years). These are significant costs when placed in the context of the Water Fund's annual total revenues of \$3.2 million.

SWRCB loan/grant. It is highly likely that \$25.8 million of the proposed projects will qualify for the SWRCB loan program, which has two significant advantages compared with conventional financing options:

- ***Below market interest rates.*** Typically, these are based on 50% of the State's borrowing interest rate, which would result in an interest rate to the City of 1.4% under current market conditions over a 30-year repayment term. However, based on the City's median household income, it is possible that the City would be eligible for 0% interest financing.
- ***Possible grant/principal forgiveness.*** Based on the City's demographics, it may be eligible for up to 75% of the loan amount to be forgiven. (There is a maximum limit of \$60,000 per service connection; however, with 5,500 connections, the City would be far below this limit.) At 75%, this would result in a grant of \$19.4 million and a net loan principal amount to be repaid of \$6.5 million.

Project schedule. Before the loan application can be finalized, the SWRCB is requiring environmental review of needed land acquisitions. This review process is likely to take about 6 months. (And based on my experience, the City will encounter other hurdles in satisfying the SWRCB). After the applications are deemed complete, it is likely that it will take at least another year before the City is actually in the "queue" for financing. Debt repayments typically begin one-year after the first draw-down, based on the total amount drawn-down at that point. Thus, the City needs a revenue plan for at least the next 30 months – and possibly longer.

However, this provides the City with the opportunity to phase-in rate increases, rather than implementing a significant one-time jump when the debt service begins.

Detailed work program. The detailed work program for the short-range Water Fund plan is similar to that for the General Fund plan.

2.1 Finalize Workscope/Kick-Off Briefing

- a. Finalize workscope and schedule.
- b. Hold on-site briefing with key staff on the Plan purpose, their role in the process and answer any questions. By briefing all key staff at the same time before launching the project, we can make sure everyone receives the same background information and address any concerns. As noted above, this briefing will cover both the General and Water Fund Plans.

2.2 Gather Data and Review Key Fiscal Documents

Gather data and review key fiscal documents for the Water Fund, such as the Budget, audited financial statements, long-term capital improvement plans, development impact fee studies, rate studies, interim financial reports and the SWRCB loan application.

2.3 Prepare Trend Analyses

Based on information largely provided by City staff, prepare five-year trend analyses for the key Water Fund fiscal factors, such as:

- a. Key revenues: water service charges, development impact fees and other service fees.
- b. Operating, debt service and CIP expenditures.
- c. Changes in working capital.
- d. Customer account growth.
- e. Changes in the consumer price index.

2.4 Develop Plan Assumptions and Model

Working closely with City staff, develop Plan assumptions for key revenues, operating expenditures (including any increases that will be needed to operate and maintain the new facilities), capital improvement plans, customer growth and other demographic factors.

This will include assessing needed water rate increases (on an across-the-board basis) as well as “order of magnitude” assessment of non-rate revenues such as development impact fees. It will also include assessing the impact of alternative SWRCB financing programs, such as grant/loan forgiveness and interest rate options.

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Phase B: Other Financial Management Services

Task 3: Interfund Transfer Assessment

The City makes extensive use of interfund transfers that may result in more complicated and less transparent accounting of restricted funds. The purpose of this task is to document and

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Task 4: Budget and Fiscal Policy Review and Development

When clearly articulated (and followed), budget and fiscal policies provide an essential foundation for effective financial decision-making and in protecting the City’s fiscal health.

The City’s fiscal health is a lot like personal health: it isn’t what you live for; but it is hard to enjoy your life without it. Cities don’t exist to be fiscally healthy: they exist to make communities better places to live, work and play. However, this requires the fiscal capacity to link community goals with the resources needed to achieve them. In short, fiscal health is not an end in itself; but it is an important part of the tool kit in achieving “ends.”

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Formal statements of key budget and fiscal policies provide the foundation for assuring long-term fiscal health by establishing a clear framework for effective and prudent financial decision-making.

4.1. Review Current Policies

The City currently has budget and fiscal policies covering the following areas:

- Balanced budget
- Investments
- Debt management
- Reserves
- Budgetary procedures and authority
- Revenues

These policies will be reviewed to determine if modifications for clarity, comprehension or scope would be appropriate. Special focus will be provided for reserve policies using the GFOA's structured approach for assessing risk and establishing minimum reserve targets accordingly. Along with target minimums, reserve policies will also address:

- Definition of "General Fund Reserve" for the purpose of establishing a minimum, given the five categories of fund balance under GASB Statement No. 54 (Non-spendable, Restricted, Committed, Assigned and Unassigned).
- Policy for when it is appropriate to use reserves below the target amount (if reserves are a "rainy day fund," it must be appropriate to use them when it rains).
- Policy for restoring the reserve when it falls below the target minimum.
- Policy on how to best drawdown/use reserves above the minimum target.
- Comparison of actual versus target.

4.2 Other Policy Areas

Other areas where the City should consider adopting budget and fiscal policies include:

- Budget purpose and organization
- User fee cost recovery: when should user fees fund services versus general purpose revenues?
- Financial reporting
- CIP management
- Purchasing
- Human resources management

Policy Development Experience. I have extensive experience in developing budget and fiscal policies as a Finance Director and consultant for a wide variety of local government agencies. Examples of the policies that I have prepared for a wide range of cities are available on-line (click on the agency below):

[Budget and Fiscal Policies \(including reserves\): City of Shafter](#)

[General Fund Reserve Policy: Town of Los Gatos](#)

[General Fund Reserve Policy: City of Pacific Grove](#)

[General Fund Reserve Policy: City of Lompoc](#)

[General Fund Reserve Policy: City of Twentynine Palms](#)

[General Fund Reserve Policy: City of Willits](#)

[Budget and Fiscal Policies \(including reserves\): City of Bell \(Pro Bono\)](#)

I also provided highly-rated training on fiscal policy "best practices" for the CSMFO and GFOA; and I have published extensively on this topic.

Task 5: 2020-21 Mid-Year Budget Review and 2021-22 Budget Preparation

During this transition period, it is likely that the Finance Director will require assistance in preparing the 2020-21 mid-year budget review and 2021-22 Budget. This will include recommended changes in accordance with CSMFO and GFOA budget “best practices” criteria.

Budget Preparation Experience. I have extensive budget preparation experience as a Finance Director and consultant for a wide variety of local government agencies. As Finance Director in San Luis Obispo, I led the award-winning budget process for 22 years, which received national recognition for its two-year budget and integration of goal-setting into the budget process. I have also assisted the cities of Shafter, Madera and Monterey with their budgets process and documents.

Task 6. Other Financial Management Advice and Services

These will be provided on an as needed basis, such as:

- Annual financial reporting, including CAFR preparation and monthly closing policy to ensure timely audits and reconciliations.
- Interim financial reporting, such as quarterly newsletters to the Council and organization.
- Organizational issues.
- Assistance in reviewing development impact fees.
- Understanding Proposition 218.
- Assistance with sanitation rate study analysis by City’s consultant.
- Planning for water and sewer rate study.
- High level review of cost recovery options for storm drain maintenance.
- Other financial management practices that may surface through the end of the current fiscal year.

② PROPOSAL COST

Phase A Services

General Fund Five-Year Financial Plan

Fixed Fee: \$9,750.00, including expenses

Water Fund Short-Range Financial Plan

Fixed Fee: \$5,750.00, including expenses

To the extent feasible, the work will be completed via email and teleconference. Except as qualified below, the proposed fees are inclusive of all expenses, including materials and travel-related costs.

Consistent with the Work Program, the fixed fee for Phase A services includes five on-site briefings/meetings:

- Project kick-off: Tasks 1.1 and 2.1 (one briefing for both General and Water Funds)
- Briefings on draft results with key City staff: Tasks 1.5 and 2.5
- Briefing with Council: Tasks 1.6 and 2.6

If additional on-site visits are required or if other services are requested during this work, these will be charged on a time and materials basis at \$165.00 per hour. Travel time will be billed at 50% of this rate: \$82.50 per hour.

Phase B Services

Given the priority of Phase A services, the focus of this proposal is on detailed work programs and costs for these Plans. Accordingly, separate detailed proposals will be submitted to the City Manager for the four tasks under Phase B services.

- For Tasks 3, 4.1 and 4.2, it is anticipated that these will be individual fixed fee proposals, each within the City Manager’s approval authority.
- For Tasks 5 and 6, due to their indeterminate nature, it is anticipated that these will be separate proposals based on time and materials, at \$165.00 per hour, not to exceed \$10,000 per task without Council authorization.

However, in no case will total compensation for Phase B services exceed \$28,750 without prior Council approval.

Progress Billings. Services will be invoiced monthly based on progress-to-date.

Deliverables. All written materials will be provided to the City in electronic form via email in Excel, Word, Adobe Acrobat or PowerPoint as appropriate. Any “hard-copy” reproduction will be at the City’s expense.

⑤ SCHEDULE

Phase A Services

Depending on staff availability and the date of the “kick-off” briefing (Tasks 1.1 and 2.1), the draft report for the Water Fund (Task 2.5) should be available within 90 days after authorization to proceed; and the draft report for the General Fund should be available within 150 days.

Phase B Services

Completion dates will be provided with the detailed follow-up proposals. However, all services within the scope of this proposal will be completed by June 30, 2021.

4 QUALIFICATIONS

As set forth in the following Qualifications Summary, I have extensive experience in strategic planning, organizational review and policy analysis, as well as in a broad range of financial management practices that have received state and national recognition for excellence in financial planning and reporting.

My work ranges from San Luis Obispo (the city that Oprah Winfrey calls the “Happiest City in America”) to volunteer service helping the troubled City of Bell reform their government.

My senior management experience includes serving as the Director of Finance & Information Technology/City Treasurer for the City of San Luis Obispo for 22 years and as the Finance Officer for the City of Simi Valley for ten years before that. Since retiring from local government in 2010, the “third act” of my career includes over 60 consulting assignments for a wide range of local and state government agencies.

My experience also includes playing key leadership roles in the profession, which included serving as a member of the Board of Directors of the League of California Cities, President of the League’s Fiscal Officer Department and President of the California Society of Municipal Finance Officers (CSMFO); and setting accounting and financial reporting standards as a member of the California Committee on Municipal Accounting.

I have also published extensively on municipal finance best practices, including co-authoring the *Guide to Local Government Finance in California*, which has gained wide recognition as the industry standard on this topic; and provided highly-rated training for a number of professional organizations.

As detailed in the Qualifications Summary, my consulting work has included:

- Strategic planning and long-term financial plans.
- Organizational analysis and policy advice, including organization reviews, reserve policies, benchmarking, financial condition assessments and operational reviews.
- Interim finance director for the City of Monterey, San Diego County Water Authority and City of Capitola.
- Revenue option analyses; cost allocation plans; and water, sewer and solid waste rate studies.

In each case, I believe the contracting agencies were delighted with the high-quality results they received at a very reasonable cost. (References from the senior managers of these agencies are available upon request.)

City of Wasco Experience. I believe my recent experience with the City in assessing the Finance Department’s organization, policies and practices will be especially useful in providing these services.

SUMMARY

I am looking forward to this opportunity to serve the City of Wasco. Please call or email me if you have any questions concerning this proposal.

Sincerely,



William C. Statler

Fiscal Policy ■ Financial Planning ■ Analysis ■ Training ■ Organizational Review



Qualifications Summary

SENIOR MANAGEMENT EXPERIENCE

Bill Statler has over 30 years of years of senior management experience, which included serving as the Director of Finance & Information Technology/City Treasurer for the City of San Luis Obispo for 22 years and as the Finance Officer for the City of Simi Valley for 10 years before that.

Under his leadership, the City of San Luis Obispo received national recognition for its financial planning and reporting systems, including:

- Award for Distinguished Budget Presentation from the Government Finance Officers Association of the United States and Canada (GFOA), with special recognition as an outstanding policy document, financial plan and communications device. San Luis Obispo is one of only a handful of cities in the nation to receive this special recognition.
- Awards for excellence in budgeting from the California Society of Municipal Finance Officers (CSMFO) in all four of its award budget categories: innovation, public communications, operating budgeting and capital budgeting. Again, San Luis Obispo is among a handful of cities in the State to earn recognition in all four of these categories.
- Awards for excellence in financial reporting from both the GFOA and CSMFO for the City's comprehensive annual financial reports.
- Recognition of the City's financial management policies as "best practices" by the GFOA and the National Advisory Council on State and Local Budgeting.

The financial strategies, policies and programs he developed and implemented resulted in strengthened community services and an aggressive program of infrastructure and facility improvements, while at the same time preserving the City's long-term fiscal health.

CONSULTING AND INTERIM ASSIGNMENTS

Long-Term Financial Plans

- City of Salinas
- City of Camarillo
- City of Carpinteria
- City of Grover Beach
- City of Pismo Beach
- City of Twentynine Palms
- City of Bell
- Bear Valley Community Services District

Strategic Planning and Council Goal-Setting

In collaboration with HSM Team

- City of Monrovia
- City of Sanger
- City of Pismo Beach
- City of Willits
- City of Bell (Pro Bono)

Organizational Analysis and Policy Advice

- Finance Department Organization, Policies and Practices Review: City of Wasco
- Organizational Review (Community Development, Public Works and Parks & Recreation): City of Monterey
- Finance Organizational Review: Ventura Regional Sanitation District
- Finance Division Organizational Review: Sacramento Metropolitan Fire District
- Finance Department Organizational Review: City of Ceres (in collaboration with national consulting firm)
- Organizational Assessment: City of Willits (in collaboration with the HSM Team)
- Financial Practices Review: City of Monterey
- Financial Management Advice During Finance Director Transition: City of Monterey
- Using Benchmarks to Measure Performance and Assess Fiscal Accountability: City of Capitola
- Financial Management Improvements: City of Capitola
- Financial Management Transition Team and Policy Advice: City of Bell (Pro Bono)
- General Fund Reserve Policy: Town of Los Gatos
- General Fund Reserve Policy: City of Pacific Grove
- General Fund Reserve Policy: City of Lompoc
- General Fund Reserve Policy: City of Twentynine Palms
- General Fund Reserve Policy: City of Willits
- Budget and Fiscal Policies (including reserves): City of Shafter
- Budget and Fiscal Policies (including reserves): City of Bell (Pro Bono)
- Budget and Fiscal Policies: City of Santa Fe Springs
- General Fund and Other Funds Reserve Policy: State Bar of California
- Preparation for Possible Revenue Ballot Measure: City of Monterey
- Fund Accounting Review: State Bar of California
- Construction Project Contracting Review: Central Contra Costa Sanitary District
- Focused Financial Review: City of Watsonville
- Financial Assessment: City of Guadalupe
- Financial Condition Assessment: City of Grover Beach

Interim Finance Director

- City of Monterey
- San Diego County Water Authority
- City of Capitola

Other Financial Management Services

- Budget Preparation Advisor: City of Shafter
- Budget Document and Process Review: City of Madera
- Revenue Options Study: Santa Clara Valley Water District
- Revenue Options Study: City of Greenfield
- Revenue Options Study: City of Pismo Beach
- Cost Allocation Plan: City of Greenfield
- Cost Allocation Plan: City of Guadalupe
- Cost Allocation Plan: City of Port Hueneme
- Cost Allocation Plan: City of Grover Beach
- Cost Allocation Plan Review: State Bar of California
- Cost Allocation Plan Review: City of Ukiah
- Disciplinary Proceedings Cost Recovery Review: State Bar of California
- Water and Sewer Rate Reviews: Avila Beach Community Services District (CSD)
- Water and Sewer Rate Reviews: City of Grover Beach
- Solid Waste Rate Review: Cambria CSD and Cayucos Sanitary District
- Solid Waste Rate Review: County of San Luis Obispo, Los Osos and North County Areas
- Solid Waste Rate Review: Cities of Arroyo Grande, Grover Beach, Pismo Beach and Avila, Nipomo and Oceano Community Services Districts

PROFESSIONAL LEADERSHIP

- Member, Board of Directors, League of California Cities (League): 2008 to 2010
- Member, California Committee on Municipal Accounting: 2007 to 2010
- Member, GFOA Budget and Fiscal Policy Committee: 2005 to 2009
- President, League Fiscal Officers Department: 2002 and 2003
- President, CSMFO: 2001-02
- Member, Board of Directors, CSMFO: 1997 to 2001
- Chair, CSMFO Task Force on "GASB 34" Implementation
- Fiscal Officers Representative on League Policy Committees: Community Services, Administrative Services and Environmental Quality: 1992 to 1998
- Chair, Vice-Chair and Senior Advisor for CSMFO Committees: Technology, Debt, Career Development, Professional and Technical Standards and Annual Seminar Committees: 1995 to 2010
- Member, League Proposition 218 Implementation Guide Task Force
- Chair, CSMFO Central Coast Chapter: 1994 to 1996

TRAINER

- League of California Cities
- Institute for Local Government
- California Debt and Investment Advisory Commission
- Government Finance Officers Association of the United States and Canada
- California Society of Municipal Finance Officers
- Municipal Management Assistants of Southern California and Northern California
- National Federation of Municipal Analysts
- Probation Business Manager's Association
- Humboldt County
- California Association of Local Agency Formation Commissions
- American Planning Association

Topics included:

- | | |
|--|---|
| • Long-Term Financial Planning | • Debt Management |
| • The Power of Fiscal Policies | • Transparency in Financial Management: Meaningful Community Engagement in the Budget Process |
| • Financial Analysis and Reporting | • Financial Management for Non-Financial Managers |
| • Fiscal Health Contingency Planning | • Preparing for Successful Revenue Ballot Measures |
| • Effective Project Management | • Integrating Goal-Setting and the Budget Process |
| • Providing Great Customer Service in Internal Service Organizations: The Strategic Edge | • Multi-Year Budgeting |
| • Strategies for Downsizing Finance Departments in Tough Fiscal Times | • Top-Ten Skills for Finance Officers |
| • Telling Your Fiscal Story: Tips on Making Effective Presentations | • Financial Management for Elected Officials |
| • What Happened in the City of Bell and What We Can Learn from It | • Strategies for Strengthening Organizational Effectiveness |
| • 12-Step Program for Recovery from Fiscal Distress | • Budgeting for Success Among Uncertainty: Preparing for the Next Downturn |
| • Taking a Policy-Based Approach to Fee-Setting | • Fiscalization of Land Use |
| • Top Challenges Facing Local Government Finance Officers | |

PUBLICATIONS

- *Guide to Local Government Finance in California*, Solano Press, Second Edition, 2017 (Co-Author)
- *Setting Reserve Policies – and Living Within Them*, CSMFO Magazine, May 2017

- *Presenting the Budget to Your Constituents*, CSMFO Magazine, July 2016
- *Planning for Fiscal Recovery*, Government Finance Review, February 2014
- *Managing Debt Capacity: Taking a Policy-Based Approach to Protecting Long-Term Fiscal Health*, Government Finance Review, August 2011
- *Fees in a Post-Proposition 218 World*, League of California Cities, City Attorney's Department Spring Conference, May 2010
- *Municipal Fiscal Health Contingency Planning*, Western City Magazine, November 2009
- *California Municipal Revenue Sources Handbook, League of California Cities, 2019 (Contributor: Chapter 8, "Cost Recovery")*
- *Understanding the Basics of County and City Revenue*, Institute for Local Government, 2008 (Contributor)
- *Financial Management for Elected Officials*, Institute for Local Government, 2010 (Contributor)
- *Building a Healthy Financial Foundation Through Revenue Diversification*, Institute for Local Government, 2006 (Contributor)
- *Getting the Most Out of Your City's Current Revenues: Sound Fiscal Policies Ensure Higher Cost Recovery for Cities*, Western City Magazine, November 2003
- *Local Government Revenue Diversification, Fiscal Balance/Fiscal Share and Sustainability*, Institute for Local Government, November 2002 (Co-Author)
- *Why Is GASB 34 Such a Big Deal?*, Western City Magazine, November 2000
- *Understanding Sales Tax Issues*, Western Cities Magazine, June 1997
- *Proposition 218 Implementation Guide*, League of California Cities, 1997 (Contributor)

HONORS AND AWARDS

- Cal-ICMA Ethical Hero Award (for service to the City of Bell)
- CSMFO Distinguished Service Award for Dedicated Service and Outstanding Contribution to the Municipal Finance Profession
- National Advisory Council on State and Local Government Budgeting: Recommended Best Practice (Fiscal Policies: User Fee Cost Recovery)
- GFOA Award for Distinguished Budget Presentation: Special Recognition as an Outstanding Policy Document, Financial Plan and Communications Device
- CSMFO Awards for Excellence in Operating Budget, Capital Improvement Plan, Budget Communication and Innovation in Budgeting

- GFOA Award of Achievement for Excellence in Financial Reporting
 - CSMFO Certificate of Award for Outstanding Financial Reporting
 - National Management Association Silver Knight Award for Excellence in Leadership and Management
 - American Institute of Planners Award for Innovation in Planning
 - Graduated with Honors, University of California, Santa Barbara
-

Visit my web site for additional information at www.bstatler.com





STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director
Charles Sobolewski, Deputy Public Works Director

DATE: January 19, 2021

SUBJECT: Adopt a Resolution Authorizing the City Manager to Negotiate and Enter into Agreement with California Central Power in The Amount Of \$48,962.59 to Perform Engine and Suspension Repair for Commercial Refuse Truck #18 And To transfer \$50,000 from the Sanitation Enterprise Fund to Replenish the Disposal Fleet Maintenance Funds.

Recommendation:

Staff recommends adopting a resolution authorizing the City Manager to negotiate and enter into agreement with Central California Power in the amount of \$48,962.59 to perform engine and suspension repairs for commercial refuse truck #18 and to transfer \$50,000.00 from the Sanitation Enterprise Fund to replenish the Disposal fleet maintenance funds.

Discussion:

On Dec 24, 2020 refuse truck #18 experienced a major engine malfunction. Truck #18 was towed to California Central Power in Shafter, CA and the engine was removed and inspected for further troubleshooting. Technicians discovered the engine was locked up (seized) due to coolant system seal failure causing coolant to enter into the engine's fuel, lubrication, mechanical, and exhaust systems.

While the engine was removed technicians further discovered chassis suspension bolts that had been sheared off causing damage to major suspension components to include leaf springs, shackles, drag links, pins, and bushings. Technicians determined that repairs to the suspension system were required in order for the vehicle to maneuver properly and safely operate under Department of Transportation (DOT) guidelines.

Truck #18 is the primary refuse vehicle that provides collection services to the Wasco State Prison with truck #16 used as a primary spare in case #18 is unable to provide service. Currently truck #16 is also out of service due to a hydraulic ram and tailgate gasket repair therefore Sanitation has to use the City's primary commercial vehicle truck #14 to perform both commercial and prison collections until #16 is brought back in service. Staff is concerned that if truck #14 does become inoperable, commercial collection services for the City and the state prison cannot be carried out therefore Staff is

also seeking to avoid additional expenses incurred as a result of Temporary Nonperformance under Agreement Number C5608749

Item 12. Temporary Nonperformance: *If, because of mechanical failure or for any other reason, the Contractor shall be temporarily unable to perform the work as required, the State, during the period of the Contractor's inability to perform, reserves the right to accomplish the work by other means and shall be reimbursed by the Contractor for any additional costs above the Agreement price*

Potential Additional Incurred Expenses:

1. Temporary Nonperformance Reimbursement: \$7000.94 per week (\$28,003.76 monthly) until the City can resume performance of services for the prison.
2. Refuse Truck Rental: Sideloaded refuse vehicle rental cost of \$7,500 per month (minimum three-month rental agreement) for a total contract cost of \$22,500.00.

Staff contends that, until recent events, refuse truck #18 has proven to be a reliable asset to the City and Sanitation department therefore installation of a newly rebuilt engine would allow this vehicle to remain in service beyond its 2022 scheduled replacement date and extend its service until 2026.

Because this is an unplanned expense with an estimated cost over \$10,000, Staff is requesting City Council authorization to permit the City Manager to approve the engine and suspension repairs to truck #18.

Staff is currently in the process of identifying the most cost effective method for purchasing the new refuse trucks budgeted for in this year's Capital Improvement Plan.

Fiscal Impact:

The City allotted \$130,000 in fiscal year 2021 Shop Maintenance budget for Disposal Auto Repairs, however \$73,908.15 of those funds in this account have been expended thus far leaving a current remaining balance of \$55,088.89.

Truck #18 Cost of Repairs

| | |
|--|-------------------|
| Engine Overhaul and Rebuild | \$40,994.29 |
| <u>Suspension Overhaul and Rebuild</u> | <u>\$7,968.30</u> |
| Total | \$48,962.59 |

Due to these unforeseen expenditures from truck #18 repairs, the Shop Disposal remaining balance would be depleted from its current balance of \$55,088.89 to \$6,126.30 remaining. With an additional 6 months remaining in this current fiscal year, Staff is also requesting a mid-year budget adjustment transfer of \$50,000 from Sanitation Enterprise Funds to the Shop Disposal budget to replenish expenditures which will be used to repair truck #18.

Attachments:

1. Resolution
2. Exhibit "A"
 - a. Central California Power Repair Order #100210 (Engine)
 - b. Central California Power Estimate #6370 (Suspension)

REFUSE TRUCK 16
Hydraulic Ram Repair



REFUSE TRUCK 16
Gasket Repair



RESOLUTION NO. 2021 - _____

A RESOLUTION OF THE CITY COUNCIL OF WASCO AUTHORIZING THE CITY MANAGER TO NEGOTIATE AND ENTER INTO AGREEMENT WITH CENTRAL CALIFORNIA POWER IN THE AMOUNT OF \$48,962.59 TO PERFORM ENGINE AND SUSPENSION REPAIRS FOR COMMERCIAL REFUSE TRUCK #18 AND TO TRANSFER \$50,000.00 FROM THE SANITATION ENTERPRISE FUND TO REPLENISH THE DISPOSAL FLEET MAINTENANCE FUNDS.

WHEREAS, refuse truck #18 experienced major engine and suspensions failure; and,

WHEREAS, Truck #18 is the primary refuse vehicle for the City that provides collection services to the Wasco State Prison; and,

WHEREAS, the City currently has one operable commercial refuse vehicle and is performing all commercial waste collection services for the city; and,

WHEREAS, the City is liable to perform collection services to the State Prison according to Agreement Number C5608749; and,

WHEREAS, the City wishes to avoid reimbursemnt expenses and refuse truck rental costs in the amount of \$35,503.76 to the costs to repair truck #18; and,

WHEREAS, the City's cost for repair to refuse truck #18 is in the amount of \$48,962.59 to be from the Shop Disposal Fund; and,

WHEREAS, the City's requests a transfer of \$50,000 from Sanitation Enterprise Funds to the Shop Disposal budget to replenish expenditures used to repair truck #18.; and,

WHEREAS, the City's cost estimates for repair from California Central Power is attached as Exhibit "A"; and

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes the City Manager to enter into agreement with Central California Power in the amount of \$48,962.59 to perform engine and suspension repairs for commercial refuse truck #18 and to transfer \$50,000.00 from the Sanitation Enterprise Fund to replenish the Disposal fleet maintenance funds.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-_____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:_____


MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco



19487 Broken Ct.
Shafter, CA 93263

REPAIR ORDER

| Date | S.O. No. |
|----------|----------|
| 1/4/2021 | 100210 |

| | | | | | |
|---|--|--------------------------|-------------|-------------|------------|
| Name / Address | | | | | |
| City of Wasco 764 E.St Wasco, Ca 93280 Attn: Acct Payable | | | | | |
| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # |
| | | Net 30 | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # |
| 18 | 5VCDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | |
| Item | Description | Ordered | Rate | Amount | |
| | CUSTOMER HAD TRUCK TOWED TO CCP SHOP AND SAID ENGINE WOULDN'T START. CCP TECHNICIAN TROUBLESHOT ENGINE AND FOUND ENGINE WAS LOCKED UP AND THERE WAS COOLANT RUNNING OUT OF EXHAUST. ENGINE HAS MAJOR FAILURE. ADVISED CUSTOMER OF FINDINGS ENGINE WILL HAVE TO TORN DOWN TO ACCESS FOR FURTHER DAMAGE. ENGINE ALSO HAS FRONT AND REAR SEALS BLOWN LEAKING EXCESSIVE OIL AND COOLANT FROM SEALS. ENGINE HAS NO COOLANT IN RADIATOR ALL COOLANT IS IN CRANK CASE. AIRED UP TRUCK AND MOVED TRUCK TO WASH RACK STEAMED CLEANED ENGINE AND CHASIS COMPLETE. REMOVED ALL ACC AND COMPONENTS. REMOVED RADIATOR ASSEMBLY. REMOVED FLEX PLATE BOLTS. REMOVED VALVE COVER AND ROKERS HAD TO REMOVE ALL INJECTORS TO RELIEVE CYLINDERS OF COOLANT. HAD TO BAR ENGINE OVER TO BREAK LOSE CYLINDERS CAUSED FROM EXC COOLANT ON TOP OF PISTONS. CYLINDERS RUSTED. GOT ENGINE TO FINALLY TURN OVER TO GAIN ACCESS TO REMAINING FLEX PLATE BOLTS. REMOVED ENGINE COMPLETE FROM TRUCK. SET ENGINE UP ON STAND IN SHOP. REMOVE ALL ACCESSORIES, TURBO, EXHAUST. REMOVE VALVE COVER, CYLINDER HEAD. INSPECTED LINERS FOR WEAR. FOUND EXCESSIVE RUST IN CYLINDERS AND WEAR. ADVISE CUSTOMER OF ENGINE CONDITION. REMOVE CYLINDER KITS AND CONNECTING RODS. TEAR DOWN ENGINE COMPLETE. CLEAN AND PREP BLOCK AND ALL COMPONENTS. PERFORM OVERHAUL ON ENGINE. RECONDITON CONNECTING RODS. INSTALL NEW MAIN BEARINGS. TORQUE TO PROPER SPECS. ASSEMBLE NEW CYLINDER KITS. INSTALL CONNECTING RODS. INSTALL CYLINDER KITS IN BLOCK WITH NEW ROD BEARINGS. TORQUE TO SPECS. INSTALL OIL PICK UP | | | | |
|  WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov | | Subtotal | | | |
| Signature _____ | | Sales Tax (7.25%) | | | |
| | | Total | | | |

19487 Broken Ct * Shafter, CA 93263 * 661.589.2870 * ccp@gensets.com * www.gensets.com



19487 Broken Ct.
Shafter, CA 93263

REPAIR ORDER

| Date | S.O. No. |
|----------|----------|
| 1/4/2021 | 100210 |

| |
|---|
| Name / Address |
| City of Wasco 764 E. St Wasco, Ca 93280 Attn: Acct Payable |

| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # |
|---------|--------------------|------------|-------------|-------------|------------|
| | | Net 30 | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # |
| 18 | 5V CDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | |

| Item | Description | Ordered | Rate | Amount |
|---------------|---|---------|-----------|-----------|
| | TUBE WITH NEW O-RING. INSTALL NEW REBUILT CYLINDER HEAD, TORQUE TO SPECS. INSTALL NEW EGR COOLER AND NEW EGR UPFIT UPDATE KIT. INSTALL NEW EGR VALVE. INSTALL NEW REBUILT FACTORY INJECTORS. INSTALL NEW WATER PUMP AND THERMOSTAT. INSTALL EXHAUST MANIFOLD WITH NEW GASKETS AND HARDWARE. INSTALL NEW OIL COOLER. REPLACE AIR COMPRESSOR. REINSTALL ACCESSORIES AND COMPONENTS BACK ON ENGINE. REPLACE ALL SEALS AND GASKETS. PERFORM TUNE UP AND SET ALL INTAKE ALL EXHAUST VALVES TO SPECS. INSTALL NEW CRANK CASE FILTER. REINSTALL ENGINE BACK IN TRUCK. COUPLE TRANS TO ENGINE INSTALL FLEX PLATE BLOTS AND TORK. CHECK ENGINE THRUST CLEARANCE. CLEAN RADIATOR AND CHARGE AIR COOLER. REINSTALLED RADIATOR ASSEMBLY. REPLACE ALL HOSES, BELTS, AND FILTERS. REINSTALL ALL INTAKE PIPING AND ACCESSORIES. FILL ENGINE WILL NEW COOLANT AND OIL. PRESSURE TEST COOLING SYSTEM FOR LEAKS. REMOVE DPF. CLEAN AND BAKE. REINSTALL DPF BACK ON TRUCK. HOOK UP LAPTOP CALIBRATE NEW INJECTOR TRIM FILES. CLEAR ALL CODES. START AND TEST RUN. CHECK ALL OPERATIONS. ROAD TEST. RE CHECK COMPLETE INSTALLATION AND PERFORM INSPECTION OF ALL HOSES AND CLAMPS. RETURN TRUCK TO SERVICE. | | | |
| LABOR-1 | HOURLY CHARGE TO PERFORM COMPLETE R&R & MAJOR OVERHAUL ON ENGINE | 1 | 17,280.00 | 17,280.00 |
| Shop Supplies | Shop Supplies | | 7.00% | 1,209.60T |
| 3950661 | STD ROD BEARING | 6 | 13.53 | 81.18T |
| 3966244 | BEARING, CONN ROD(STD) | 6 | 21.92 | 131.52T |
| 3945917 | SET, MAIN BRNG (STD) | 1 | 225.98 | 225.98T |



WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov

Subtotal

Signature _____

Sales Tax (7.25%)

Total

19487 Broken Ct * Shafter, CA 93263 * 661.589.2870 * ccp@gensets.com * www.gensets.com



19487 Broken Ct.
Shafter, CA 93263

REPAIR ORDER

| Date | S.O. No. |
|----------|----------|
| 1/4/2021 | 100210 |

| |
|--|
| Name / Address |
| City of Wasco 764 E.St Wasco, Ca 93280 Attn: Acct Payable |

| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # |
|-----------|--|------------|-------------|-------------|------------|
| | | Net 30 | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # |
| 18 | 5VCDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | |
| Item | Description | Ordered | Rate | Amount | |
| 5404408 | LINER, CYLINDER | 6 | 187.56 | 1,125.36T | |
| 4955530 | KIT, PISTON ASSYM | 6 | 375.65 | 2,253.90T | |
| 5301094RX | COMPRESSOR, AIR 1 CYL | 1 | 1,389.65 | 1,389.65T | |
| 5284362 | COOLER, OIL | 1 | 234.83 | 234.83T | |
| 4352253 | COOLER, EGR ISC/ISL | 1 | 1,389.68 | 1,389.68T | |
| 4352363 | KIT, EGR COOLER UPFIT TUBE | 1 | 644.01 | 644.01T | |
| 5304041 | TUBE, VENT (FOR UPFIT EGR COOLER) | 1 | 53.90 | 53.90T | |
| 5319449 | TUBE, EXH CLR WATER INLET (FOR UPFIT EGR COOLER) | 1 | 158.66 | 158.66T | |
| 3818824 | NUT | 4 | 3.55 | 14.20T | |
| 5286984 | STUD, TURBO | 4 | 9.38 | 37.52T | |
| 3944679 | ROD BOLT | 12 | 13.99 | 167.88T | |
| 3944593 | EXHAUST MANIFOLD BOLT | 12 | 4.25 | 51.00T | |
| 3960043 | BOLT, HEAD | 26 | 9.86 | 256.36T | |
| 5579403PX | ISX FUEL INJECTOR | 6 | 858.06 | 5,148.36T | |
| 3397506 | BOLT, FUEL INJECTOR HOLD DOWN | 12 | 7.74 | 92.88T | |
| 4089889 | ISL LOWER SET | 1 | 448.60 | 448.60T | |
| 5473339 | KIT, UPPER HEAD GASKET | 1 | 312.22 | 312.22T | |
| 5449240 | OIL PUMP | 1 | 343.35 | 343.35T | |
| 4936026 | THERMOSTAT | 1 | 41.47 | 41.47T | |
| 5579022 | WATER PUMP | 1 | 210.45 | 210.45T | |
| 5347975RX | REBUILT EXCHANGE CYLINDER HEAD ASSEMBLY | 1 | 4,496.25 | 4,496.25T | |
| P559000 | FILTER, OIL(DONALDSON) | 1 | 46.53 | 46.53T | |
| BOIL | OIL, 15W40 URSA BULK | 10 | 17.33 | 173.30T | |
| P551103 | FF/WS FILTER(DONALDSON) | 1 | 35.41 | 35.41T | |
| P550879 | FUEL FILTER(DONALDSON) | 1 | 23.36 | 23.36T | |
| BELC | FLUID, ANTIFREEZE 50/50 RED(BULK/GALLON) | 12 | 19.20 | 230.40T | |
| 5405325 | NOZZLE, PISTON COOLING | 6 | 23.38 | 140.28T | |
| 5500-250 | HOSE, SILICONE 2 1/2 (INCH)(GATES) | 6 | 1.61 | 9.66T | |



WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov

Subtotal

Signature _____

Sales Tax (7.25%)

Total

19487 Broken Ct * Shafter, CA 93263 * 661.589.2870 * ccp@gensets.com * www.gensets.com



19487 Broken Ct.
Shafter, CA 93263

REPAIR ORDER

| Date | S.O. No. |
|----------|----------|
| 1/4/2021 | 100210 |

| |
|--|
| Name / Address |
| City of Wasco 764 E.St Wasco, Ca 93280 Attn: Acct Payable |

| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # |
|--------------|--|------------|-------------|-------------|------------|
| | | Net 30 | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # |
| 18 | 5V CDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | |
| Item | Description | Ordered | Rate | Amount | |
| 5500-300 | HOSE, SILICONE 3 (INCH)(GATES) | 6 | 2.07 | 12.42T | |
| CT300 | CLAMP, CONSTANT TORQUE | 4 | 10.43 | 41.72T | |
| 7715-0002 | HOSE, 4" CHARGE AIR COOLER | 1 | 31.53 | 31.53T | |
| B9226-0406 | CLAMP, CAC 4-1/16 - 4-3/8 | 2 | 8.54 | 17.08T | |
| 7732-0001 | HOSE, 3.5" CHARGE AIR COOLER | 3 | 31.85 | 95.55T | |
| CT362 | CONSTANT TORQUE CLAMP | 6 | 6.34 | 38.04T | |
| 3286550 | HOSE, TURBO DRAIN HOSE | 1 | 19.53 | 19.53T | |
| 4995093 | SEAL, CRANKCASE BREATHER | 1 | 25.80 | 25.80T | |
| 4041107 | CLAMP, HOT SIDE TURBO | 1 | 61.03 | 61.03T | |
| 5526-062 | HOSE, SILICONE ROLL 5/8" (PER FT)(GATES) | 12 | 3.50 | 42.00T | |
| SHC9412 | CLAMP, SILICONE HOSE | 4 | 3.35 | 13.40T | |
| 4970037 | HOSE, AIR COMPRESSOR INLET | 1 | 18.32 | 18.32T | |
| DPF CLEANING | DPF BAKE AND CLEAN | 1 | 450.00 | 450.00 | |
| 2871452 | GASKET, DPF GASKET | 2 | 44.31 | 88.62T | |
| HAZW | HAZ WASTE | 1 | 9.50 | 9.50 | |

| | | |
|--|--------------------------|-------------|
| <p>WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov/</p> | Subtotal | \$39,422.29 |
| | Sales Tax (7.25%) | \$1,572.00 |
| | Total | \$40,994.29 |

Signature _____

19487 Broken Ct * Shafter, CA 93263 * 661.589.2870 * ccp@gensets.com * www.gensets.com



19487 Broken Ct
Shafter, CA 93263

ESTIMATE

| Date | Estimate # |
|-----------|------------|
| 1/11/2021 | 6370 |

| |
|--|
| Name / Address |
| City of Wasco 764 E.St Wasco, Ca 93280 Attn: Acct Payable |

| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # |
|---------|--------------------|------------|-------------|-------------|------------|
| | 18 | Net 30 | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # |
| 18 | 5V CDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | |

| Item | Description | Qty | Cost | Total |
|------|--|-----|------|-------|
| | <p>WHEN TECHNICIAN WAS REMOVING ENGINE FOUND DRIVE SIDE SPRING HANGER HANGING ON BY ONE BOLT, ALL OTHER BOLTS SHEARED OFF AND MISSING. FRONT SUSPENSION IS COMPLETELY NOT SAFE AND NOT DOT LEGAL.</p> <p>UNIT HAS BAD FRONT LEAF SPRING BUSHINGS, BUSHINGS ARE SHIFTED. TEAR DOWN COMPLETE FRONT END OF TRUCK. FOUND BAD HANGERS, SHACKLES AND SPRING BUSHINGS. PRESS NEW BUSHINGS IN LEAF SPRINGS. REPLACE PINS AND SHACKLES. REPLACE BAD HANGER WITH NEW BUSHINGS AND COMPONENTS. REINSTALL LEAF SPRINGS. INSTALL NEW FABRICATED U-BOLTS. TORQUE U-BOLTS AND ALL SUSPENSION COMPONENTS TO SPECS. REINSTALL ALL FRONT SUSPENSION ACCESSORIES.</p> <p>KING PINS HAVE EXCESSIVE PLAY, FRONT END LOOSE. TEAR DOWN FRONT END COMPLETE AND REPLACE KING PINS. REMOVE WHEELS, BRAKES, DRUMS AND HUBS. REMOVE BAD KING PINS. INSTALL NEW BUSHINGS, RINGED TO PROPER SPECS AND CLEARANCE TO FIT NEW KING PINS. INSTALL NEW KING PINS WITH NEW UPPER AND LOWER SEALS AND CAPS. REINSTALL HUBS WITH NEW WHEEL SEALS. REINSTALL ALL ACCESSORIES, BRAKES AND DRUMS. ADJUST BRAKES TO SPECS. REINSTALL TIRES.</p> <p>ALSO FOUND ALL TIE RODS, DRAG LINKS AND SHOCKS ARE LOOSE AND WORN. NEED TO REPLACE ALL TIE RODS, DRAG LINK AND FRONT SHOCKS. REASSEMBLE FRONT END COMPLETE AND PERFORM ALIGNMENT.</p> | | | |



WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov

Subtotal

Sales Tax (7.25%)

Total

Signature: _____

19487 Broken Ct * Shafter, CA 93263 * 661.589.2870 * ccp@gensets.com * www.gensets.com



19487 Broken Ct
Shafter, CA 93263

ESTIMATE

| Date | Estimate # |
|-----------|------------|
| 1/11/2021 | 6370 |

| Name / Address |
|---|
| City of Wasco 764 E.St Wasco,Ca 93280 Attn: Acct Payable |

| PO # | Project | Terms | Equip Hours | Equip Miles | REQ # | |
|---------------|--|------------|-------------|-------------|------------|-----------|
| | 18 | Net 30 | | | | |
| Equip # | Vehicle ID # | Equip Type | Engine ID # | License # | Trans ID # | |
| 18 | 5VCDC6JF08H205834 | AUTOCAR | 46752085 | 1243299 | | |
| Item | Description | | | Qty | Cost | Total |
| LABOR-1 | HOURLY CHARGE | | | 32 | 135.00 | 4,320.00 |
| Shop Supplies | Shop Supplies | | | | 7.00% | 302.40T |
| REPAIR | REBUSH AND REARCH LEAF SPRINGS WITH NEW SPRING BUSHINGS, PINS AND SHACKLES | | | 2 | 624.86 | 1,249.72 |
| UBOLTKIT | U-BOLT KIT CUSTOM FABRICATED FOR TRUCK APPLICATION | | | 2 | 168.46 | 336.92T |
| KING PIN FIT | KING PIN SET FRONT END | | | 1 | 298.56 | 298.56T |
| PARTS | TIE RODS, DRAG LINK, SHOCKS, SPRING HANGER ASSEMBLY | | | 1 | 1,298.56 | 1,298.56T |
| | | | | | | |



WARNING: The products purchased and/or used in the service/repair can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. www.P65Warnings.ca.gov

Subtotal

\$7,806.16

Sales Tax (7.25%)

\$162.14

Signature: _____

Total

\$7,968.30

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STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director

DATE: January 19, 2021

SUBJECT: Adopt a Resolution Authorizing the City Manager to Negotiate and Enter into an Agreement with DXP Enterprise, Inc. to Repair Fairbanks Trickling Filter Pump at the Wastewater Treatment Plant in an Amount not of \$15,055.00.

Recommendation:

Staff recommends approval of the resolution approving agreement with DXP enterprise, Inc. to repair Fairbanks Trickling filter pump at the Wastewater Treatment Plant in an amount of \$15,055.00

Discussion:

The Wastewater treatment facility utilizes a trickling filter system for secondary treatment. This process is an aerobic treatment that utilizes microorganisms to remove organic matter from wastewater. The Trickling filter pumps are used to recirculate primary effluent over plastic media for treatment. The Trickling filter pumps operate 24/7 and are key in the treatment process to maintain even water flow and keep distributor arms rotating for efficient treatment. This treatment process reduces Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) levels in wastewater to meet waste discharge requirements issued under Order NO. R5-2002-0198.

Failure to repair a worn-out pump will result in poor inefficient treatment causing the facility to exceed effluent discharge limits and violate permit requirements. The City has previously utilized DXP enterprise, Inc. to rebuild various pumps at the Wastewater Treatment Plant. Staff is satisfied with their service and confident that they will perform a quality repair of the trickling filter pump. Because this is a repair of a sewer pump, it is exempt from the public bidding statutes. Staff is bringing this before the City Council because the amount to repair exceeds \$10,000.

Staff recommends the City Council adopt a resolution authorizing the City Manager to negotiate and enter into an agreement with DXP enterprise, Inc. to repair the Fairbanks Trickling Filter pump at the Wastewater Treatment Plant.

Fiscal Impact:

The costs of \$15,055.00 to perform trickling filter pump repair will be paid for by the Equipment Repair budget in the Wastewater Enterprise Fund.

Attachments:

1. Cost Estimate from DXP Enterprise, Inc.

RESOLUTION NO. 2021 - _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO AUTHORIZING THE CITY MANAGER TO NEGOTIATE AND ENTER INTO AN AGREEMENT WITH DXP ENTERPRISE, INC.

WHEREAS, the City wishes to contract with DXP Enterprise, Inc. to perform repair of the Tricking filter Fairbanks pump; and

WHEREAS, the services provide are described in the Agreement provided in Exhibit "A"; and

WHEREAS, said Agreement has been made in the form and manner prescribed by the City of Wasco Municipal Code and the California Public Contract Code; and,

WHEREAS, DXP enterprise, Inc. and the City each acknowledge that each party and their respective legal counsel have reviewed the Agreement; and,

WHEREAS, the agreement shall be governed by and construed in accordance with the laws of the state of California; and,

WHEREAS, DXP enterprise, Inc. shall maintain all worker compensation insurance were and, in the amounts, required by law and comprehensive general public liability insurance as outlined in the agreement.

WHEREAS, DXP enterprise, Inc. shall complete the services in the amount of \$15,055.00

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes the City Manager to negotiate and enter into an agreement with DXP Enterprise, Inc. in an amount not to exceed \$15,055.00

SECTION 2: Authorizes the City Manager to endorse the agreement.

-oOo-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-_____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:_____

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Nancy Vera, Human Resource Manager

DATE: January 19, 2021

SUBJECT: Adopt a Resolution Approving the Side Letter to Memorandum of Understanding Between SEIU Local 521 and the City of Wasco Effective December 16, 2020

Recommendation:

Staff recommends the City Council adopt the Side Letter to Memorandum of Understanding Between SEIU Local 521 and the City of Wasco Effective December 16, 2020.

Discussion:

Section 14 of the MOU provides that certain employees may receive a “payout” of their earned and accrued vacation time at the end of the calendar year. On December 10, 2020, SEIU contacted the City and indicated that the City was to no longer collect dues from the vacation “payout” check. Earned/accrued vacation time is considered “wages” under the California Labor Code. Therefore, the City was withholding union dues from the “payout” checks.

On December 14, 2020, SEIU represented to the City a waiver of its right to collect dues from the “Vacation Payout” set forth in Section 14 of the MOU was desired by its members. In an effort to memorialize the request from SEIU Local 521, the attached Side Letter was created. The Side Letter establishes updates to Section 14 identifying that “No deductions of union dues shall be taken from any Vacation Payout made pursuant to the Section.

Fiscal Impact:

No fiscal impact.

Attachments:

1. Resolution
2. Side Letter Between SEIU Local 521 and the City of Wasco

RESOLUTION NO. 2021 - _____

**A RESOLUTION OF THE CITY COUNCIL OF WASCO APPROVING THE SIDE LETTER AGREEMENT
BETWEEN SEIU LOCAL 521 AND CITY OF WASCO.**

WHEREAS, the City of Wasco entered into a Memorandum of Understanding dated July 1, 2017, with SEIU, Local 521; and

WHEREAS, Covering a period of July 1, 2017, through June 30, 2020; and

WHEREAS said agreement of the proposed Memorandum of Understanding had been agreed upon an extension of one year from July 1, 2020, through June 30, 2021; and

WHEREAS, the Side Letter would allow the City to no longer deduct union dues from the "Vacation Payout" check.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: The City Council hereby approves the proposed Side Letter Agreement between SEIU Local 521 and the City of Wasco.

SECTION 2: Authorizes the City Manager to endorse the agreement.

SECTION 3: Authorizes the Mayor and the City Clerk to execute the agreement.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-_____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:_____

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

SIDE LETTER TO MEMORANDUM OF UNDERSTANDING DATED JULY 1, 2017
BETWEEN SEIU LOCAL 521 AND THE CITY OF WASCO EFFECTIVE DECEMBER 16,
2020

The City of Wasco ("City") and Service Employees International Union Local 521 ("SEIU," collectively, "the Parties") are already signatories to a Memorandum of Understanding ("MOU") between them. The Meyers-Miliias-Brown Act ("MMBA"), Government Code §3500, *et seq.*, requires that the City meet and confer in good faith with recognized employee organizations "regarding wages, hours, and other terms and conditions of employment." The City is a covered entity, and SEIU is a recognized employee organization. As such, the Parties acknowledge and agree to the following:

- Section 14 of the MOU provides that certain employees may receive a "payout" of vacation time, by which earned and accrued vacation time is paid to the employee.
- Earned/accrued vacation time is considered "wages" under the California Labor Code.
- SEIU's dues are calculated as a percentage of wages.
- On December 10, 2020, SEIU contacted the City and indicated that it wished to waive its right to collect dues from the "Vacation Payout" set forth in Section 14 of the MOU.
- On December 14, 2020, SEIU represented to the City that its waiver of its right to collect dues from the "Vacation Payout" set forth in Section 14 of the MOU was desired by its members.
- The City accepts SEIU's representation of December 14, 2020, and is agreeable to SEIU's proposal of December 10, 2020.

NOW, THEREFORE, it is agreed by and between the Parties that:

- Section 14 ("Term of Memorandum of Understanding") is amended to add the following sentence as a standalone paragraph at the end of Section 14: "No deduction of union dues shall be taken from any Vacation Payout made pursuant to this Section."
- No other changes were offered by either Party to the other Party, and no other changes are contemplated.
- This Side Letter may be executed in counterparts. An electronic copy shall be as effective as the original for all purposes.

City of Wasco

DocuSigned by:

Daniel Ortiz Hernandez

Daniel Ortiz Hernandez, City Manager

DocuSigned by:

Nancy Vera

Nancy Vera, Human Resources Manager

DocuSigned by:

Approved as to form:

Sean Gibbons

Sean Gibbons, City Human Resources Special Counsel

SEIU Local 521

DocuSigned by:

Pete Rodriguez

Pete Rodriguez
SEIU 521, Union Representative

Ron Melendrez

City Representative for SEIU 521

DocuSigned by:

Evelyn Murillo

Evelyn Murillo

City Representative for SEIU 521

DocuSigned by:

Cesar Montes

Cesar Montes
City Representative for SEIU 521

Executed: 1/14/2021

Executed: 1/12/2021

NOW, THEREFORE, it is agreed by and between the Parties that:

- Section 14 ("Term of Memorandum of Understanding") is amended to add the following sentence as a standalone paragraph at the end of Section 14: "No deduction of union dues shall be taken from any Vacation Payout made pursuant to this Section."
- No other changes were offered by either Party to the other Party, and no other changes are contemplated.
- This Side Letter may be executed in counterparts. An electronic copy shall be as effective as the original for all purposes.

City of Wasco

Daniel Ortiz-Hernandez, City Manager

Nancy Vera, Human Resources Manager


Approved as to form:

Sean Gibbons, City Human Resources Special Counsel

Executed:

SEIU Local 521

Pete Rodriguez
SEIU 521, Union Representative


Ron Melendrez
City Representative for SEIU 521

Evelyn Murillo
City Representative for SEIU 521

Cesar Montes
City Representative for SEIU 521

Executed:



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director

DATE: January 19, 2021

SUBJECT: Introduction and Waive first reading of an ordinance of the City of Wasco Amending Title 8 "Health and Safety" of the City of Wasco Municipal Code, Chapter 8.12, "Solid Waste."

Recommendation:

Staff recommends that the City Council introduce the Ordinance for first reading by title only and discussion of the Ordinance, and continue the Ordinance amendment for discussion and possible Ordinance adoption.

Discussion:

California Assembly Bill No. 341 and 1826 required that local jurisdictions make commercial recycling and commercial organics recycling mandatory. California Senate Bill 1383 requires that local jurisdictions make organics recycling mandatory for all waste generators. The City of Wasco recently completed a Compliance Order associated with AB 341, managing to obtain compliance from most commercial waste generators in the City. AB 1826 makes commercial organics recycling mandatory. As the local authority and to comply with Cal Recycle requirements, the City must adopt an ordinance that provides local authority to enforce Cal Recycle requirements within the City limits.

On November 5, 2019, the Public Works Director provided a summary of the City's previous compliance order with Cal Recycle. Since then, the staff has worked diligently to ensure commercial businesses and multi-family units subject to AB 341 – Mandatory Commercial Recycling requirements are recycling. The staff has also been working diligently on identify the best option to enter into an agreement with a qualified, responsible hauler to collect recyclables and identifying the best approach to meet SB 1383 requirements.

On August 6, 2020, the Public Works Director, Deputy Public Works Director, and Sanitation Superintendent met with Cal Recycle local assistance representatives to discuss upcoming modifications to AB 1826 and upcoming requirements of SB 1383. Per AB 1826, as of January 1, 2017, any business generating 2 cubic yards of waste (including recyclables) or more a week must arrange organics recycling. Cal Recycle and staff identified that the City has not collected data on the existing commercial entities currently required to recycle organics during this call. On September 28, 2020, Cal Recycle issued a Notice of Mandatory Commercial Organics Recycling Program Implementation Gaps. Staff worked with Cal Recycle Local Assistance representatives to put a corrective action plan together. This was completed on November 6, 2020. Cal Recycle is currently reviewing the City's formal response and informing the City if a compliance order will be issued for the AB 1826 program implementation gaps identified.

Based on the 2 cubic yard threshold, 283 commercial users must comply with Organics recycling. The staff has identified how many of the required commercial entities in town are subscribed to organics and how many needed to subscribe by the end of 2020. Commercial users producing 2 cubic yards of waste (including recyclables) must recycle organic waste. Local agencies had until December 31, 2020, to implement the changes. The Sanitation Superintendent issued required notices to businesses on October 16, 2020. Since then, 45 have submitted exemption requests, and 10 have subscribed to mandatory commercial organics recycling. There are 228 remaining outstanding. The current municipal code does not enforce mandatory commercial recycling. Section 8.12.802 (A.2) currently reads:

"Mandatory Solid Waste/Recycling Charges. *Beginning on a date set by resolution of the city council, the City must do both of the following:*

a. Directly (itself) or indirectly (through a franchised hauler or franchised recycler) provide all commercial generators with recycling services prescribed by the City; and

b. Include fees for recycling services in mandatory solid waste charges for commercial generators under Article XIII of this chapter; unless the generator is exempted from this mandatory service requirement under either of the following:

- i. Self-Haul. Article III of this chapter, Self-Haulers, and Shared Subscribers;*
- ii. Exempted Generator. Section 8.12.400(A), Sanctioned Haulers."*

The resolution referenced in the current language of the Ordinance was not adopted by the City. Because of this, the current ordinance language mandating recycling is not effective and cannot be implemented. This clause is proposed to be removed to provide the City with the local authority to make commercial recycling mandatory, giving the City local authority to enforce and issue administrative citations to those who do not comply with the mandated requirements imposed by AB 341, AB 1826, and SB 1383.

The ordinance amendments are specific to correcting language that needs to be immediately corrected to comply with AB 341 and AB 1826. The Public Works Director has been working with legal counsel to review the entire chapter for compliance with Cal Recycle. More modifications will be needed to ensure full compliance with SB 1383. The staff will bring back another amendment to reorganize and modify the entire chapter later this year.

Fiscal Impact:

Fees associated with legal counsel, advertising public hearings, and staff time.

Attachments:

1. Public Hearing Notice
2. Chapter 8.12 Solid Waste Sections Being Modified with Changes
3. Chapter 8.12 Solid Waste Ordinance Amendments – Clean Version
4. Correspondence between Cal Recycle and City Staff RE: AB 1826 Compliance

**LEGAL NOTICE
NOTICE OF PUBLIC HEARING
CITY COUNCIL MEETING DATE OF
JANUARY 19, 2021**

NOTICE IS HEREBY GIVEN to all that a public hearing will be held before the City of Wasco City Council on Tuesday, January 19, 2021 at 6:00 P.M. or soon thereafter in the City Council Chambers located at 746 8th Street, Wasco, California, to consider the following:

1. Municipal Code Amending Title 8:

Project: Public hearing and first reading of an Ordinance of the City Council of the City of Wasco Amending Title 8, "Health and Safety", Chapter 8.12, "Solid Waste" of the City of Wasco Municipal Code.

The Municipal Code text changes and any supporting documents may be reviewed during normal business hours at City Hall located at 746 8th Street, Wasco, CA 93280, for a period of two weeks prior to this public hearing. Any person wishing to testify on the above project may appear before the City Council at their hearing of January 19, 2021 and will be given full opportunity to be heard or may submit written comments on or before January 19, 2021.

If you challenge this proposal, or any aspect of it in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City of Wasco City Clerk, 746 8th Street, Wasco, CA 93280, at, or prior to the public hearing.

If you need special assistance to participate in the meetings described in this notice, please contact the City Clerk's Office at (661) 758-7215 to make reasonable arrangements to ensure accessibility to these meetings. Telephone (661) 758-7215 or via California Relay Service (Hearing Impaired Only). Requests for assistance should be made at least two (2) days in advance whenever possible.

If you have any questions, you may contact the Public Works Department at (661) 758-7271.

Publish on or before January 7, 2021

/s/Maria Martinez, City Clerk

Chapter 8.12 Solid Waste

Modifications to Chapter by Section

8.12.103 Other definitions.

Section 8.12.103, Other Definitions, of Chapter 8.12 is hereby amended to add the following definitions, to be inserted in alphabetical order:

- A. "AB 341" means California Assembly Bill No. 341 approved October 5, 2011, codified in Chapter 12.8 (commencing with Section 42649) of Part 3 of Division 30 of the Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle.
- B. "AB 1826" means California Assembly Bill No. 1826 approved September 28, 2014, codified in Chapter 12.9 (commencing with Section 42649.8) of Part 3 of Division 30 of the California Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle.
- C. "CalRecycle" means the California Department of Resources Recycling and Recovery, or its successor agency.
- D. "Covered Generator" shall mean all commercial premises and multifamily dwellings of five (5) or more units that generate more than two (2) cubic yards of Garbage, Recycling, and Organics per week.
- E. "Commercial Edible Food Generator" includes a Tier One or a Tier Two Commercial Edible Food Generator.
- F. "Edible Food" means food intended for human consumption, or as otherwise defined in 14 CCR Section 18982(a)(18). Nothing in this ordinance requires or authorizes the Recovery of Edible Food that does not meet the food safety requirements of the California Retail Food Code.
- G. "Food Recovery" has the meaning ascribed in 14 CCR 18982(a)(24).

-
- H. "Food Recovery Organization" has the meaning ascribed in 14 CCR 18982(a)(25).
- I. "Food Recovery Service" has the meaning ascribed in 14 CCR 18982(a)(26).
- J. "Organic Materials", "Organics", and "Organic Waste" means solid wastes containing material originated from living organisms and their metabolic waste products including, but not limited to, food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, paper products, printing and writing paper, manure, biosolids, digestate, and sludges.
- K. "Organic Waste Generator" means a person or entity that is responsible for the initial creation of Organic Waste, or as otherwise defined in 14 CCR Section 18982(a)(48).
- L. "SB 1383" means California Senate Bill 1383, approved September 19, 2016, codified in Chapter 13.1 (commencing with Section 42652) of Part 3 of Division 30 of the California Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle, together with Sections 39730.5 through 39730.8 of the California Health and Safety Code, as they may be amended.
- M. "Tier 1 commercial edible food generator" has the meaning ascribed in 14 CCR Section 18982(a)(73), as it now exists or may subsequently be amended.
- N. "Tier 2 commercial edible food generator" has the meaning ascribed in 14 CCR Section 18982(a)(74), as it now exists or may subsequently be amended.

Additional words are defined in the following list or the referenced sections of this chapter.

| WORD or PHRASE | DEFINITION |
|--------------------------|---|
| anyone | whoever, including individuals and entities |
| authorized hauler | any or all of the following: <ul style="list-style-type: none">• "self-hauler,"• "sanctioned hauler,"• "franchised hauler," or• the city |

| WORD or PHRASE | DEFINITION |
|--------------------------|---|
| bin | containers for collection of solid waste with front end loading vehicles, such as 3-yard dumpsters |
| can | container of metal or plastic, usually round, with lid (often contains 32 gallons) |
| cart | wheeled container for storing discarded solid waste that is collected by either semi or fully automated vehicles |
| commercial | adjective that describes either or both of the following: <ul style="list-style-type: none"> • persons (such as customers), or • things (such as containers, premises or types of solid waste) that are not residential or multifamily, such as stores and offices (contrast "residential" and "multifamily") |
| commercial hauler | Section 8.12.400(B) (compare "franchised hauler," "sanctioned hauler," "self-hauler") |
| compactor | stationary machine that reduces the volume of solid waste by crushing, compression or compaction using a ram that pushes and compresses waste into a container or bale |
| container | any or all of the following: <ul style="list-style-type: none"> • can, • cart, • bin or dumpster, • roll-off, • compactor, or • other receptacle used to store solid waste pending collection |
| day | weekday when City Hall is open to do business with the public (unless "calendar day" is explicitly referenced) |
| discard | Section 8.12.200(A)(3) |
| dispose | Section 8.12.700(A) |
| dumpster | see "bin" |
| everyone | all, including individuals and entities |
| franchised hauler | Section 8.12.406 (compare "commercial hauler," "self-hauler" and "sanctioned hauler") |

| WORD or PHRASE | DEFINITION |
|------------------------------|---|
| franchised recycler | Section 8.12.800 |
| generator | Section 8.12.200(A)(3) Reference to a generator includes "he," "she" and "it" (such as for reference to a business entity). |
| including | "including" is not exclusive, and has the same meaning as "including, without limitation" and "for example" |
| mandatory service | solid waste handling service under Section 8.12.208 |
| multifamily | adjective that describes either or both of the following: <ul style="list-style-type: none"> • persons (such as customers), or • things (such as containers, premises or types of solid waste) that are related to dwelling units that are not residential, such as apartments, condominiums and town houses unless a customer at those premises requests collection in carts (for example, because of limited space for bins) and the city approves the request (contrast "commercial" and "residential") |
| nuisance | Section 8.12.201(C) |
| premises | Either or both of the following: <ul style="list-style-type: none"> • land, and • any building or other structure on the land, whether vacant or occupied, undeveloped or improved. Reference to his, her, or their "premises" includes reference to anyone who is either or both: <ul style="list-style-type: none"> • responsible for the premises, or • owns, possesses, occupies, or controls the premises, such as homeowner, apartment manager, and business tenant |
| promptly | as soon as possible; no more than one day |
| public works director | the public works director of the city or his designee |
| reasonable | "sensible" in the public works director's judgment, considering: <ul style="list-style-type: none"> • who acts, • what happened, |

| WORD or PHRASE | DEFINITION |
|---------------------------------------|---|
| | <ul style="list-style-type: none"> • where it took place, and • when it occurred |
| residential | <p>adjective that describes:</p> <ul style="list-style-type: none"> • persons (such as customers), or • things (such as containers, premises or types of solid waste) <p>related to the following dwelling units:</p> <ol style="list-style-type: none"> 1. single-family homes (including those in a subdivision), and 2. trailers <p>(Contrast "commercial" and "multifamily.")</p> |
| roll-off container | open-topped rectangular containers for storage, collection and transport of solid waste that are rolled on and off flatbed collection vehicles via winches or reeving cylinders (hooks) |
| sanctioned hauler | Section 8.12.400(A) (compare "commercial hauler," "franchised hauler," "self-hauler") |
| self-hauler | Section 8.12.300 (compare "sanctioned hauler" and "franchised hauler") |
| solid waste collection vehicle | Section 8.12.402(A) |
| solid waste handling | <p>any or all of the following: solid waste</p> <ul style="list-style-type: none"> • collection, • transportation, • storage, • transfer, • processing, and • disposal |
| solid waste handling facility | Section 8.12.900 |
| solid waste handling law | Section 8.12.1001 |

8.12.802 Commercial recycling.

Subsection A of Section 8.12.802 of Chapter 8.12 is hereby revised to read as follows:

A. **Mandatory Commercial Recycling.** All businesses, including multifamily residential dwellings of five or more units, that are required to recycle under AB 341, shall recycle and divert from the landfill recyclable materials generated by the business in accordance with this section.

1. Businesses subject to this section shall arrange for recycling services, consistent with state and local laws, rules, regulations and requirements, to the extent that these services are offered and reasonably available from a local service provider. A business subject to this section shall take at least one of the following actions:

- a. Source separate recyclable materials from other Solid Waste and subscribe to a basic level of recycling service that includes collection, self-hauling, or other arrangements for the collection of the recyclable materials with the City's authorized hauler.
- b. Source separate recyclable materials from other solid waste and self-haul the recyclables to a recycling or material recovery facility for processing; or
- c. Source separate recyclable materials from other solid waste and arrange for pickup of the recyclable materials for donation or sale. No fees of any sort may be paid for the recyclable materials, including for collection, hauling, or processing. Reasonable documentation of donation or sale activities, including donation or sale frequency, a description of recyclable materials being donated or sold, and tonnage records of recyclable materials being donated or sold must be submitted to the Director upon request.

2. To comply with paragraph B, property owners or managers of multifamily dwellings may require tenants to source separate their recyclables from other solid waste. Tenants must source separate their recyclable materials as required by property of the owners or managers of multifamily dwellings subject to this section.

3. A business meeting the conditions of paragraph A of this Section may request an exemption from the requirements of paragraph B by submitting an application on a form prescribed by the Public Works Director or designee. After reviewing the exemption request, the Director shall either approve or disapprove the request. To be eligible for an exemption from the requirements of paragraph B, the business must demonstrate that:

- a. There are no recyclable materials being generated by any activities of the business;
- b. There is inadequate storage space for the storage of recyclable materials; or
- c. There is no viable market for the recyclable materials or recycling facility available."

~~A. *Businesses-Mandatory Recycling.*~~

~~1. *State-Mandated Recycling.* Everyone who must recycle under Chapter 476, Statutes of 2011 [Chesbro, AB 341]/Public Resources Code Section 42649 et seq. (mandatory-commercial recycling), whether by:~~

- ~~a. Subscription (either collection of source-separated recyclables discarded in separate containers, or processing of solid waste at a materials recovery facility); or~~
- ~~b. Self-haul under Article III of this chapter;~~

~~must do both of the following:~~

- ~~i. Keep records required by the city (or the sanctioned hauler); and~~
- ~~ii. Give the city (or its sanctioned hauler) requested information no later than the date directed by the city.~~

~~2. *Mandatory Solid Waste/Recycling Charges.* Beginning on a date set by resolution of the city council, the city must do both of the following:~~

~~a. Directly (itself) or indirectly (through a franchised hauler or franchised recycler) provide all commercial generators with recycling services prescribed by the city; and~~

~~b. Include fees for recycling services in mandatory solid waste charges for commercial generators under Article XIII of this chapter;~~

~~unless the generator is exempted from this mandatory service requirement under either of the following:~~

~~i. Self Haul. Article III of this chapter, Self Haulers and Shared Subscribers;~~

~~ii. Exempted Generator. Section 8.12.400(A), Sanctioned Haulers.~~

B. *Franchised Recycler*. This subsection applies to franchised recyclers.

1. *Recycling Service*. Every franchised recycler must provide one of the following recyclables services to businesses:

- a. Collection of source separated recyclables discarded in separate containers;
- b. Processing of solid waste at a materials recovery facility; or
- c. Recycling service specified in agreements between recycler and the city.

2. *Recycling Education and Business Outreach Plan*. Every franchised recycler must submit a plan for business recycling education and outreach to the city for approval, including any requirements in recycling service agreements between recycler and the city. It must implement that plan.

3. *Monitoring*. Every franchised recycler must submit a protocol to the city for approval, including all of the following:

- a. Monitoring businesses' compliance with the mandatory recycling law;
- b. Notifying businesses that are out of compliance; and
- c. Including any requirements in recycling service agreements between hauler and the city.

4. *Record Keeping and Reporting.* Every franchised recycler must collect and record the following information and report it to the city on or before July 1st each year or within one month of city request:

a. *Business Compliance.* The extent to which businesses have complied with Public Resources Code Section [42649.2](#), including the following information:

i. The number of businesses that are subscribing to solid waste service (including recycling); and

ii. The amount of disposal that is being diverted from the businesses;

b. *MRF Recovery Rates.* The recovery rate of the commercial waste from any and all material recovery facilities that are utilized by the businesses, including all of the following:

i. Information;

ii. Methods, calculations; and

iii. Any additional performance data requested by CalRecycle from the material recovery facilities pursuant to 14 CCR 18809.4;

c. A description of their conducting education and outreach to businesses;

d. A description of how they are monitoring businesses and notifying businesses that are out of compliance; and

e. The availability of markets for collected recyclables. (Ord. 633 (Att. A (part)), 2013).

8.12.804 C&D recycling.

Subsection A of Section 8.12.804 of Chapter 8.12 is hereby revised to read as follows:

A. *Construction on All New Buildings--CALGreen Diversion Requirements.* Everyone developing newly constructed buildings, including residential and nonresidential uses, must do all of the following:

1. Either or both recycle, reuse on site, or salvage for future use or sale the greater of the following:

- a. A minimum of ~~sixty five~~ ~~fifty~~ percent ~~or diversion required under CALGreen, whichever is more stringent~~, of the nonhazardous C&D debris (excluding excavated soil and land-clearing debris, and with respect to nonresidential buildings, demolition waste necessary for constructing the new structure); or
- b. The minimum amount required in this section and implementing resolutions;

2. Reuse one hundred percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing, unless contaminated by disease or infested with pests;

3. Comply with ~~the requirements of this Section and all required components of the California Green Building Standards Code, 24 CCR, Part 11, known as CALGreen Sections 4.408, 5.408, and 5.713.8, Construction Waste Reduction, Disposal and Recycling;~~ and

4. Submit a waste diversion plan under, and comply with, subsection C of this section.

| |
|---|
| "Newly constructed" excludes additions, alterations or repairs to a building. |
| "Residence" means any of the following: <ul style="list-style-type: none">• A building of Occupancy Group R (under CALGreen) that is three stories or less;• One- or two-family dwelling or townhouse; or• Other building defined in CALGreen Section 202. |
| "Nonresidential buildings" means all buildings that are not low-rise residences. |

B. *Additions and Alterations to Existing Nonresidential Buildings--CALGreen Requirements.* Everyone making additions or alterations to nonresidential buildings must comply with subsection A of this section.

C. *Additions, Alterations, Repair and Demolition of Existing Buildings--The City's Covered Projects.*

1. *Process.*

- a. *Submission of Waste Management Plan.* Prior to beginning demolition or making additions or alterations to a covered project everyone must submit both of the following to the city:

-
- i. A waste management plan; and
 - ii. Any diversion deposit.

Examples of existing construction include renovation, repair or expansion of existing buildings or other improvement (such as retaining walls and parking lots). The director may require the project to use specific forms such as those in "A Guide to the California Green Building Standards Code (Low-Rise Residential)" located at www.hcd.ca.gov/CALGreen.html.

The project must deliver project waste only to waste management facilities (including mixed C&D debris processors) that provide verifiable documentation of the percentage of diverted C&D debris. The public works director may approve any or all diversion facilities.

b. *Minimum Diversion.* The waste management plan must estimate diversion of at least a minimum percentage of solid waste (including C&D debris but excluding clean inerts) generated by the project, as set by resolution of the city council.

c. *Approval of Waste Management Plan.* Before issuing a construction or demolition permit the city must approve the waste management plan, except in case of emergency demolition.

d. *Construction and Demolition.* The project must recycle and reuse at least the minimum percentage of solid waste. It must separate types of salvageable materials on site to maximum extent feasible, including:

- i. Appliances, fixtures, plumbing;
- ii. Metals;
- iii. Dimensional lumber;
- iv. Wallboard, concrete; and
- v. Corrugated cardboard.

e. *Records.* The project will keep separate records of the waste generated, diverted, and disposed from construction and demolition, respectively, as follows:

-
- i. By weight, or if weight is not measured (for example due to small size of materials), using the most accurate method of measurement available;
 - ii. Complying with law respecting accuracy and maintenance of records; and
 - iii. Measured in units required by the public works director (such as tons that are weighed or volume converted to tons using standardized conversion rates established by the public works director).
 - f. *City Monitoring.* The city may monitor construction and demolition on site to corroborate diversion of solid waste.
 - g. *Report.*
 - i. A construction or demolition project must submit documentation showing that it complied with its waste management plan before the city can inspect the project, issue any certificate of occupancy or give final project approval.
 - ii. A construction and demolition project must submit documentation before the city can issue a construction permit.

Documentation must include actual tonnage data, such as receipts and weight tags (either original or certified by the entity accepting delivery) issued by recycling companies, deconstruction contractors, and disposal facilities.

h. *Evaluation of Report.* The city will evaluate the documentation and determine whether or not the project complied with its waste management plan and diverted the requisite percentage of solid waste. It will base its determination on receipts and weight tags or other documentation it finds acceptable.

i. *Approval of Report--Issuance of Permit--Return of Deposit.* If the city approves the report, it will return all or part of the project's deposit, proportionate to the documented diversion. (For example, if the waste management plan projected diversion of one ton, but the project documented diversion of only one-half ton, the city will return half of the project's deposit.) Compliance with this chapter is a condition of approval on any existing construction or demolition permit issued for a covered project.

The city encourages construction and demolition projects that are not covered projects to divert the maximum feasible amount of solid waste from diversion.

"Covered project" means existing construction and demolition projects (including city or county projects) that meet the applicable threshold(s) set in a resolution adopted by the city council in form then in effect, based on any or all of the following:

- The project's projected total costs;
- The project's square feet; and
- Types of projects (such as multifamily residences, or city/county projects).

"Covered project" does not include projects exempted under subsection [\(C\)\(2\)](#) of this section.

"Waste management plan" means a form prescribed by the city including all of the following:

- Estimated amount: the estimated volume or weight of project waste by material type:
 - Generated;
 - Feasibly diverted; and
 - Disposed;
- Sorting: whether or not materials will be sorted on site (source separated) or bulk mixed (single stream);
- Hauler: the vendor(s) that the project proposes to use to haul the project waste;
- Diversion facilities: facility(s) where C&D debris will be delivered, and the expected diversion rates (by volume or weight) of each material type;
- Construction methods that will be used to reduce generation of C&D debris; and
- Any other information required by public works director.

"Diversion deposit" means deposit in form and amount set in a resolution of the city council, as may be amended. Examples include the following:

- Cash;
- Letter of credit;
- Performance bond;
- Surety bond; and
- Money order.

Examples of amount might be fixed or charged in proportion to the project's square footage or projected costs.

2. *Exemptions.*

- a. *Categorical Exemptions.* This section does not apply to any or all of the following:

-
- i. Projects which do not meet the minimum threshold set by the city council;
 - ii. Work for which a building or demolition permit is not required;
 - iii. Roofing projects that do not include tear-off of existing roof;
 - iv. Projects for which only a plumbing, electrical, or mechanical permit is required;
 - v. Seismic tie-down projects;
 - vi. Projects where no structural building modifications are required;
 - vii. Emergency demolition required to protect the public health and safety.

The city encourages, but does not require, exempt projects to divert the maximum feasible amount of solid waste.

b. *Requested Whole or Partial Exemptions.*

- i. *Request for Exemption.* If a covered project believes that it is not possible to meet the minimum diversion requirement, it may request an exemption in its waste management plan. It must include information supporting its request.
- ii. *Review of Request.* The city will review the waste management plan, including the request for exemption and supporting information. The covered project will meet with the city upon city request to discuss possible ways of meeting the minimum diversion requirement and maximizing possible diversion.
- iii. *Granting an Exemption.* If the city determines that the covered project cannot feasibly meet the minimum diversion requirement, it will determine the maximum feasible diversion and report it to the covered project.
- iv. *Resubmission of Amended Waste Management Plan.* The covered project must resubmit its waste management plan, including the reduced diversion requirement, within fifteen days. The city will disapprove the waste management plan if it does not comply with subsection A of this section and this subsection. (Ord. 633 (Att. A (part)), 2013).

Sections 8.12.806 and 8.12.807 are hereby added to Chapter 8.12, as follows:

8.12.806 AB 1826 Regulatory Compliance

Businesses subject to the requirements of AB 1826 shall fully comply with all applicable AB 1826 regulatory requirements or be subject to the penalties as prescribed in Chapters 1.08 and 1.20 of the Wasco Municipal Code, and Article XI (Enforcement) of this Chapter.

Those requirements include, but are not necessarily limited to the following:

A. Commercial recycling and organics collection required.

1. Each Covered Generator shall subscribe to a level of service with the franchised hauler that is sufficient to handle the volume of organic materials generated or accumulated on the premises, or complete and retain on-site a self-hauling form certifying that all self-hauling activities will be completed in accordance with Section X or any other applicable law or regulation. The commercial generator shall make a copy of such form available upon request.

2. Additionally, each Covered Generator shall ensure the proper separation of solid waste, as established by the franchised hauler, by placing each type of material in designated receptacles or containers, and ensure that employees, contractors, volunteers, customers, visitors, and other persons on-site conduct proper separation of solid waste.

B. Exemptions to mandatory commercial Organics.

1. The following shall be exempt from the requirements of this section prior to January 1, 2022 at which time the exemptions specified in Section 8.12.807 (SB 1383 Regulatory Compliance) shall apply.

a. Covered Generators that can provide documentation to the satisfaction of the City that less than half (0.5) a cubic yard of Organic Materials per week are generated by that commercial generator, its employees, customers, tenants, businesses practices, and other persons or processes which occur on the premises of the Covered Generator.

b. Covered Generators that can provide documentation to the satisfaction of the City that there is inadequate space for the Covered Generator to store sufficient containers for recyclable materials and organic materials on site and that it is infeasible for the Covered Generator to share recyclable materials or organic materials containers with adjacent commercial facilities or multifamily dwellings.

c. Covered Generators seeking an exemption shall submit their request for exemption in a form specified by the Public Works Director or his or her designee. After reviewing the exemption request, and after an on-site review, if applicable, the Public Works Director or his or her

designee, may either approve or deny the exemption request.

8.12.807 SB 1383 Regulatory Compliance

Organic waste generators, franchised waste haulers, and all other entities subject to the requirements of SB 1383 shall fully comply with all applicable SB 1383 regulatory requirements or be subject to the penalties as prescribed in Chapters 1.08 and 1.20 of the Wasco Municipal Code, and Article XI (Enforcement) of this Chapter.

A. Organic Waste Generators.

SB 1383 requirements that apply to Organic Waste Generators include, but are not necessarily limited to the following:

1. All Single Family Organic Waste Generators, except Single-Family generators that meet the Self-Hauler requirements of this Chapter 8.12, shall be automatically enrolled in the City's three-container Organic Waste collection services.
2. All commercial premises and all multifamily dwellings with five or more units must make arrangements for the diversion of recyclables, either through a collection service with a solid waste collector, or by self-hauling to a permitted facility for diversion and reuse.
3. Each commercial premise and multifamily property owner shall be responsible for ensuring and demonstrating its compliance with the following requirements:
 - a. Source separate designated recyclable materials and designated organic waste from solid waste.
 - b. Provide a basic level of recycling and organics recycling services that includes, at a minimum, the collection of designated recyclable materials and/or designated organic waste.
 - c. As applicable, complete and retain on site a self-haul form certifying that all self-hauling activities will be completed in accordance with the provisions of this chapter or any other applicable law or regulation. A copy of such form shall be made available to the Public Works Director or his or her designee upon request.
 - d. Provide recyclable materials containers for designated recyclable materials in multifamily residential rental units and in maintenance and work areas where recyclable materials may be collected and/or stored.
 - e. Prominently post and maintain one or more signs where designated

recyclable materials and/or designated organic waste are collected and/or stored that set forth what materials are required to be source separated in addition to collection procedures for such materials.

f. Notify and instruct employees and tenants of applicable source separation requirements, including a list of designated recyclable materials and/or designated organic waste that are required to be source separated for recycling. A copy of such instructions shall be provided to the Public Works Director or his or her designee upon request.

g. Each covered generator shall ensure that designated recyclable materials and/or designated organic waste generated at their site will be taken only to a recycling facility and not to a landfill for disposal by complying with all requirements under this chapter.

h. The self-haul form or other documents pertaining to this Chapter, shall be available for inspection by the Public Works Director or his or her designee, at the principal location of the covered generator during normal business hours.

i. No waste hauler shall be held liable for the failure of its customers to comply with such regulations.

j. No covered generator shall be liable for the failure of their waste hauler to deliver designated recyclable materials or designated organic waste to a recycling or processing facility.

k. It shall be the responsibility of the business or multifamily property owner whose garbage was not removed because it contained designated recyclable materials to properly separate designated recyclable materials from the uncollected garbage for proper recycling. Allowing such unseparated garbage to accumulate will be considered a violation of this chapter.

B. Waivers for Generators

1. The Public Works Director, or his or her designee, may grant waivers of a Commercial Business' obligation (including multifamily residential dwellings) to comply with some or all of the Organic Waste requirements of this Chapter to the extent permitted by 14 CCR 18984.11.

2. Waivers shall apply for up to, but no longer than five (5) years, as determined by the Public Works Director or his or her designee.

C. Self-Hauler Requirements

1. Self-Haulers shall comply with the requirements of Section 8.12.300 of

this Chapter.

2. Self-Haulers shall source separate all recyclable materials and Organic Waste generated on-site from Solid Waste in a manner consistent with 14 CCR Sections 18984.1 and 18984.2, or shall haul Organic Waste to a High Diversion Organic Waste Processing Facility as specified in 14 CCR Section 18984.3.

3. Self-Haulers shall haul their Source Separated Recyclable Materials to a facility that recovers those materials; and haul their Source Separated Green Container Organic Waste to a Solid Waste facility, operation, activity, or property that processes or recovers Source Separated Organic Waste. Alternatively, Self-Haulers may haul Organic Waste to a High Diversion Organic Waste Processing Facility.

4. Self-Haulers that are Commercial Businesses (including multifamily residential dwellings) shall keep a record of the amount of Organic Waste delivered to each Solid Waste facility, operation, activity, or property that processes or recovers Organic Waste; this record shall be subject to Inspection by the City. The records shall include the following information:

a. Delivery receipts and weight tickets from the entity accepting the waste.

b. The amount of material in cubic yards or tons transported by the generator to each entity.

c. If the material is transported to an entity that does not have scales on-site, or employs scales incapable of weighing the Self-Hauler's vehicle in a manner that allows it to determine the weight of materials received, the Self-Hauler is not required to record the weight of material but shall keep a record of the entities that received the Organic Waste."

D. Other entities

SB 1383 requirements that apply to other entities include, but are not necessarily limited to the following:

1. Edible Food Recovery Required

a. Tier one commercial edible food generators shall comply with the requirements of 14 CCR 18991.3 commencing January 1, 2022. Tier two commercial edible food generators shall comply with the requirements of 14 CCR 18991.3 commencing January 1, 2024.

b. A large venue or large event operator that does not provide food services, but allows for food to be provided, shall require food facilities

operating at the large venue or large event to comply with the requirements of 14 CCR 18991.3.

c. Commercial Edible Food Generators shall comply with the following requirements:

- (i) Arrange to recover the maximum amount of Edible Food that would otherwise be disposed.
- (ii) Contract with, or enter into a written agreement with Food Recovery Organizations or Food Recovery Services for: (i) the collection of Edible Food for Food Recovery; or, (ii) acceptance of the Edible Food that the Commercial Edible Food Generator self-hauls to the Food Recovery Organization for Food Recovery.
- (iii) Shall not intentionally spoil Edible Food that is capable of being recovered by a Food Recovery Organization or a Food Recovery Service.
- (iv) Commercial Edible Food Generators and Food Recovery Organizations shall maintain a record acceptable to the Public Works Director and in compliance with applicable law.
- (v) Keep records that include the following information, or as otherwise specified in 14 CCR Section 18991.4.

ORDINANCE NO. 2021-
AN ORDINANCE OF THE CITY OF WASCO AMENDING TITLE VIII, CHAPTER 8.12 (SOLID WASTE) OF THE WASCO MUNICIPAL CODE TO MODIFY REQUIREMENTS REGARDING ORGANIC WASTE COLLECTION AND RECYCLING

THE CITY COUNCIL OF THE CITY OF WASCO DOES ORDAIN AS FOLLOWS:

Section 1. Section 8.12.103, Other Definitions, of Chapter 8.12 is hereby amended to add the following definitions, to be inserted in alphabetical order:

- A. **"AB 341"** means California Assembly Bill No. 341 approved October 5, 2011, codified in Chapter 12.8 (commencing with Section 42649) of Part 3 of Division 30 of the Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle.
- B. **"AB 1826"** means California Assembly Bill No. 1826 approved September 28, 2014, codified in Chapter 12.9 (commencing with Section 42649.8) of Part 3 of Division 30 of the California Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle.
- C. **"CalRecycle"** means the California Department of Resources Recycling and Recovery, or its successor agency.
- D. **"Covered Generator"** shall mean all commercial premises and multifamily dwellings of five (5) or more units that generate more than two (2) cubic yards of Garbage, Recycling, and Organics per week.
- E. **"Commercial Edible Food Generator"** includes a Tier One or a Tier Two Commercial Edible Food Generator.
- F. **"Edible Food"** means food intended for human consumption, or as otherwise defined in 14 CCR Section 18982(a)(18). Nothing in this ordinance requires or authorizes the Recovery of Edible Food that does not meet the food safety requirements of the California Retail Food Code.
- G. **"Food Recovery"** has the meaning ascribed in 14 CCR 18982(a)(24).
- H. **"Food Recovery Organization"** has the meaning ascribed in 14 CCR 18982(a)(25).
- I. **"Food Recovery Service"** has the meaning ascribed in 14 CCR 18982(a)(26).
- J. **"Organic Materials," "Organics," and "Organic Waste"** means solid wastes containing material originated from living organisms and their metabolic waste products including, but not limited to, food, green material, landscape, and pruning waste, organic textiles, and carpets, lumber, wood, paper products, printing and writing paper, manure, biosolids, digestate, and sludges.

- K. **"Organic Waste Generator"** means a person or entity that is responsible for the initial creation of Organic Waste, or as otherwise defined in 14 CCR Section 18982(a)(48).
- L. **"SB 1383"** means California Senate Bill 1383, approved September 19, 2016, codified in Chapter 13.1 (commencing with Section 42652) of Part 3 of Division 30 of the California Public Resources Code, as it may be amended and as implemented by the regulations of CalRecycle, together with Sections 39730.5 through 39730.8 of the California Health and Safety Code, as they may be amended.
- M. **"Tier 1 commercial edible food generator"** has the meaning ascribed in 14 CCR Section 18982(a)(73), as it now exists or may subsequently be amended.
- N. **"Tier 2 commercial edible food generator"** has the meaning ascribed in 14 CCR Section 18982(a)(74), as it now exists or may subsequently be amended.

Section 2. Subsection A of Section 8.12.802 of Chapter 8.12 is hereby revised to read as follows:

A. **Mandatory Commercial Recycling.** All businesses, including multifamily residential dwellings of five or more units that are required to recycle under AB 341, shall recycle and divert from the landfill recyclable materials generated by the business in accordance with this section.

1. Businesses subject to this section shall arrange for recycling services, consistent with state and local laws, rules, regulations, and requirements, to the extent that these services are offered and reasonably available from a local service provider. A business subject to this section shall take at least one of the following actions:
 - a. Source separate recyclable materials from other Solid Waste and subscribe to a basic level of recycling service that includes collection, self-hauling, or other arrangements for the collection of the recyclable materials with the City's authorized hauler.
 - b. Source separate recyclable materials from other solid waste and self-haul the recyclables to a recycling or material recovery facility for processing; or
 - c. Source separate recyclable materials from other solid waste and arrange for pickup of the recyclable materials for donation or sale. No fees of any sort may be paid for the recyclable materials, including for collection, hauling, or processing. Reasonable documentation of donation or sale activities, including donation or sale frequency, a description of recyclable materials being donated or sold, and tonnage records of recyclable materials being donated or sold must be submitted to the Director upon request.
2. To comply with paragraph B, property owners or managers of multifamily dwellings may require tenants to source separate their recyclables from other

solid waste. Tenants must source separate their recyclable materials as required by property of the owners or managers of multifamily dwellings subject to this section.

3. A business meeting the conditions of paragraph A of this Section may request an exemption from the requirements of paragraph B by submitting an application on a form prescribed by the Public Works Director or designee. After reviewing the exemption request, the Director shall either approve or disapprove the request. To be eligible for an exemption from the requirements of paragraph B, the business must demonstrate that:
 - a. There are no recyclable materials being generated by any activities of the business;
 - b. There is inadequate storage space for the storage of recyclable materials;or
 - c. There is no viable market for the recyclable materials or recycling facility available."

Section 3. Subsection A of Section 8.12.804 of Chapter 8.12 is hereby revised to read as follows:

"8.12.804 C&D recycling.

- A. Construction on All New Buildings--CALGreen Diversion Requirements. Everyone developing newly constructed buildings, including residential and nonresidential uses, must do all of the following:
 1. Either or both recycle, reuse on-site, or salvage for future use or sale the greater of the following:
 - a. A minimum of sixty-five percent or diversion required under CALGreen, whichever is more stringent, of the nonhazardous C&D debris (excluding excavated soil and land-clearing debris and with respect to nonresidential buildings, demolition waste necessary for constructing the new structure); or
 - b. The minimum amount required in this section and implementing resolutions.
 2. Reuse one hundred percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing, unless contaminated by disease or infested with pests;
 3. Comply with the requirements of this Section and all required components of the California Green Building Standards Code, 24 CCR, Part 11, known as CALGreen; and

4. Submit a waste diversion plan under, and comply with, subsection C of this section."

Section 4. Sections 8.12.806 and 8.12.807 are hereby added to Chapter 8.12, as follows:

"8.12.806 AB, 1826 Regulatory Compliance.

Businesses subject to the requirements of AB 1826 shall fully comply with all applicable AB 1826 regulatory requirements or be subject to the penalties as prescribed in Chapters 1.08 and 1.20 of the Wasco Municipal Code and Article XI (Enforcement) of this Chapter.

Those requirements include, but are not necessarily limited to the following:

A. Commercial recycling and organics collection required.

1. Each Covered Generator shall subscribe to a level of service with the franchised hauler that is sufficient to handle the volume of organic materials generated or accumulated on the premises, or complete and retain on-site a self-hauling form certifying that all self-hauling activities will be completed in accordance with Section X or any other applicable law or regulation. The commercial generator shall make a copy of such form available upon request.
2. Additionally, each Covered Generator shall ensure the proper separation of solid waste, as established by the franchised hauler, by placing each type of material in designated receptacles or containers and ensure that employees, contractors, volunteers, customers, visitors, and other persons on-site conduct proper separation of solid waste.

B. Exemptions to mandatory commercial Organics.

1. The following shall be exempt from the requirements of this section prior to January 1, 2022, at which time the exemptions specified in Section 8.12.807 (SB 1383 Regulatory Compliance) shall apply.
 - a. Covered Generators that can provide documentation to the satisfaction of the City that less than half (0.5) a cubic yard of Organic Materials per week are generated by that commercial generator, its employees, customers, tenants, businesses practices, and other persons or processes which occur on the premises of the Covered Generator.
 - b. Covered Generators that can provide documentation to the satisfaction of the City that there is inadequate space for the Covered Generator to store sufficient containers for recyclable materials and organic materials on-site and that it is infeasible for the Covered Generator to share recyclable materials or organic materials containers with adjacent commercial facilities or multifamily dwellings.

- c. Covered Generators seeking an exemption shall submit their request for exemption in a form specified by the Public Works Director or his or her designee. After reviewing the exemption request, and after an on-site review, if applicable, the Public Works Director or his or her designee may either approve or deny the exemption request.

8.12.807 SB 1383 Regulatory Compliance.

Organic waste generators, franchised waste haulers, and all other entities subject to the requirements of SB 1383 shall fully comply with all applicable SB 1383 regulatory requirements or be subject to the penalties as prescribed in Chapters 1.08 and 1.20 of the Wasco Municipal Code and Article XI (Enforcement) of this Chapter.

A. Organic Waste Generators.

SB 1383 requirements that apply to Organic Waste Generators include, but are not necessarily limited to the following:

1. All Single Family Organic Waste Generators, except Single-Family generators that meet the Self-Hauler requirements of this Chapter 8.12, shall be automatically enrolled in the City's three-container Organic Waste collection services.
2. All commercial premises and all multifamily dwellings with five or more units must make arrangements for the diversion of recyclables, either through a collection service with a solid waste collector or by self-hauling to a permitted facility for diversion and reuse.
3. Each commercial premise and multifamily property owner shall be responsible for ensuring and demonstrating its compliance with the following requirements:
 - a. Source separate designated recyclable materials and designated organic waste from solid waste.
 - b. Provide a basic level of recycling and organics recycling services that include, at a minimum, the collection of designated recyclable materials and/or designated organic waste.
 - c. As applicable, complete and retain on-site a self-haul form certifying that all self-hauling activities will be completed in accordance with the provisions of this chapter or any other applicable law or regulation. A copy of such form shall be made available to the Public Works Director or his or her designee upon request.
 - d. Provide recyclable materials containers for designated recyclable materials in multifamily residential rental units and in maintenance and work areas where recyclable materials may be collected and/or stored.
 - e. Prominently post and maintain one or more signs where designated

recyclable materials and/or designated organic waste are collected and/or stored that set forth what materials are required to be source-separated in addition to collection procedures for such materials.

- f. Notify and instruct employees and tenants of applicable source separation requirements, including a list of designated recyclable materials and/or designated organic waste that are required to be source-separated for recycling. A copy of such instructions shall be provided to the Public Works Director or his or her designee upon request.
- g. Each covered generator shall ensure that designated recyclable materials and/or designated organic waste generated at their site will be taken only to a recycling facility and not to a landfill for disposal by complying with all requirements under this chapter.
- h. The self-haul form or other documents pertaining to this Chapter shall be available for inspection by the Public Works Director or his or her designee at the principal location of the covered generator during normal business hours.
- i. No waste hauler shall be held liable for the failure of its customers to comply with such regulations.
- j. No covered generator shall be liable for the failure of their waste hauler to deliver designated recyclable materials or designated organic waste to a recycling or processing facility.
- k. It shall be the responsibility of the business or multifamily property owner whose garbage was not removed because it contained designated recyclable materials to properly separate designated recyclable materials from the uncollected garbage for proper recycling. Allowing such unseparated garbage to accumulate will be considered a violation of this chapter.

B. Waivers for Generators

- 1. The Public Works Director, or his or her designee, may grant waivers of a Commercial Business' obligation (including multifamily residential dwellings) to comply with some or all of the Organic Waste requirements of this Chapter to the extent permitted by 14 CCR 18984.11.
- 2. Waivers shall apply for up to but no longer than five (5) years, as determined by the Public Works Director or his or her designee.

C. Self-Hauler Requirements

1. Self-Haulers shall comply with the requirements of Section 8.12.300 of this Chapter.
2. Self-Haulers shall source separate all recyclable materials and Organic Waste generated on-site from Solid Waste in a manner consistent with 14 CCR Sections 18984.1 and 18984.2, or shall haul Organic Waste to a High Diversion Organic Waste Processing Facility as specified in 14 CCR Section 18984.3.
3. Self-Haulers shall haul their Source Separated Recyclable Materials to a facility that recovers those materials; and haul their Source Separated Green Container Organic Waste to a Solid Waste facility, operation, activity, or property that processes or recovers Source Separated Organic Waste. Alternatively, Self-Haulers may haul Organic Waste to a High Diversion Organic Waste Processing Facility.
4. Self-Haulers that are Commercial Businesses (including multifamily residential dwellings) shall keep a record of the amount of Organic Waste delivered to each Solid Waste facility, operation, activity, or property that processes or recovers Organic Waste; this record shall be subject to inspection by the City. The records shall include the following information:
 - a. Delivery receipts and weight tickets from the entity accepting the waste.
 - b. The amount of material in cubic yards or tons transported by the generator to each entity.
 - c. If the material is transported to an entity that does not have scales on-site or employs scales incapable of weighing the Self-Hauler's vehicle in a manner that allows it to determine the weight of materials received, the Self-Hauler is not required to record the weight of material but shall keep a record of the entities that received the Organic Waste."

D. Other entities SB 1383 requirements that apply to other entities include, but are not necessarily limited to the following:

1. Edible Food Recovery Required
 - a. Tier one commercial edible food generators shall comply with the requirements of 14 CCR 18991.3 commencing January 1, 2022. Tier two

Commercial edible food generators shall comply with the requirements of 14 CCR 18991.3 commencing January 1, 2024.

- b. A large venue or large event operator that does not provide food services, but allows for food to be provided, shall require food facilities operating at the large venue or large event to comply with the requirements of 14 CCR 18991.3.
- c. Commercial Edible Food Generators shall comply with the following requirements:
 - (i) Arrange to recover the maximum amount of Edible Food that would otherwise be disposed.
 - (ii) Contract with, or enter into a written agreement with Food Recovery Organizations or Food Recovery Services for (i) the collection of Edible Food for Food Recovery; or (ii) acceptance of the Edible Food that the Commercial Edible Food Generator self-hauls to the Food Recovery Organization for Food Recovery.
 - (iii) Shall not intentionally spoil Edible Food that is capable of being recovered by a Food Recovery Organization or a Food Recovery Service.
 - (iv) Commercial Edible Food Generators and Food Recovery Organizations shall maintain a record acceptable to the Public Works Director and in compliance with applicable law.
 - (v) Keep records that include the following information, or as otherwise specified in 14 CCR Section 18991.4.

Section 5. The City Clerk is directed to certify to the enactment of this ordinance and to cause this ordinance to be published as required by law.

INTRODUCED at a regular meeting of the City Council of the City of Wasco on the 19th day of January 19, 2021.

PASSED AND ADOPTED Ordinance No. 2021-_____ at a regular meeting of the City Council of the City of Wasco on the _____, by the following votes:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City Wasco

Attest:

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco



November 6, 2020

CalRecycle
Joseph Rasmussen
Environmental Program Manager
1001 I Street
Sacramento, CA 95814

Re: Notice of Mandatory Commercial Organics Recycling Program Implementation Gaps

Dear Mr. Rasmussen,

The City of Wasco received your letter dated September 28, 2020 in which you inform the City of concerns associated with the program implementation of the mandatory commercial organics recycling program, also known as AB 341 and/or AB 1826. The letter supplied to the City identifies gaps in the City's Mandatory Commercial Organics Recycling Plan (Appendix N) as it relates to the City's Source Reduction and Recycling Element (SRRE).

Per your request, the City has developed a Program Action Plan (Plan) that identifies the City's strategies, milestones and expected completions dates to address the program gaps identified by Cal Recycle.

Attached to this letter is the City's Program Action Plan. In addition to developing the City's Program Action Plan, the City would like to note that it has taken the following steps towards compliance with Appendix N of its SRRE and towards compliance with requirements set forth by SB 1383:

- The City has sent letters to all businesses identified to meet the 2 CY threshold requesting compliance with AB 1826. A total of 283 letters were sent on October 15, 2020 and October 16, 2020. The letter is attached for your reference.
- The City has placed information associated with AB 1826 on the City website and has developed an insert to place into business license renewal packets being mailed to all existing businesses in the City by end of November 2020. The insert is attached for your reference.
- On September 17, 2020, the City procured the services of R3 Consulting to ensure the City is successful in implementing SB 1383. The City believes that the development of a compliance plan to meet SB 1383 will also lead to compliance of AB 1826 requirements.
- On June 4, 2020, the City issued a Request for Proposal for an exclusive collection agreement for residential and commercial recyclables and organic waste collection services to American Refuse. The City is currently undergoing negotiations with American Refuse to enter into an exclusive franchise



agreement for these services. The draft agreement is currently under review by American Refuse. The City anticipates executing a formal agreement by January 31, 2021.

Please do not hesitate to contact me if you have any questions or need additional information. I may be reached at my office 661-758-7219 or via email at bibishop@cityofwasco.org.

Sincerely,

Biridiana Bishop
Public Works Director
City of Wasco

Attachments: City of Wasco Program Action Plan
 Notice to Businesses sent on 10/15/20 and 10/16/20
 Business License Insert
 AB 1826 Brochure Found on Website



Public Works Department (661) 758-7271 Fax (661) 758-1728
764 E Street, Wasco, CA 93280

From: The Sanitation Department

RE: California State Organic Recycling

To: Commercial Business Owner / Multi-Family Complex Owner

Dear Sir/Madam:

In 2014, the State of California passed Assembly Bill 1826 requiring businesses that generate 8 cubic yards or more of commercial solid waste per week to arrange for organic recycling services. Beginning January 1, 2020 that threshold has been reduced and businesses generating 2 cubic yards of commercial solid waste per week must arrange for organic recycling services. Multi-Family complexes with 5 units or more are also required to recycle their organic materials. Commercial solid waste is defined as all solid waste generated by a business or multi-family complex. Organic waste consists of compostable materials (food waste, food soiled papers and plant debris).

Our records indicate that your business is subject to mandatory organics recycling established by AB 1826. In order to ensure that you are currently in compliance with state law, the City must verify that your organization is recycling organic material(s). If you are currently subscribed to organic recycling services, please provide the name, account number, and contact information of the hauler providing you those services and submit it to the Public Works Department (661) 758-7271. If you are not currently recycling your organic materials, you may contact American Refuse/Recycle at (661) 758-5316 to set up an recycling account as mandated by AB 1826.

If your business is exempt, please submit the attached exemption form promptly that clearly states the reason for your exemption. You will be contacted by the City following the review of your exemption request to inform you of the status of your exemption. If approved, the exemption will be in effect for a five (5) year period beginning from the date of approval.

Please submit the information to the City no later than **October 30, 2020** via email to ciugalde@cityofwasco.org. Thank you for your cooperation, if you have any questions you can contact me at (661)758-7271.

Sincerely,

Scott Maxey
Sanitation Superintendent
City of Wasco
smaxey@cityofwasco.org



AB 1826 Exemption Form

The City of Wasco requires commercial solid waste generators to submit this form if they are required to comply with state laws AB 1826 and/or AB 341 and/or SB 1383 and meet the following exemption criteria as given below. You will be contacted by the City following the review of this exemption form regarding the status of your application. If approved, this exemption is effective for a five year period.

To submit, email this form to ciugalde@cityofwasco.org.

1. Fill in the following information for you or your company.

| | | |
|-----------------------------------|--|-----------|
| COMPANY OR NAME: | | |
| SERVICE ADDRESS: | | |
| CITY: | STATE: | ZIP CODE: |
| CITY OF WASCO BUSINESS LICENSE #: | | |
| BUSINESS TYPE (if applicable): | NUMBER OF EMPLOYEES/TENANTS (if applicable): | |

2. Identify the reason you are claiming for your exempt status (provide documentation to support your claim; note that all claims are subject to verification by City through site visits or other means):

- ☐ Insufficient space in multifamily complexes or businesses to provide organic material recycling containers, and infeasible to share.
- ☐ Disposal by the business of less than ten gallons of organic waste per week.
- ☐ Special district, local public agency other than the City, or the State of California.
- ☐ Using shared container for organics diversion.
- ☐ Other _____

By signing below, I agree to comply with the requirements of State Law as it applies to organic materials and will participate in the recycling and organic material collection program, if participation becomes possible and/or required in the future. I certify that the reasons for my exemption request as claimed above are complete and accurate.

X _____

Signature

Date

UPCOMING CHANGES: AB 1826

Enclosed is a Business License Renewal Form for the year of 2021. If you are still planning to do any business in Wasco you are required to fill out the renewal form completely and return it with the appropriate fees no later than January 31, 2021. Any application and fees received after January 31, 2021 will be subject to a penalty of 10% of the tax due plus an additional 10% for each month delinquent thereafter.

If you are no longer going to be engaged in business in Wasco it is very important you fill out the Non Renewal Form enclosed and send it back with your company name, signature, and a short statement stating you will no longer be doing business within the City of Wasco city limits.

PLEASE NOTE: THE FINANCE OFFICE REMAINS CLOSED TO THE PUBLIC. HOWEVER, UTILITY BILLS CAN STILL BE PAID ONLINE, OVER THE PHONE, BY MAIL OR DROP-BOX OUTSIDE THE FINANCE OFFICE. IN ADDITION, THE CITY HAS APPROVED FIESTA MARKET AS AN AUTHORIZED PAYMENT LOCATION FOR CURRENT UTILITY BILL PAYMENTS. PLEASE CALL 661-758-7230 IF YOU ARE EXPERIENCING HARDSHIPS.

What is AB 1826?

Assembly Bill 1826 (AB 1826) is a law enacted by the State of California that requires qualifying businesses and Multi-Family dwellings (5 units or more) to participate in an organics recycling program; required compliance is based on a tiered system of how much organic waste the organization generates .

AB 1826 Time Line:

JANUARY 1, 2016:
MANDATORY
ORGANICS
RECYCLING
PROGRAM
IMPLEMENTED

APRIL 1, 2016: IF
YOU GENERATE 8
CUBIC YARDS OF
ORGANIC WASTE,
RECYCLING IS
REQUIRED.

JANUARY 1, 2017:
IF YOU GENERATE
4 CUBIC YARDS OF
ORGANIC WASTE,
RECYCLING IS
REQUIRED.

JANUARY 1, 2019:
IF YOU GENERATE
4 CUBIC YARDS OF
GARBAGE WASTE,
RECYCLING IS
REQUIRED.

SUMMER/FALL
2021: IF YOU
GENERATE 2 CUBIC
YARDS OF
GARBAGE WASTE,
RECYCLING IS
REQUIRED.

COMING IN 2022
SB 1383:

SHORT LIVED
CLIMATE METHANE
AND POLLUTANTS
LAW



Organic Waste Examples:

*(excludes Multi-Family Units)

*FOOD WASTE



*FOOD-SOILED PAPER WASTE



GREEN WASTE



NON- HAZARDOUS WOOD WASTE



City of Wasco COVID-19 Update

The City of Wasco appreciates all those who do business in our community and is making every effort to continue to effectively serve our business community during the current COVID-19 Pandemic.

All City Departments are currently operating at full capacity, however, City Hall offices remain closed to the public. All services are available on-line or via phone and e-mail. For current information and updates, please visit our website at www.cityofwasco.org and sign up to receive alerts and notifications.



**** NOTICE: New Upcoming Recycling Law - More Information to Follow**

AB1826

Mandatory Organics Recycling



By the numbers. For **BUSINESSES** and **MULTI-FAMILY RESIDENCES WITH 5 OR MORE UNITS**:

| JANUARY 1, 2016 | APRIL 1, 2016 | JANUARY 1, 2017 | JANUARY 1, 2019 | SEPTEMBER 1, 2020 |
|--|---|---|--|--|
| <p>MANDATORY ORGANICS RECYCLING PROGRAM* IMPLEMENTED.</p> | <p>If you generate:</p> <p>8</p> <p>8 CUBIC YARDS OF ORGANICS</p> <p>you are required to have an organics recycling program in place.</p> | <p>If you generate:</p> <p>4</p> <p>4 CUBIC YARDS OF ORGANICS</p> <p>you are required to have an organics recycling program in place.</p> | <p>If you generate:</p> <p>4</p> <p>4 CUBIC YARDS OF GARBAGE</p> <p>you are required to have an organics recycling program in place.</p> | <p>If you generate:</p> <p>2</p> <p>2 CUBIC YARDS OF GARBAGE</p> <p>you are required to have an organics recycling program in place.</p> |

REGULATORY REQUIREMENTS

The law requires that businesses arrange for recycling services for the following types of organic waste: food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper.

Multifamily complexes must arrange for recycling services for the same material with the exception of food waste and food-soiled paper. Most organic waste is recyclable through methods such as composting, mulching, and anaerobic digestion. Organic recycling services often accept a wide variety of different types of organic waste. Check with the City of Wasco to learn how to arrange for recycling.



STATE RESOURCES

1. [CalRecycle Local Assistance and Market Development \(LAMD\) Staff Contacts](http://www.calrecycle.ca.gov/lgcentral/reports/Contacts.aspx)
www.calrecycle.ca.gov/lgcentral/reports/Contacts.aspx. LAMD staff is available to assist local governments with planning and implementing Mandatory Organics Recycling programs
2. [Mandatory Organic Recycling \(MORE\) Home Page](http://www.calrecycle.ca.gov/Recycle/Commercial/Organics)
www.calrecycle.ca.gov/Recycle/Commercial/Organics
3. [CalRecycle Food Scrap Management Home Page](http://www.calrecycle.ca.gov/organics/Food/default.htm)
at
www.calrecycle.ca.gov/organics/Food/default.htm
4. [California Air Resources Board \(CARB\) Small Business Toolkit](http://www.CoolCalifornia.org) www.CoolCalifornia.org

EXEMPTIONS FOR BUSINESSES AND MULTIFAMILY COMPLEXES

Case-by-case exemptions: The law allows jurisdictions to, on a case-by-case basis, grant exemptions to businesses and multifamily complexes that meet any of the following criteria:

- Multifamily complexes or businesses that lack sufficient space to provide additional organic material recycling bins
- Businesses that currently implement actions that result in the recycling of a significant portion of organic waste
- Business that do not generate at least (½) one-half of a cubic yard of organic waste per week.
- Limited-term exemptions may be granted for extraordinary and unforeseen events

The city or hauler will provide a waste assessment to determine if the business or multifamily residence meets this exemption.

| SIZE | DEPTH | WIDTH | HEIGHT |
|--------------|--------|--------|--------|
| 32 Gallon | 24.25" | 19.25" | 38.50" |
| 64 Gallon | 31.75" | 24.25" | 41.75" |
| 96 Gallon | 35.25" | 29.75" | 43.25" |
| 1 Cubic Yard | 29" | 82" | 39.00" |
| 2 Cubic Yard | 40" | 82" | 53" |
| 3 Cubic Yard | 47" | 82" | 62" |



COMPOSTABLES ONLY

ACCEPTABLE ITEMS • LOS ARTÍCULOS ACEPTABLES



Produce Productos Agrícolas

Vegetables, fruits, salads, vegetable trims, and frozen fruits.

Verduras, frutas, ensaladas, y frutas congeladas.



Meat • Seafood • Dairy Carne • Mariscos • Productos lácteos

All cooked and raw meat products including bones and shells. Fish, beef, pork, chicken, turkey, egg shells, nut shells and cheese.

Todo cocinado y carne cruda productos, incluidos los huesos y conchas. Pescado, carne de res, cerdo, pollo, pavo, cáscaras de huevo, proyectiles de tuerca y queso.



Bakery & Grocery Productos Horneados & Comestibles

All types of breads and bakery waste, and excess batter. Post date and spilled items, all dry goods (pasta, beans, flower, rice, cereal, sugar etc).

Todos los tipos de panes y repostería y el exceso de masa. Todos productos secos, (pasta, frijoles, flores, arroz, cereales, azúcar, etc).



Yard Waste Basura del Jardín

Plants and trimmings, cut flowers, leaves, grass, weeds, branches, house plants, and flower bouquets.

Plantas, flores (as hojas, pasto, maicena, ramos, plantas de interior y los ramos de flores.



Compostable Serveware & Soiled Paper Vajilla Compostable & Papel Sucio

Compostable cups, plates, silverware, cardboard packaging, paper napkins, paper towels, and paper packaging.

Vasos compostable, platos compostable, cubiertos compostable, envases de cartón, servilletas de papel y toallas de papel y envases de papel.



Coffee & Tea Café & Té

Coffee grounds, coffee filters, tea leaves, and tea bags.

Posos de café, filtros de café, hojas de té y bolsas de té.

708-333-9308 hnhdecals.com S/N 345

UNACCEPTABLE ITEMS

- ⊗ Animal waste or pet litter
- ⊗ Ashes
- ⊗ Diapers and bath tissue
- ⊗ Construction debris
- ⊗ Foil
- ⊗ Glass
- ⊗ Garbage
- ⊗ Ice cream cartons or milk cartons
- ⊗ Liquids
- ⊗ Metals
- ⊗ Plastic or latex gloves
- ⊗ Plastics or plastic bags
- ⊗ Plastic-coated paper plates or cups
- ⊗ Styrofoam
- ⊗ Rocks

LOS ARTÍCULOS INACEPTABLES

- ⊗ Caca de animales o arena para gatos
- ⊗ Cenizas
- ⊗ Pañales y papel higiénico
- ⊗ Basura de construcción
- ⊗ Papel de aluminio
- ⊗ Vidrio
- ⊗ Basura
- ⊗ Cartones de helado o cartones de leche
- ⊗ Los líquidos
- ⊗ Metal
- ⊗ Guantes de plástico o guantes de latex
- ⊗ Plástico o bolsas de plástico
- ⊗ Envases de plástico
- ⊗ Espuma de poliestireno
- ⊗ Las rocas

ORGANIC RECYCLING SERVICES

The requirement to recycle organic waste can be met by taking one or any combination of the following actions, provided that the action is in compliance with local ordinances and requirements.

1. Source-separate organic waste from other waste and subscribe to an organic waste recycling service that specifically includes collection and recycling of organic waste.
2. Recycle organic waste onsite, or self-haul organic waste for organic recycling.
3. Subscribe to an organic waste recycling service that includes mixed waste processing with your green waste service.



1. *California Department of Resources Recycling and Recovery (CalRecycle)*
2. *Food-soiled paper includes items such as wax coated food containers and soiled napkins mixed with food waste. Food-soiled paper does not include paper products with a plastic coating, e.g., paper cups with a polyethylene coating.*
3. *Prior to taking action to recycle organic waste, a business should check with the City of Wasco Sanitation Department for more information about local requirements.*

1 of 640

AB 1826

With the passage of AB 1826, organic recycling requirements have been phased in over several years to help the state meet its goal to recycle 75 percent of its waste by 2020.

Businesses including public entities and multifamily complexes of 5 units or more are required to recycle their organic waste.

Organic waste (also referred to as organics throughout this resource) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

City of Wasco is here to help you comply with the new state requirements



For more information, please visit:

www.cityofwasco.org or call (661) 758-7221



September 28, 2020

Tilo Cortez, Jr.
Mayor – City of Wasco
746 8th Street
Wasco, CA 93280

RE: Notice of Mandatory Commercial Organics Recycling Program Implementation Gaps

Dear Mr. Cortez, Jr.,

The Department of Resources Recycling and Recovery (CalRecycle) has conducted a jurisdiction review of the City of Wasco to determine compliance with Mandatory Commercial Recycling (MCR) and/or Mandatory Commercial Organics Recycling (MORe), also known as AB 341 and/or AB 1826, respectively. In accordance with Public Resources Code (PRC) Section 42649.3(h) and PRC Section 42649.82(g)(2), CalRecycle is authorized to conduct reviews of a jurisdiction's programs at any time. Pursuant to PRC Section 41821, jurisdictions are required to conduct education, outreach, and monitoring activities annually to covered businesses and multifamily residential dwellings and provide an update to CalRecycle each reporting year.

As a result, of the review, the City of Wasco has been found to be deficient in implementing its MORe program. CalRecycle's Local Assistance and Market Development (LAMd) has discussed this with the City's Annual Reporting contact, Ms. Biridiana Bishop, on September 24, 2020.

Pursuant to PRC Section 42649.3(i) and 42649.82(h), CalRecycle evaluates a number of factors in its evaluation of the jurisdiction's good faith effort. Good faith effort means all reasonable and feasible efforts made by the jurisdiction to implement its MORe program. CalRecycle has determined the jurisdiction is not making a good faith effort based upon the following factors:

1. Mandatory Commercial Organics Recycling
 - A. The City has not implemented the activities identified in its Mandatory Commercial Organics Recycling Plan (Appendix N) in its Source Reduction and Recycling Element (SRRE), which include education, outreach, monitoring, and reporting.
 - B. The City has not fully implemented an organic waste recycling program to divert all organic waste generated by businesses including food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

- C. It appears the city has not taken steps to create an ordinance or other mechanism to ensure businesses automatically receive organics collection, or to verify businesses that self/back haul organics material.
- D. There is a non-compliance rate of 95% with businesses (out of 75 businesses meeting the threshold, 71 businesses are not recycling).

At this time, the City is requested to submit a detailed MORE Program Action Plan (Plan) with strategies, milestones and expected completion dates to address the program gaps identified. The Plan should demonstrate all reasonable and feasible efforts to address program gaps.

To have adequate time to assess the information submitted and provide additional information in the public agenda item, the Plan should be submitted by November 6, 2020.

At the public meeting in December 15, 2020:

1. If the City has submitted a Plan to adequately address the gaps as indicated in the public agenda item December 15, 2020, LAMD staff will monitor implementation of Plan activities after the meeting to ensure the program gaps are fully addressed. Should the same gaps persist at any time, the City will be notified and will be referred to the Jurisdiction Compliance Unit (JCU) for consideration of a compliance order.
2. If the gaps are not adequately addressed or a Plan is not submitted to address program implementation gap, this information will be presented at the public meeting and the City will receive a letter from JCU indicating the start of the conferring period for consideration of a compliance order.
 - A. During the conferring time if the gap is addressed, JCU will inform the jurisdiction a compliance order will not be issued, and the City will be referred back to LAMD for regular annual reviews. JCU will also report that the jurisdiction has addressed the gap in a public report at one of the Department's monthly meetings.
 - B. If JCU finds the gaps have not been addressed, JCU will initiate the process to commence issuing a compliance order. The City will receive information from JCU about the process should the jurisdiction proceed down that path. LAMD staff will continue working with the jurisdiction on other AB 939 program areas.

Should you have any questions regarding this letter, please contact Joseph Rasmussen, Section Manager at (916) 341-6214 or by email at Joseph.rasmussen@calrecycle.ca.gov.

Sincerely,

Joseph Rasmussen

cc: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director

Cathy McDonald, Unit Supervisor, CalRecycle
Michelle Cevallos, Environmental Scientist, CalRecycle



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Mariana Sobolewski, Assistant to the City Manager

DATE: January 19, 2021

SUBJECT: Adopt a Resolution Authorizing the City Manager to Negotiate and Execute a Purchase Agreement with Flock Safety to Purchase Automated License Plate Reader (ALPR) Cameras for the Kern County Sheriff Wasco Substation for Use Throughout the City of Wasco.

Recommendation:

Staff recommends authorizing the City Manager to Negotiate and Execute a Purchase Agreement with Flock Safety to Purchase Automated License Plate Reader (ALPR) Cameras for the Kern County Sheriff Wasco Substation for Use Throughout the City of Wasco.

Discussion:

On January 5, 2021, City Council gave direction to the City Manager regarding the purchase of five (5) ALPR cameras utilizing Measure X funding. This purchase was discussed with unanimous support from all five City Council Members, which directly responded to the increased violent crime in the City of Wasco.

The City Manager recommends increasing the number of cameras previously agreed upon by the City Council. Increasing the number of ALPR cameras in the City of Wasco would increase Kern County Sheriff's Office's ability to solve crime with the use and data available through Flock Safety. The City Manager will consult with the City's attorney to ensure the purchase agreement is legally sound prior to making the final purchase of cameras.

ALPR technology can read license plates of vehicles driving on City streets in real-time. ALPRs utilize Optical Character Recognition (OCR) which takes a photo of a vehicle, sending the image via a wireless card to a cloud-based server that has a database with information on all registered motor vehicles. If a license plate number is tied to an Amber Alert, stolen vehicle, or other law enforcement tag, the server will automatically notify the KCSO dispatch/deputies and status of the alert.

Upon recommendation from the Wasco Sub-Station Sergeant, the ALPR cameras will be placed within the City of Wasco's city limits. Flock Safety Cameras are not permanently affixed; therefore, they may be moved according to the Wasco Sub-station's needs, all in

an effort to increase their resources to solve crime in the City of Wasco. There \$250.00 fee each time a camera is relocated.

Many times, when a crime occurs a vehicle is involved in some manner by the criminals and assailants. In the two most recent homicides it is believed a vehicle was used by the perpetrators to flee the area. When such a crime is committed, investigators spend a considerable amount of time attempting to piece together various information to develop a description of the suspect(s), vehicle they utilized, and direction they traveled. The deployment of Flock cameras at various points in the community will aid law enforcement in quickly identifying vehicle descriptions and license plates numbers.

The City of La Cañada Flintridge (Los Angeles County) back in February 2020 approved a contract with Flock Security to deploy 37 cameras through its community. Similar to Wasco, the City of La Cañada Flintridge contracts with the sheriff's office for law enforcement. After review of various technology and platforms, Flock cameras were selected in part because of their added advantage of solar powered option, combined the ability to capture images like a traditional camera, but also have APLR capabilities. The Los Angeles Sheriff's Department also noted the advantage of Flock Safety Cameras is the ability to also read the newly required paper dealership plates compared to other ALPR platforms that are not able to. Another added advantage of the Flock Safety Cameras is their ability to read two lanes of traffic (same direction), whereas the standard ALPRs can only read a single lane of traffic. Furthermore, the Flock Safety Camera system can be leased and utilized by private homeowners and businesses with the potential to share the feed with the Sheriff's Office, which would provide a magnifier effect on coverage in the community. Private Flock Cameras owners would not be privy to information reserved for law enforcement.

The City would purchase the cameras for the sole use of the Kern County Sherriff's Office, Wasco Sub-station deputies in their efforts to solve crimes in the City of Wasco. Like other supplies and equipment, the City purchases for the Wasco Substation, Flock Safety ALPR cameras will be managed and accessed by Kern County Sheriff Deputies. The City Manager will assign, Assistant to the City Manager as a liaison between Flock Safety and the Kern County Sheriff Wasco Substation in the event of a malfunction or reporting technical issues regarding the cameras.

| Number of Flock Safety Cameras | Cost based on 12-month lease | Installation Fee |
|--------------------------------|------------------------------|------------------|
| 5 | \$12,500.00 | \$2,500.00 |
| 10 | \$25,000.00 | \$2,500.00 |
| 15 | \$37,500.00 | \$2,500.00 |
| 20 | \$50,000.00 | \$2,500.00 |
| 25 | \$62,500.00 | \$2,500.00 |

Fiscal Impact:

The City would be required to make the necessary adjustments in the mid-year budget to obligate Measure X funds to purchase Flock Safety ALPR cameras.



Attachments:

1. Flock Safety Sole Source Letter
2. Flock Safety ALPR Brochure
3. Resolution
4. Draft Agreement

flock safety

Sole Source Letter for Flock Safety ALPR Cameras and Solution

Flock Safety is the sole manufacturer and developer of the Flock Safety ALPR Camera. Flock Safety is also the sole provider of the comprehensive monitoring, processing, and machine vision services which integrate with the Flock Safety ALPR Camera.

The Flock Safety ALPR camera is the only Law Enforcement Grade ALPR System to offer the following combination of features:

- Machine vision to analyze vehicle license plate, state recognition, vehicle color, vehicle type, and vehicle make
- Machine vision to capture and identify characteristics of vehicles with a paper license plates and vehicles with the absence of a license plate
- Ability to capture two (2) lanes of traffic simultaneously with a single camera from a vertical mass
- Wireless deployment of license plate reading cameras with integrated cellular communication weighing less than 5lbs and able to be powered solely by a solar panel of 60W or less
- Ability to capture and process up to 30,000 vehicles per day with a single camera powered exclusively by solar power
- On device machine processing to limit LTE bandwidth consumption
- Cloud storage of footage
- Web based footage retrieval tool with filtering capabilities such as vehicle color, vehicle type, vehicle manufacturer, partial or full license plate, state of license plate, and object detection
- Privacy controls to enable certain vehicles to “opt-out” of being captured on film
- Performance monitoring software to predict potential failures, obstructions, tilts, and other critical or minor issues
- Covert industrial design for minimizing visual pollution

Thank you,



Garrett Langley
CEO, Flock Safety

flock safety

flocksafety.com
866.831.5326

Your partner in fighting crime

City of Wasco



Protecting your jurisdiction is of the utmost importance. Thank you for considering Flock Safety's technology system as part of your comprehensive strategy to protect your city, citizens, and officers. We are more than just a camera company - we are a crime-fighting technology company with a mission to eliminate non-violent crime in the United States.

What makes Flock Safety's technology different



PUBLIC & PRIVATE PARTNERSHIPS

Thousands of communities use privately funded Flock Safety cameras throughout the country, which provides a huge benefit to local law enforcement as they can have access to those cameras without having to pay for them.



VEHICLE FINGERPRINT™ TECHNOLOGY

Capture far more than just license plates. Allow your investigators to search footage by vehicle type, make, and color; identify the state of a license plate; capture temporary plates, paper plates, and vehicles without plates. Our cameras also capture two (2) lanes of traffic traveling up to 100 MPH with a single camera.



INFRASTRUCTURE FREE

Use cameras that are solar powered and include LTE internet connectivity (unlimited use included in cost), so they can be rapidly deployed virtually anywhere.



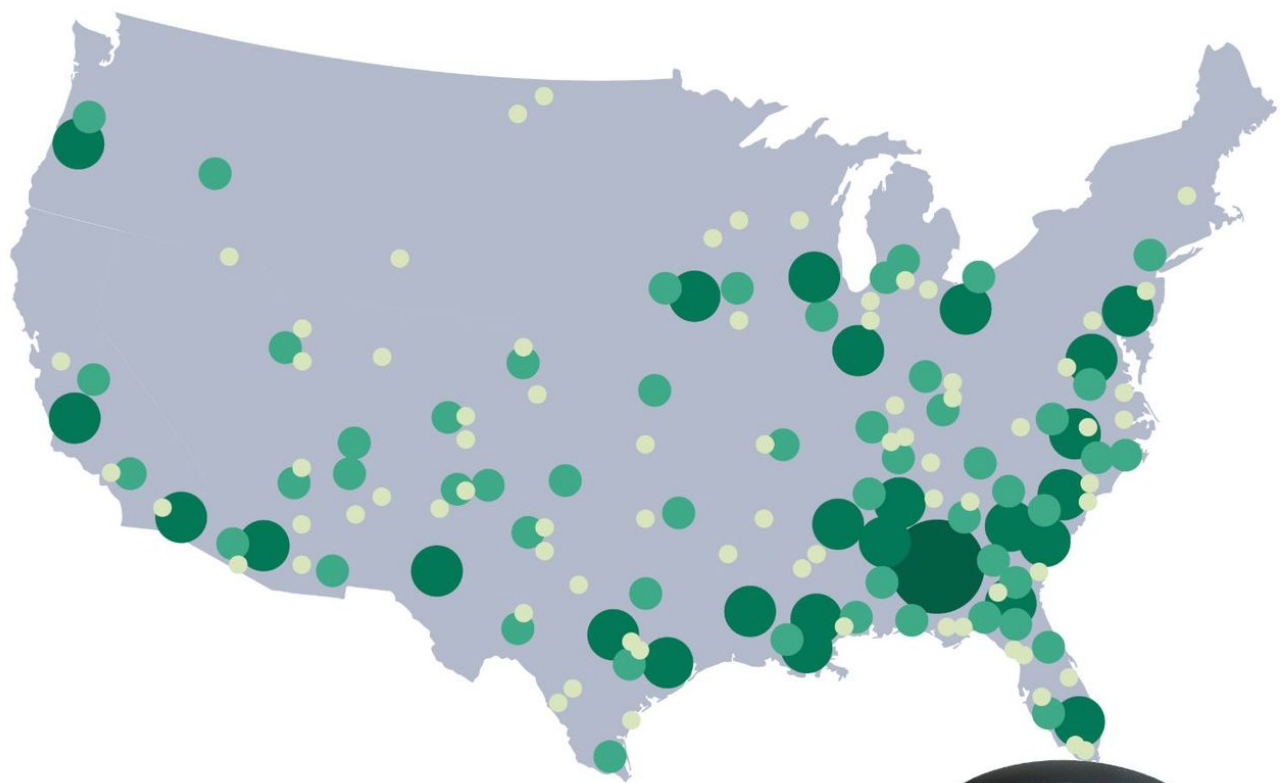
SIMPLE & AFFORDABLE

Our cameras cost \$2,500 per camera per year which includes hardware, software, solar power, LTE connectivity, unlimited users, and unlimited data storage.

We look forward to hearing from you and hope you will join the "flock"!

Thank you,

flock safety



500

Police
departments

1000+

US cities

120

Stolen vehicle
reads/hr



Flock Safety's technology includes fixed license plate reading cameras and software for unlimited users to access footage and receive hotlist notifications.

Proposal Summary

Police departments need a scalable solution to increase clearance rates and deter crime. The Flock Safety camera sees like a detective to make actionable evidence available when needed that is easily searchable by vehicle type, make, model, color, timeframe, or plate details. We deliver this detail through AI and Machine Learning technology that scans each image for distinguishing features, instead of traditional metal plates. This means we can also detect vehicles with no plates, temporary plates, dirty/covered plates, and even get accurate state detection.

30% ▲

Our solution **captures 30% more plates** than our leading competitor, according to a side-by-side study done by LASD in 2019, largely due to using AI and Machine Learning to analyze the entire vehicle profile, instead of legacy Infrared based technology.

34% ▼

In April 2019, Marietta Police Department released a study that shows they experienced a **34% reduction in calls for service** by targeting crime hot spots throughout the city with Flock Safety cameras.

60% ▼

In October 2019, Cobb County Police Department released a study based on their installation of 13 Flock Safety cameras in March. Over the six month period, Cobb police reported a **60% reduction in overall crime** by focusing on the beat with the highest



Company Overview

Flock Safety's mission is to eliminate non-violent crime. This is possible with city-wide coverage of automatic license plate readers (ALPRs) for both public safety organizations and private citizens. When a crime occurs, Flock Safety cameras deliver the actionable evidence you need to make an arrest.

Our company is headquartered in Atlanta, Georgia. Flock Safety

camera systems live in over 1000 cities in 38 states and over 500 police departments. With an average of 120 Hot List notifications sent an hour with jurisdictions throughout the U.S., our team is helping agencies solve and prevent crime every minute.

Customer Results

Police departments need a scalable solution to increase clearance rates and deter crime. The Flock Safety camera sees like a detective to make actionable evidence available when needed that is easily searchable by vehicle type, make, model, color, timeframe, or plate details. We deliver this detail through AI and Machine Learning technology that scans each image for distinguishing features, instead of traditional metal plates. This means we can also detect vehicles with no plates, temporary plates, dirty/covered plates, and even get accurate state detection.



JERSEY VILLAGE, TEXAS

A camera on every street to create a virtual gate

Within one week, Flock Safety cameras notified officers of two vehicles on the NCIC Hot List. During the seizure of one of the vehicles, a wanted murderer in the state of Louisiana was arrested. Both vehicles were returned to their owners.

- Location: Houston suburb
- Flock Cameras: 50+
- Residents: 8,000
- Installation: Two months from purchase

MARIETTA, GEORGIA

34% reduction in calls for service in targeted hotspots

Cameras within the city led to the arrest of a suspect who allegedly brutally attacked a woman. Officers were able to locate and arrest the suspect using Flock cameras after weeks of the suspect being on-the-run.

- Location: Atlanta suburb, in Cobb County, Georgia
- Flock Cameras: 70 and growing within the county (30 police and 40 private cameras)
- Residents: 65,000 in Marietta
- Installation: Two months from purchase for first hotspot created





COBB COUNTY, GEORGIA

Containment strategy in highest crime beat of the county

Cobb County Police Department utilized 35 Flock cameras in 2 containment zones in their highest crime beats to reduce crime by over 60%.

- Location: Cobb County, GA is just outside of Atlanta
- Flock Cameras: 35 for PD, over 100 including private sector cameras
- Residents: 750,000 in Cobb County
- Installation: Phased approach
- Contact: Deputy Chief Stuart Vanhoozer at stuart.vanhoozer@cobbcounty.org or (404) 375-1926

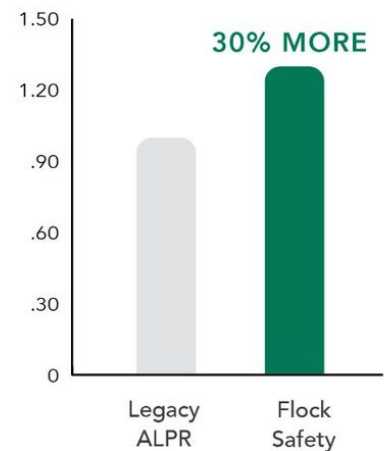
LOS ANGELES, CALIFORNIA

Sheriff's Department performs detection accuracy test

Los Angeles Sheriff's Department performed a head-to-head test of the Flock Safety camera versus a legacy ALPR solution.

- The results showed that the Flock Safety camera captures 30% more vehicle images and provides more accurate reads than traditional cameras triggered by infrared technology.
- Conducted in limited lighting from 2:00 AM to 8:00 AM, and from 11:00 PM to 6:00 AM.
- Causes for missed vehicles and/or misread plates were associated with the amount of reflectivity of the plate (older/dirtier tags, and dealer provided paper plates).

ACCURATE READS





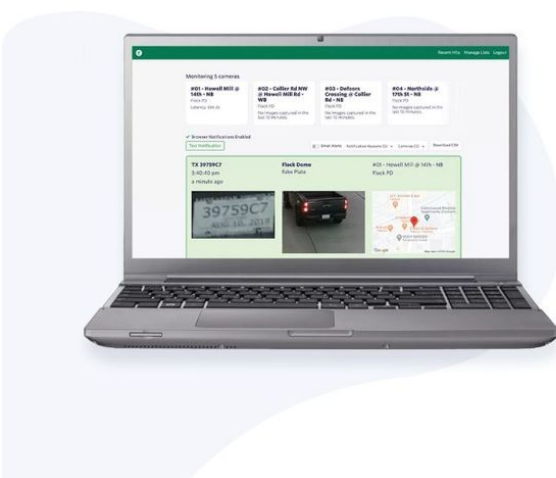
Product

Flock Safety Automatic License Plate Reading (ALPR) cameras do not just identify the plate seen, but all the objects within the frame. Even if the vehicle does not have a tag, the image can be captured for review.

The user interface is a simple search with unlimited user licenses. Within the software component, law enforcement can receive hotlist alerts and create custom alerts for plates under your investigation.

SOFTWARE USER INTERFACE

Included at no additional cost with unlimited user licenses. Receive alerts to help detect crime and search footage to access evidence — with any internet-connected device (based on user credentials that are easily managed/approved by admin).

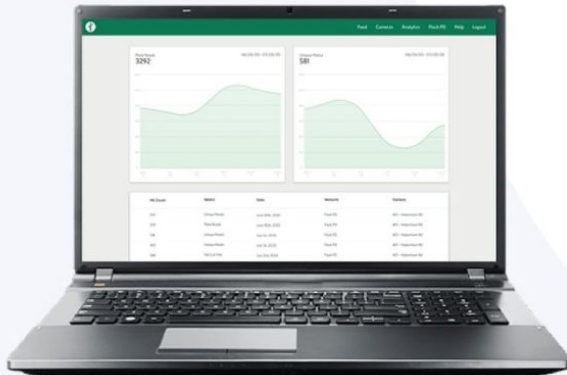
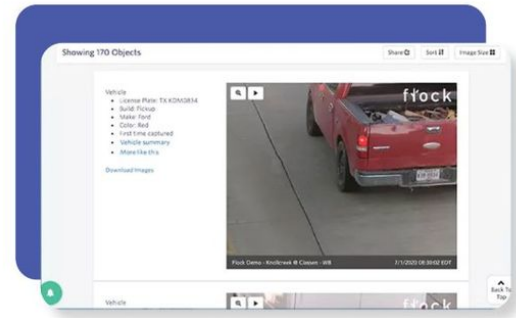


Detect Crime

- Connected to the NCIC Hot List & CJIS compliant
- State detection to ensure quality alerts
- Hotlist alerts (includes privately owned cameras in your jurisdiction)
- Create custom alerts for tags under investigation with your organization
- Filter notifications by reason codes (exclude sex offenders, include stolen plates, etc.)
- Email and SMS alerts to users
- Audible and visual alerts

Access Evidence

- Filter search by specific camera location
- Capture vehicles regardless of plate type (paper, no plate, etc.)
- Search results with vehicle summary in multiple formats
- Filter by Vehicle Fingerprint™
 - Date and time
 - Vehicle Characteristics
 - Plate (partial/full)
 - Plate Type (in state, out of state, temporary tag)
 - Build & Color
 - Resident status
 - Location/Date/Time



Insights

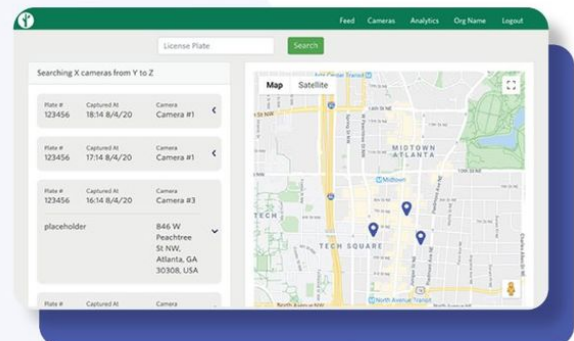
Give city council an ROI report

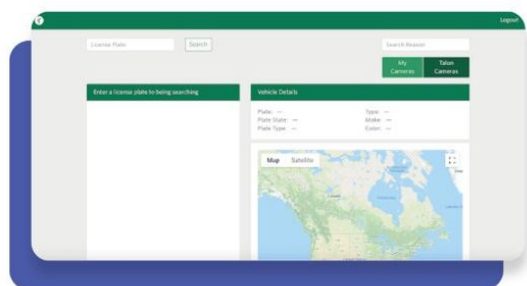
- Discover crime and traffic patterns
- Prioritize changes by greatest impact
- Change your community for the better

Lookup

Search plates across your jurisdiction

- "I have the plate where is the car?"
- Designed to search all cameras, all time
- Get a full view of all activity tied to one vehicle in your network





Talon

A new way to solve cross-jurisdiction crimes

- New privacy setting (National + State search)
- 500M monthly reads
- Attached to "Lookup" experience

Peformance

DAY TIME FOOTAGE



NIGHT TIME FOOTAGE



TEMPORARY PLATE



NO PLATE



COVERED PLATE



TWO LANES OF TRAFFIC



CAMERA SPECIFICATIONS

Design

Dimensions: 8.75" x 3"

Weight: 3 lbs

IP65 Waterproof

Power

14Ah Battery

30W Solar Panel (14" x 21")

AC Power (5 ft. range)

Data

16GB local storage, ~2 weeks

Image

5MP Image Sensor

Motion

Passive Infrared Motion Detection

Connectivity

Embedded Cellular LTE Connection

Cellular service provider depends on area

Production

Designed & manufactured in the U.S.

Night Vision

850nm Custom IR Array

Cloud Storage

30 days storage (Amazon Web Services)

Accessible via secure website

Images can be downloaded and stored by department

CAMERA PERFORMANCE

Traffic

NCIC and Custom Alert Notifications

- Average of 10-15 seconds

Includes time, location, plate, and vehicle image

Includes state specific alerts based on image

Power Source

100-240 VAC <1 amp

60 W Solar

11-14 Volt

Processing Power

1.4GHz

64-bit quad-core CPU

Image Capture

30-50 ft from vehicles

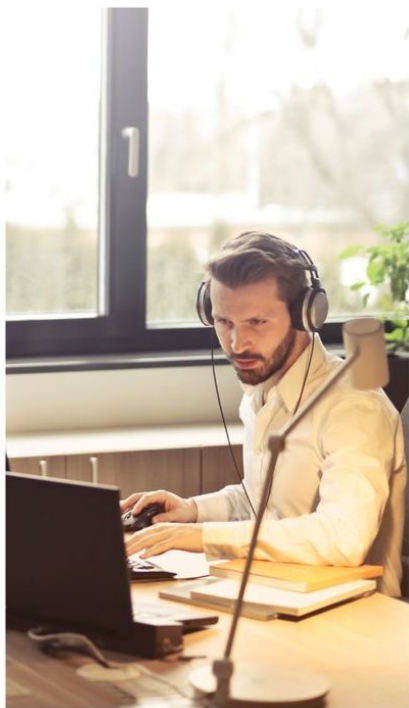
Up to 2 lanes of traffic per camera

Date and time with camera location

Plate (state, partial, paper, and none)

Vehicle details (Make, type, and color)





Training, Ongoing Support & Timeline

New customers will first get connected with their dedicated Onboarding Specialist who will spearhead the installation project to completion. Once cameras are successfully capturing footage, customers get introduced to their dedicated Market Manager. This person serves as the main point of reference for all things Flock Safety (training, setup questions, etc). In addition, the Flock Safety Support team monitors the support@flocksafety.com inbox Monday through Friday, 8:00 AM to 5:00 PM EST.

SAFETY-AS-A-SERVICE

- Regular software updates at no additional cost
- Camera maintenance is included in the subscription
- Unlimited users for hotlist integration and alerts, and camera footage search

INSTALLATION & CAMERA LOCATIONS

The average installation is to 6-8 weeks. Camera locations and installation timing is coordinated by the Flock Safety Customer Support team.

City intersection
Solar & existing pole



Entrance to Hotel
Solar & Flock 14 foot pole



City Foot Traffic Street
Electric & existing pole



Install Process Guide

TERMS, CONDITIONS, & SERVICE LEVEL AGREEMENT INFORMATION

For the complete list of Terms & Service, please visit <https://www.flocksafety.com/legal>.

WARRANTY

- All Flock products are under warranty for the duration of the Customer's contract.
- Flock cameras have built-in alarms to alert us if a camera is not performing at optimal standards. In the event of a camera performance issues, maintenance teams will be deployed at no additional cost.
- In the event the Flock camera is physically damaged or stolen, the first camera replacement will be made by Flock at not additional cost. A reassessment of camera location will be made at that time to deter further issues.
- In the unlikely case that an additional replacement camera is needed, the customer will be responsible for the \$500 cost.
- Flock reserves the right to refuse or delay replacement or its choice of remedy for a Defect until after it has inspected and tested the affected Unit; provided that such inspection and test shall occur within 72 hours after the Agency notifies the Flock of defect.

Pricing

\$2,500 PER CAMERA, PER YEAR*

Annual subscription includes:

Camera Hardware:

- ✓ Automatic license plate reader
- ✓ Solar or DC Power
- ✓ Mounting equipment
- ✓ Maintenance Warranty

Hosting & Analytics

- ✓ Cloud hosting & LTE connectivity
- ✓ Unlimited user licenses
- ✓ Hot list integration & alerts
- ✓ Ongoing software enhancements

** five (5) camera minimum / one-time installation fee per camera = \$250
Flock Safety does not provide electrical services / electrical work not included in the price*

| Subscription Details | Price | QTY | Subtotal |
|---|------------|-----|-------------|
| 2 Year Warranty | | | |
| Annual Subscription Price per year | \$2,500.00 | 10 | \$25,000.00 |
| Automatic License Plate Reader (ALPR) Solar or DC Power 2 Year Maintenance Warranty | \$0.00 | 10 | \$0.00 |
| Hosting & Analytics Cloud Hosting Unlimited User Licenses Hotlist Integration & Alerts Neighborhood Camera Integration Ongoing Software Enhancements | \$0.00 | 10 | \$0.00 |
| Implementation Camera Setup Shipping & Handling | \$250.00 | 10 | \$2,500.00 |
| Other Cellular Mounting Equipment | \$0.00 | 10 | \$0.00 |
| | | | |

Total \$27,500.00

RESOLUTION NO. 2021 - _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO AUTHORIZING THE CITY MANAGER NEGOTIATE AND EXECUTE A PURCHASE AGREEMENT WITH FLOCK SAFETY TO PURCHASE AUTOMATED LICENCE PLATE READER CAMERAS FOR THE CITY OF WASCO AND KERN COUNTY SHERIFF WASCO SUBSTATION.

WHEREAS, the City wishes to purchase automated license plate reader cameras from Flock Safety; and

WHEREAS, the products to be purchased are described in the proposal found in Exhibit "A"; and

WHEREAS, the agreement shall also be subject to review and approval as to legal form by the City Attorney.

WHEREAS, the agreement shall not be valid unless and until so approved by the City Attorney and executed by the City Manager upon satisfaction of the requirements and contingencies identified herein.

NOW THEREFORE BE IT RESOLVED, that the City Council of the City of Wasco does hereby does as follows:

SECTION 1: Authorize the City Manager to negotiate and execute a purchase agreement with Flock Safety;

SECTION 2: The agreement shall not be valid unless and until so approved by the City Attorney and executed by the City Manager upon satisfaction of the requirements and contingencies identified herein.

SECTION 3: Funds shall be appropriated as necessary and/or included in future budget amendments.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021-_____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021, by the following vote:

COUNCIL MEMBERS:

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:_____

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

FLOCK GROUP INC. SERVICES AGREEMENT ORDER FORM

This Order Form together with the Terms (as defined herein) describe the relationship between Flock Group Inc. ("**Flock**") and the customer identified below ("**Customer**") (each of Flock and Customer, a "**Party**"). This order form ("**Order Form**") hereby incorporates and includes the "GOVERNMENT AGENCY CUSTOMER AGREEMENT" attached (the "**Terms**"), any schedules attached thereto, and the Customer's **Supplemental Conditions Addendum** attached hereto and incorporated herein by reference, which describe and set forth the general legal terms governing the relationship (collectively, the "**Agreement**"). The Terms contain, among other things, warranty disclaimers, liability limitations and use limitations.

The Agreement will become effective when this Order Form is executed by both Parties (the "**Effective Date**").

| | |
|---|--|
| Customer: City of Wasco | Contact: Mariana Sobolewski |
| Address: 847 8 th Street | Phone: 661-758-7215 |
| Wasco, CA 93280 | E-Mail:masobolewski@wascohsd.org |
| Usage Fees: \$25,000 per Year (the "Payment Period") Number of Cam- | Initial Term: 12 Months Renewal Term: 12 Months |
| Installation Fee (one-time) \$2500 Pole Fee (one-time) \$ 0 | Billing Contact: Esperanza Pineda espineda@cityofwasco.org |

By executing this Order Form, Customer represents and warrants that it has read and agrees all of the terms and conditions contained in the Terms attached. The Parties have executed this Agreement as of the dates set forth below.

| | |
|-----------------|--------------------|
| Flock Group Inc | Customer: 1 of 640 |
|-----------------|--------------------|

| | |
|---------------------------------|---------------------------------|
| By: Name: Title: Date: | By: Name: Title: Date: |
|---------------------------------|---------------------------------|

Flock Group Inc.

Order Form
Wasco, CA
0001

ADDENDUM
CITY OF Wasco SUPPLEMENTAL CONDITIONS

For purposes of this Addendum to the Agreement between Flock Group, Inc. and the City of Wasco, the term "Contractor" shall refer to Flock Group, Inc., and the term "City" shall be used to refer to the Customer, which is the City of Wasco.

1. California Civil Code Compliance. Contractor is advised of, and agrees it will comply with the requirements of the California Civil Code, Division 3, Part 4, Title 1.81.23 COLLECTION OF LICENSE PLATE INFORMATION [§§1798.90.5 - 1798.90.55] as applicable to an automated license plate recognition (ALPR) operator (also referred to as an "ALPR operator"). Contractor shall maintain reasonable security procedures and practices to protect ALPR information from unauthorized access, destruction, use, modification or disclosure that are at least as protective as the "Flock Safety End to End Data Security Overview," "Flock Safety CJIS Compliance Overview," and "Flock Safety Internet Security Policy," (collectively, referred to as the "Flock Security Policies") as each such policy was in effect as of January 29, 2020. Any amendment to the Flock Security Policies shall be transmitted to the City within 10 days. In the event the City determines in its sole discretion that any amendment to the Flock Security Policies either substantially reduces the privacy or security of Customer Content (including ALPR Footage) or the amendments would violate any State or Federal law, then the City shall have the right to terminate the Agreement and Flock will refund to City a pro-rata portion of the pre-paid Fees for Services not received due to such termination.
2. Disclosure of Security Breach. Contractor is advised of the requirements of the California Civil Code, section 1798.29, requiring notification to any resident of California in the event of breach of the security of the system. Contractor agrees it will notify the City immediately (and in no event more than 24 hours) upon the occurrence of any breach in the security of data that may potentially trigger the need for security breach notifications pursuant to Civil Code section 1798.29 or similar State or Federal law. The parties agree that the City will control the timing and content of any required security breach notification, and agree that Contractor shall fully pay or reimburse the City for the costs of providing any security breach notification required by Civil Code, section 1798.29, or similar State or Federal law, resulting from any security breach of the Flock Safety platform. Contractor's responsibility for the costs of providing such security breach notifications shall not be limited by any disclaimer or limitation of liability in the Agreement, including but not limited to Sections 2.1, 7.4 and 8 of the SaaS Terms of this Agreement.
3. Indemnification. To the fullest extent permitted by law, Contractor shall indemnify, defend with counsel reasonably acceptable to the City, and hold harmless the City and its officials, officers, employees, agents, contractors, consultants, and volunteers from and against any and all losses, liability, claims, suits, actions, damages, and causes of action arising out of or relating to any personal injury, bodily injury, loss of life, or damage to property, or any violation of any federal, state, or municipal law or ordinance, to the extent caused, in whole or in part, by the willful misconduct or negligent acts or omissions of Contractor or its employees, subcontractors, or agents. The foregoing obligation of Contractor shall not apply when (1) the injury, loss of life, damage to property, or violation of law arises wholly from the negligence or willful misconduct of the City or its officers, employees, agents, contractors, consultants, or volunteers and (2) the actions of Contractor or its employees, subcontractor, or agents have contributed in no part to the injury, loss of life, damage to property, or violation of law. It is understood that the duty of Contractor to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code. Acceptance by City of insurance certificates and endorsements required under the contract does not relieve Contractor from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause is a material element of the Agreement and shall apply to any damages or claims for damages whether or not such insurance policies shall have been determined to apply. This Section 3 shall survive termination or expiration of this Agreement. Contractor's indemnification obligation pursuant to this Section shall not be limited by any disclaimer or limitation of liability in the Agreement, including but not limited to, Sections 2.1, 7.4 and 8 of the Government Agency Service Agreement.
4. Infringement. Without limiting the generality or applicability of Section 3, above, if a third party makes a claim against the City that any use of the Services in accordance with the terms of this Agreement infringes such third party's intellectual property rights, Contractor, at its sole cost and expense, will defend City against the claim and indemnify City from the damages, losses, liabilities, costs and expenses awarded by the court to the third party claiming infringement or the settlement agreed to by

Contractor, provided that City: (i) notifies Contractor promptly in writing of the claim; (ii) gives Contractor sole control of the defense and any settlement negotiations; and (iii) gives Contractor reasonable assistance in the defense of such claim. If Contractor believes or it is determined that the Services violated a third party's intellectual property rights, Contractor may choose to either modify the Services to be non-infringing or obtain a license to allow for continued use, or if these alternatives are not commercially reasonable, Contractor may terminate City's use rights and refund any unused, prepaid fees City may have paid to Contractor.

5. California Public Records Act Compliance. Notwithstanding Section 4 of the Government Agency Service Agreement, Contractor expressly understands that City is a public agency subject to the California Public Records Act (Cal. Government Code § 6250 et seq.). In the event that City receives a public records request seeking the disclosure of information that Contractor has designated as its "Proprietary Information," City shall notify Contractor, and Contractor shall be allowed to take any reasonable action to preserve the confidentiality of such information. City's obligation shall only extend to notifying Contractor of the request, and City shall have no obligation to preserve the confidentiality unless doing so is in full compliance with the law.
6. Independent Contractor. It is expressly agreed that Contractor is to perform the services described herein as an independent contractor pursuant to California Labor Code Section 3353. Nothing contained herein shall in any way be construed to make Contractor or any of its agents or employees, an agent, employee or representative of the City. Contractor shall be entirely responsible for the compensation of any employees used by Contractor in providing said services.
7. Subcontractors. Notwithstanding Section 2.1 of the Government Agency Service Agreement, if Contractor utilizes a third-party subcontractor or other vendor to provide the Services under this Agreement, Contractor shall ensure that such subcontractor(s) or vendor(s) complies with the terms of this Agreement, and shall be jointly and severally liable with the subcontractor/vendor for any breach by the subcontractor/vendor.
8. Insurance. During the entire term of this Agreement and any extension or modification thereof, the Contractor shall keep in effect insurance policies meeting the following insurance requirements: See Exhibit C – Insurance Requirements General.
9. Appropriation. City's funding of this Agreement shall be on a fiscal year basis (July 1 to June 30) and is subject to annual appropriations. Contractor acknowledges that the City is a municipal corporation and is precluded by the California Constitution and other laws from entering into obligations that financially bind future governing bodies. Nothing in this Agreement shall constitute an obligation of future governing bodies to appropriate funds for the purposes of this Agreement. The parties agree that the Initial Term and any renewal term(s) is contingent upon the appropriation of funds by the City. This Agreement will terminate immediately if funds necessary to continue the Agreement are not appropriated. City shall pay Contractor for any services performed in accordance with this Agreement up to the date of termination.
10. Assignment. Contractor shall not assign this Agreement, or any part thereof, or any right of the Contractor hereunder without the prior written consent of the City. Notwithstanding, for purposes of this Contract, a merger, acquisition, reorganization, spin-off or other transaction involving a transfer of substantially all of the assets or common stock of either party hereto shall not be deemed an assignment.

This Government Agency Agreement (this “**Agreement**”) is entered into by and between Flock Group, Inc. with a place of business at 1170 Howell Mill Rd NW #210, Atlanta, GA 30318 (“**Flock**”) and the police department or government agency identified in the signature block below (“**Agency**”) (each a “**Party**,” and together, the “**Parties**”).

RECITALS

WHEREAS, Flock offers a solution for automatic license plate detection through Flock’s technology platform (the “**Flock Service**”), and upon detection, the Flock Service creates images and recordings of suspect vehicles (“**Footage**”) and can provide notifications to Agency upon the authorization from Non-Agency End User (“**Notifications**”);

WHEREAS, Agency desires to purchase, use and/or have installed access to the Flock Service in order to create, view, search and archive Footage and receive Notifications, including those from non-Agency users of the Flock System (where there is an investigative purpose) such as schools, neighborhood home owners associations, businesses, and individual users;

WHEREAS, unless legally required, because Footage is stored for no longer than 30 days in compliance with Flock’s records retention policy, Agency is responsible for extracting, downloading and archiving Footage from the Flock System on its own storage devices; and

WHEREAS, Flock desires to provide Agency the Flock Service and any access thereto, subject to the terms and conditions of this Agreement, solely for the purpose of crime awareness and prevention by police departments and archiving for evidence gathering (“**Purpose**”).

AGREEMENT

NOW, THEREFORE, Flock and Agency agree as follows and further agree to incorporate the Recitals into this Agreement.

1. DEFINITIONS

Certain capitalized terms, not otherwise defined herein, have the meanings set forth or cross-referenced in this Section 1.

flock safety

1.1 “Authorized End User” shall mean any individual employees, agents, or contractors of Agency accessing or using the Services through the Web Interface, under the rights granted to Agency pursuant to this Agreement.

1.2 "**Agency Data**" will mean the data, media and content provided by Agency through the Services. For the avoidance of doubt, the Agency Content will include the Footage and geolocation information and environmental data collected by sensors built into the Units.

1.3 "**Documentation**" will mean text and/or graphical documentation, whether in electronic or printed format, that describe the features, functions and operation of the Services which are provided by Flock to Agency in accordance with the terms of this Agreement.

1.4 "**Embedded Software**" will mean the software and/or firmware embedded or preinstalled on the Hardware.

1.5 "**Flock IP**" will mean the Flock Services, the Documentation, the Hardware, the Embedded Software, the Installation Services, and any and all intellectual property therein or otherwise provided to Agency and/or its Authorized End Users in connection with the foregoing.

1.6 "**Footage**" means still images and/or video captured by the Hardware in the course of and provided via the Services.

1.7 "**Hardware**" shall mean the Flock Gate Cameras and any other physical elements that interact with the Embedded Software and the Web Interface to provide the Services. The term "**Hardware**" excludes the Embedded Software.

1.8 "**Installation Services**" means the services provided by Flock regarding the installation, placements and configuration of the Hardware, pursuant to the Statement of Work attached hereto.

1.9 "**Flock Services**" means the provision, via the Web Interface, of Flock's software application for automatic license plate detection, searching image records, and sharing Footage.

1.10 "**Non-Agency End User**" means a Flock's non-Agency customer that has elected to give Agency access to its data in the Flock System for investigative purposes.

1.11 "**Non-Agency End User Data**" means the Footage, geolocation data, environmental data and/or Notifications of a Non-Agency End User for investigative purposes only.

1.12 “**Unit(s)**” shall mean the Hardware together with the Embedded Software.

1.13 “**Web Interface**” means the website(s) or application(s) through which Agency and its Authorized End Users can access the Services in accordance with the terms of this Agreement.

1.14 “**Aggregated data**” means information that relates to a group or category of customers, from which individual customers' identities have been removed, that is not linked or reasonably linkable to any customer, including via a device.

2. FLOCK SERVICES AND SUPPORT

2.1 Provision of Access. Subject to the terms of this Agreement, Flock hereby grants to Agency a non-exclusive, non-transferable right to access the features and functions of the Flock Services via the Web Interface during the Service Term and No-Fee Term, solely for the Authorized End Users. The Footage will be available for Agency to access via the Web Interface for 30 days. Authorized End Users will be required to sign up for an account, and select a password and username (“**User ID**”). Flock will also provide Agency the Documentation to be used in accessing and using the Flock Services. Agency shall be responsible for all acts and omissions of Authorized End Users, and any act or omission by an Authorized End User which, if undertaken by Agency, would constitute a breach of this Agreement, shall be deemed a breach of this Agreement by Agency. Agency shall undertake reasonable efforts to make all Authorized End Users aware of the provisions of this Agreement as applicable to such Authorized End User's use of the Flock Services and shall cause Authorized End Users to comply with such provisions. Flock may use the services of one or more third parties to deliver any part of the Flock Services, including without limitation using a third party to host the Web Interface which make the Flock Services available to Agency and Authorized End Users. Flock will pass-through any warranties that Flock receives from its then current third-party service provider to the extent that such warranties can be provided to Agency. SUCH WARRANTIES, AS PROVIDED AS HONORED BY SUCH THIRD PARTIES, ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND FLOCK'S SOLE AND EXCLUSIVE LIABILITY WITH REGARD TO SUCH THIRD-PARTY SERVICES, INCLUDING WITHOUT LIMITATION HOSTING THE WEB INTERFACE. Agency agrees to comply with any acceptable use policies and other terms of any third-party service provider that are provided or otherwise made available to Agency from time to time.

2.2 Embedded Software License. Subject to all terms of this Agreement, Flock grants Agency a limited, non-exclusive, non-transferable, non-sublicensable (except to the Authorized End Users), revocable right to use the Embedded Software as installed on the Hardware by Flock; in each case, solely as necessary for Agency to use the Flock Services.

2.3 Documentation License. Subject to the terms of this Agreement, Flock hereby grants to Agency a non-exclusive, nontransferable right and license to use the Documentation during the Service Term for Agency's internal purposes in connection with its use of the Flock Services as contemplated herein.

2.4 Usage Restrictions. Agency will not, and will not permit any Authorized End Users to, (i) copy or duplicate any of the Flock IP; (ii) decompile, disassemble, reverse engineer or otherwise attempt to obtain or perceive the source code from which any software component of any of the Flock IP is compiled or interpreted, or apply any other process or procedure to derive the source code of any software included in the Flock IP, or attempt to do any of the foregoing, and Agency acknowledges that nothing in this Agreement will be construed to grant Agency any right to obtain or use such source code; (iii) modify, alter, tamper with or repair any of the Flock IP, or create any derivative product from any of the foregoing, or attempt to do any of the foregoing, except with the prior written consent of Flock; (vi) interfere or attempt to interfere in any manner with the functionality or proper working of any of the Flock IP; (v) remove, obscure, or alter any notice of any intellectual property or proprietary right appearing on or contained within any of the Application IP; (vii) use the Flock Services for timesharing or service bureau purposes or otherwise for the benefit of a third party or any purpose other than the Purpose; or (viii) assign, sublicense, sell, resell, lease, rent or otherwise transfer or convey, or pledge as security or otherwise encumber, Agency's rights under Sections 2.1, 2.2, or 2.3. Non-agency data may only be accessed for investigative purposes.

2.5 Retained Rights; Ownership. As between the Parties, subject to the rights granted in this Agreement, Flock and its licensors retain all right, title and interest in and to the Flock IP and its components, and Agency acknowledges that it neither owns nor acquires any additional rights in and to the foregoing not expressly granted by this Agreement. Agency further acknowledges that Flock retains the right to use the foregoing for any purpose in Flock's sole discretion. There are no implied rights.

2.6 Suspension. Notwithstanding anything to the contrary in this Agreement, Flock may temporarily suspend Agency's and any Authorized End User's access to any portion or all of the Flock IP if (i) Flock reasonably determines that (a) there is a threat or attack on any of the Flock IP; (b) Agency's or any Authorized End User's use of the Flock Service disrupts or poses a security risk to the Flock Service or any other customer or vendor of Flock; (c) Agency or any Authorized End User is/are using the Flock IP for fraudulent or illegal activities; (d) Flock's provision of the Flock Services to Agency or any Authorized End User is prohibited by applicable law; or (e) any vendor of Flock has suspended or terminated Flock's access to or use of any third party services or products required to enable Agency to access the Flock (each such suspension, in accordance with this Section 2.6, a "***Service Suspension***"). Flock will make commercially reasonable efforts, circumstances permitting, to provide written notice of any Service Suspension to Agency (including notices sent to Flock's registered email address) and to provide updates regarding

resumption of access to the Flock IP following any Service Suspension. Flock will use commercially reasonable efforts to resume providing access to the Application Service as soon as reasonably possible after the event giving rise to the Service Suspension is cured. Flock will have no liability for any damage, liabilities, losses (including any loss of data or profits) or any other consequences that Agency or any Authorized End User may incur as a result of a Service Suspension.

2.7 Installation Services.

2.7.1 Designated Locations. Prior to performing the physical installation of the Units, Flock shall advise Agency on the location and positioning of the Units for optimal license plate image capture, as conditions and location allow. While Flock will provide advice regarding the location of positioning of such Units, Agency will have the ultimate decision regarding the location, position and angle of the Units (each Unit location so designated by Agency, a “**Designated Location**”). Due to the fact that Agency selects the Designated Location, Flock shall have no liability to Agency resulting from any poor performance, functionality or Footage resulting from or otherwise relating to the Designated Locations. After an installation plan with Designated Locations and equipment has been agreed upon by both Flock and the Agency, any subsequent changes to the installation plan driven by Agency's request will incur a \$250 charge in addition to any equipment charges. These changes include but are not limited to camera re-positioning, adjusting of camera mounting, re-angling, changes to heights of poles, and removing foliage.

2.7.2 Agency's Installation Obligations. Agency agrees to allow Flock and its agents reasonable access to the designated installation locations at all reasonable times upon reasonable notice for the purpose of performing the installation work (together with the preceding sentence, the “**Agency Installation Obligations**”). It is understood that the Installation Fees do not include any permits or associated costs, any federal, state or local taxes including property, license, privilege, sales, use, excise, gross receipts or other similar taxes which may now or hereafter become applicable to, measured by or imposed upon or with respect to the installation of the Hardware, its use, or any other services performed in connection therewith and that Agency shall be solely responsible for the foregoing. Agency represents and warrants that it has all necessary right title and authority and hereby authorizes Flock to install the Hardware at the Designated Locations and to make any necessary inspections or tests in connection with such installation.

2.7.3 Flock's Installation Obligations. The Hardware shall be installed in a workmanlike manner in accordance with Flock's standard installation procedures, and the installation will be completed within a reasonable time from the time the Designated Locations are selected by Agency. Following the initial installation of the Hardware, Flock's obligation to perform installation

work shall cease; however, Flock will continue to monitor the performance of the Units. Agency understands and agrees that the Flock Services will not function without the Hardware.

2.7.4 Security Interest. The Hardware shall remain the personal property of Flock and will be removed upon the termination or expiration of this Agreement. Agency agrees to perform all acts which may be necessary to assure the retention of title of the Hardware by Flock. Should Agency default in any payment for the Flock Services or any part thereof or offer to sell or auction the Hardware, then Agency authorizes and empowers Flock to remove the Hardware or any part thereof. Such removal, if made by Flock, shall not be deemed a waiver of Flock's rights to any damages Flock may sustain as a result of Agency's default and Flock shall have the right to enforce any other legal remedy or right.

2.8 Hazardous Conditions. Unless otherwise stated in the Agreement, Flock's price for its services under this Agreement does not contemplate work in any areas that contain hazardous materials, or other hazardous conditions, including, without limit, asbestos. In the event any such hazardous materials are discovered in the designated locations in which Flock is to perform services under this Agreement, Flock shall have the right to cease work immediately in the area affected until such materials are removed or rendered harmless. Any additional expenses incurred by Flock as a result of the discovery or presence of hazardous material or hazardous conditions shall be the responsibility of Agency and shall be paid promptly upon billing.

2.9 Support Services. Subject to the payment of fees, Flock shall monitor the performance and functionality of Flock Services and may, from time to time, advise Agency on changes to the Flock Services, Installation Services, or the Designated Locations which may improve the performance or functionality of the Services or may improve the quality of the Footage. The work, its timing, and the fees payable relating to such work shall be agreed by the Parties prior to any alterations to or changes of the Services or the Designated Locations ("**Monitoring Services**"). Subject to the terms hereof, Flock will provide Agency with reasonable technical and on-site support and maintenance services ("**On-Site Services**") in-person or by email at hello@flock-safety.com. Flock will use commercially reasonable efforts to respond to requests for support.

3. AGENCY RESTRICTIONS AND RESPONSIBILITIES

3.1 Agency Obligations. Agency agrees to provide Flock with accurate, complete, and updated registration information. Agency may not select as its User ID a name that Agency does not have the right to use, or another person's name with the intent to impersonate that person. Agency may not transfer its account to anyone else without prior written permission of Flock. Agency

will not share its account or password with anyone and must protect the security of its account and password. Agency is responsible for any activity associated with its account. Agency shall be responsible for obtaining and maintaining any equipment and ancillary services needed to connect to, access or otherwise use the Services. Agency will, at its own expense, provide assistance to Flock, including, but not limited to, by means of access to, and use of, Agency facilities and Agency equipment, as well as by means of assistance from Agency personnel, to the limited extent any of the foregoing may be reasonably necessary to enable Flock to perform its obligations hereunder, including, without limitation, any obligations with respect to Support Services or any Installation Services.

3.2 Agency Representations and Warranties. Agency represents, covenants, and warrants that Agency will use the Services only in compliance with this Agreement and all applicable laws and regulations, including but not limited to any laws relating to the recording or sharing of video, photo, or audio content and retention thereof.

4. CONFIDENTIALITY; AGENCY DATA; NON-AGENCY DATA

4.1 Confidentiality. Each Party (the “*Receiving Party*”) understands that the other Party (the “*Disclosing Party*”) has disclosed or may disclose business, technical or financial information relating to the Disclosing Party’s business (hereinafter referred to as “*Proprietary Information*” of the Disclosing Party). Proprietary Information of Flock is non-public information including but not limited to features, functionality, designs, user interfaces, trade secrets, intellectual property, business plans, marketing plans, works of authorship, hardware, customer lists and requirements, and performance of the Flock Services. Proprietary Information of Agency includes non-public Agency Data, Non-Agency End User Data, and data provided by Agency or a Non-Agency End User to Flock or collected by Flock via the Unit, including the Footage, to enable the provision of the Services. The Receiving Party shall not disclose, use, transmit, inform or make available to any entity, person or body any of the Proprietary Information, except as a necessary part of performing its obligations hereunder, and shall take all such actions as are reasonably necessary and appropriate to preserve and protect the Proprietary Information and the parties’ respective rights therein, at all times exercising at least a reasonable level of care. Each party agrees to restrict access to the Proprietary Information of the other party to those employees or agents who require access in order to perform hereunder. The Receiving Party agrees: (i) to take the same security precautions to protect against disclosure or unauthorized use of such Proprietary Information that the party takes with its own proprietary information, but in no event will a party apply less than reasonable precautions to protect such Proprietary Information, and (ii) not to use (except in performance of the Services or as otherwise permitted herein) or divulge to any third person any such Proprietary Information. Flock’s use of the Proprietary Information may include processing the Proprietary

Information to send Agency Notifications or alerts, such as when a car exits Agency's neighborhood, or to analyze the data collected to identify motion or other events.

The Disclosing Party agrees that the foregoing shall not apply with respect to any information that the Receiving Party can document (a) is or becomes generally available to the public, or (b) was in its possession or known by Receiving Party prior to receipt from the Disclosing Party, or (c) was rightfully disclosed to Receiving Party without restriction by a third party, or (d) was independently developed without use of any Proprietary Information of the Disclosing Party.

Nothing in this Agreement will prevent the Receiving Party from disclosing the Proprietary Information pursuant to any subpoena, summons, judicial order or other judicial or governmental process, provided that the Receiving Party gives the Disclosing Party reasonable prior notice of such disclosure to obtain a protective order or otherwise oppose the disclosure. For clarity, Flock may access, use, preserve and/or disclose the Footage to law enforcement authorities, government officials, and/or third parties, if legally required to do so or if Flock has a good faith belief that such access, use, preservation or disclosure is reasonably necessary to: (a) comply with a legal process or request; (b) enforce this Agreement, including investigation of any potential violation thereof; (c) detect, prevent or otherwise address security, fraud or technical issues; or (d) protect the rights, property or safety of Flock, its users, a third party, or the public as required or permitted by law, including respond to an emergency situation. Flock may store deleted Footage in order to comply with certain legal obligations but such retained Footage will not be retrievable without a valid court order.

4.2 Agency and Non-Agency End User Data. As between Flock and Agency, all right, title and interest in the Agency Data and Non-Agency End User Data, belong to and are retained solely by Agency. Agency hereby grants to Flock a limited, nonexclusive, royalty-free, worldwide license to use the Agency Data and Non-Agency End User Data and perform all acts with respect to the Agency Data and Non-Agency End User Data as may be necessary for Flock to provide the Flock Services to Agency, including without limitation the Support Services set forth in Section 2.9 above . As between Flock and Agency, Agency is solely responsible for the accuracy, quality, integrity, legality, reliability, and appropriateness of all Agency Data and Non-Agency End User Data. As between Agency and Non-Agency End Users that have prescribed access of Footage to Agency, each of Agency and Non-Agency End Users will share all right, title and interest in the Non-Agency End User Data. This Agreement does not by itself make any Non-Agency End User Data the sole property or the Proprietary Information of Agency.

4.3 Feedback. If Agency provides any suggestions, ideas, enhancement requests, feedback, recommendations or other information relating to the subject matter hereunder, Agency hereby assigns (and will cause its agents and representatives to assign) to Flock all right, title and interest (including intellectual property rights) with respect to or resulting from any of the foregoing.

4.4 Aggregated Data. Notwithstanding anything in this Agreement to the contrary, Flock shall have the right to collect and analyze data and other information relating to the provision, use and performance of various aspects of the Services and related systems and technologies (including, without limitation, information concerning Agency Data and data derived therefrom). Agency acknowledges that Flock will be compiling anonymized and/or aggregated data based on Agency Data and Non-Agency End User Data input into the Services (the “*Aggregated Data*”). Agency hereby grants Flock a non-exclusive, worldwide, perpetual, royalty-free right and license (during and after the Service Term hereof) to (i) use such Aggregated Data to improve and enhance the Services and for other development, diagnostic and corrective purposes in connection with the Services and other Flock offerings, and (ii) disclose the Agency Data and Non-Agency End User Data (both inclusive of any Footage) to enable law enforcement monitoring against law enforcement hotlists as well as provide Footage search access to law enforcement for investigative purposes only. No rights or licenses are granted except as expressly set forth herein.

5. PAYMENT OF FEES

5.1 Fees. Agency will pay Flock the first Usage Fee and the Installation Fee (the “Initial Fees”) as set forth on the Order Form on or before the 7th day following the Effective Date of this Agreement. Flock is not obligated to commence the Installation Services unless and until the Initial Fees have been made and shall have no liability resulting from any delay related thereto. Agency shall pay the ongoing Usage Fees set forth on the Order Form with such Usage Fees due and payable thirty (30) days in advance of each Payment Period. All payments will be made by either ACH, check, or credit card.

5.2 Changes to Fees. Flock reserves the right to change the Fees or applicable charges and to institute new charges and Fees at the end of the Initial Term or any Renewal Term, upon sixty (60) days 'notice prior to the end of such Initial Term or Renewal Term (as applicable) to Agency (which may be sent by email). If Agency believes that Flock has billed Agency incorrectly, Agency must contact Flock no later than sixty (60) days after the closing date on the first billing statement in which the error or problem appeared, in order to receive an adjustment or credit. Inquiries should be directed to Flock’s customer support department. Agency acknowledges and agrees that a failure to contact Flock within this sixty (60) day period will serve as a waiver of any claim Agency may have had as a result of such billing error.

5.3 Invoicing, Late Fees; Taxes. Flock may choose to bill through an invoice, in which case, full payment for invoices issued in any given month must be received by Flock thirty (30) days after the mailing date of the invoice. Unpaid amounts are subject to a finance charge of 1.5% per month on any outstanding balance, or the maximum permitted by law, whichever is lower, plus all expenses of collection, and may result in immediate termination of Service. Agency shall be responsible for all taxes associated with Services other than U.S. taxes based on Flock's net income.

5.4 No-Fee Term Access. Subject to Flock's record retention policy, Flock offers complimentary access to the Flock System for 30 days ("**No Fee Term**") to Agency when Non-Agency End Users intentionally prescribe access or judicial orders mandate access to Non-Agency End User Data. No hardware or installation services will be provided to Agency. No financial commitment by Agency is required to access the Flock Services or Footage. Should such access cause Flock to incur internal or out-of-pocket costs that are solely the result of the access, Flock reserves the right to invoice these costs to Agency under Section 5.3 and Agency agrees to pay them. For clarity, No-Fee Terms and Service Terms can occur simultaneously, and when a No-Fee Term overlaps with a Service Term, Agency agrees to pay the Initial Fees and Usage Fees payments according to Section 5.1.

6. TERM AND TERMINATION

6.1 Term. Subject to earlier termination as provided below, the initial term of this Agreement shall be for the period of time set forth on the Order Form (the "**Initial Term**"). *Following the Initial Term, this Agreement will automatically renew for successive renewal terms of the length set forth on the Order Form* (each, a "**Renewal Term**", and together with the Initial Term, the "**Service Term**") *unless either party gives the other party notice of non-renewal at least thirty (30) days prior to the end of the then-current term.*

6.2 Agency Satisfaction Guarantee. At any time during the agreed upon term, a customer not fully satisfied with the service or solution may self-elect to terminate their contract. Self-elected termination will result in a one-time fee of up to \$500 per camera to cover equipment removal costs. Upon self-elected termination, a refund will be provided, pro-rated for any fees paid for the remaining Term length set forth previously. Self-termination of the contract by the customer will be effective immediately. Flock will remove all equipment at own convenience upon termination. Advance notice will be provided.

6.3 Termination. In the event of any material breach of this Agreement, the non-breaching party may terminate this Agreement prior to the end of the Service Term by giving thirty (30) days prior written notice to the breaching party; provided, however, that this Agreement will not terminate if the breaching party has cured the breach prior to the expiration of such thirty-day period.

Either party may terminate this Agreement, without notice, (i) upon the institution by or against the other party of insolvency, receivership or bankruptcy proceedings, (ii) upon the other party's making an assignment for the benefit of creditors, or (iii) upon the other party's dissolution or ceasing to do business. Upon termination for Flock's breach, Flock will refund to Agency a pro-rata portion of the pre-paid Fees for Services not received due to such termination.

6.4 Effect of Termination. Upon any termination of the Service Term, Flock will collect all Units, delete all Agency Data, terminate Agency's right to access or use any Services, and all licenses granted by Flock hereunder will immediately cease. Agency shall ensure that Flock is granted access to collect all Units and shall ensure that Flock personnel does not encounter Hazardous Conditions in the collection of such units. Upon termination of this Agreement, Agency will immediately cease all use of Flock Services.

6.5 No-Fee Term. The initial No-Fee Term will extend, after entering into this Agreement, for 30 days from the date a Non-Agency End User grants access to their Footage and/or Notifications. In expectation of repeated non-continuous No-Fee Terms, Flock may in its sole discretion leave access open for Agency's Authorized End Users despite there not being any current Non-Agency End User authorizations. Such access and successive No-Fee Terms are deemed to be part of the No-Fee Term. Flock, in its sole discretion, can determine not to provide additional No-Fee Terms or can impose a price per No-Fee Term upon 30 days ' notice. Agency may terminate any No-Fee Term or access to future No-Fee Terms upon 30 days 'notice.

6.6 Survival. The following Sections will survive termination: 2.4, 2.5, 3, 4, 5 (with respect to any accrued rights to payment), 6.5, 7.4, 8.1, 8.2, 8.3, 8.4, 9.1 and 10.5.

7. REMEDY; WARRANTY AND DISCLAIMER

7.1 Remedy. Upon a malfunction or failure of Hardware or Embedded Software (a "Defect"), Agency must first make commercially reasonable efforts to address the problem by contacting Flock's technical support as described in Section 2.9 above. If such efforts do not correct the Defect, Flock shall, or shall instruct one of its contractors to, in its sole discretion, repair or replace the Hardware or Embedded Software suffering from the Defect. Flock reserves the right to refuse or delay replacement or its choice of remedy for a Defect until after it has inspected and tested the affected Unit; provided that such inspection and test shall occur within 72 hours after Agency notifies the Flock of defect. Flock agrees to replace cameras at a fee according to the then-current Reinstall Policy (<https://www.flocksafety.com/reinstall-fee-schedule>). Customer shall not be required to replace subsequently damaged or stolen units; however, Customer understands and agrees that functionality, including Footage, will be materially affected due to such subsequently damaged or stolen units and that Flock will have no liability to Customer regarding such affected functionality nor shall the Fees owed be impacted.

7.2 Exclusions. Flock will not provide the remedy described in Section 7.1 above if any of the following exclusions apply: (a) misuse of the Hardware or Embedded Software in any manner, including operation of the Hardware or Embedded Software in any way that does not strictly comply with any applicable specifications, documentation, or other restrictions on use provided by Flock; (b) damage, alteration, or modification of the Hardware or Embedded Software in any way; or (c) combination of the Hardware or Embedded Software with software, hardware or other technology that was not expressly authorized by Flock.

7.3 Warranty. Flock shall use reasonable efforts consistent with prevailing industry standards to maintain the Services in a manner which minimizes errors and interruptions in the Services and shall perform the Installation Services in a professional and workmanlike manner. Services may be temporarily unavailable for scheduled maintenance or for unscheduled emergency maintenance, either by Flock or by third-party providers, or because of other causes beyond Flock's reasonable control, but Flock shall use reasonable efforts to provide advance notice in writing or by e-mail of any scheduled service disruption.

7.4 Disclaimer. THE REMEDY DESCRIBED IN SECTION 7.1 ABOVE IS AGENCY'S SOLE REMEDY, AND FLOCK'S SOLE LIABILITY, WITH RESPECT TO DEFECTIVE HARDWARE AND/OR EMBEDDED SOFTWARE. THE FLOCK DOES NOT WARRANT THAT THE SERVICES WILL BE UNINTERRUPTED OR ERROR FREE; NOR DOES IT MAKE ANY WARRANTY AS TO THE RESULTS THAT MAY BE OBTAINED FROM USE OF THE SERVICES. EXCEPT AS EXPRESSLY SET FORTH IN THIS SECTION AND THE SUPPLEMENTAL CONDITIONS ADDENDUM, EXCEPT AS SET FORTH IN THE SUPPLEMENTAL CONDITIONS ADDENDUM, THE SERVICES AND INSTALLATION SERVICES ARE PROVIDED "AS IS" AND FLOCK DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE .

8. LIMITATION OF LIABILITY AND INDEMNITY

8.1 Limitation of Liability. NOTWITHSTANDING ANYTHING TO THE CONTRARY, FLOCK AND ITS SUPPLIERS (INCLUDING BUT NOT LIMITED TO ALL HARDWARE AND TECHNOLOGY SUPPLIERS), OFFICERS, AFFILIATES, REPRESENTATIVES, CONTRACTORS AND EMPLOYEES SHALL NOT BE RESPONSIBLE OR LIABLE WITH RESPECT TO ANY SUBJECT MATTER OF THIS AGREEMENT OR TERMS AND CONDITIONS RELATED THERETO

UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY, PRODUCT LIABILITY, OR OTHER THEORY: (A) FOR ERROR OR INTERRUPTION OF USE OR FOR LOSS OR INACCURACY, INCOMPLETENESS OR CORRUPTION OF DATA OR FOOTAGE OR COST OF PROCUREMENT OF SUBSTITUTE GOODS, SERVICES OR TECHNOLOGY OR LOSS OF BUSINESS; (B) FOR ANY INDIRECT, EXEMPLARY, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; (C) FOR ANY MATTER BEYOND FLOCK'S ACTUAL KNOWLEDGE OR REASONABLE CONTROL INCLUDING REPEAT CRIMINAL ACTIVITY OR INABILITY TO CAPTURE FOOTAGE OR IDENTIFY AND/OR CORRELATE A LICENSE PLATE WITH THE FBI DATABASE; (D) FOR ANY PUBLIC DISCLOSURE OF PROPRIETARY INFORMATION MADE IN GOOD FAITH; OR (E) FOR ANY AMOUNTS THAT, TOGETHER WITH AMOUNTS ASSOCIATED WITH ALL OTHER CLAIMS, EXCEED TWO TIMES THE AMOUNT OF FEES PAID AND/OR PAYABLE BY AGENCY TO FLOCK FOR THE SERVICES UNDER THIS AGREEMENT IN THE 12 MONTHS PRIOR TO THE ACT THAT GAVE RISE TO THE LIABILITY, IN EACH CASE, WHETHER OR NOT FLOCK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING LIMITATION OF LIABILITY SHALL NOT APPLY TO MATTERS STATED IN THE SUPPLEMENTAL CONDITIONS ADDENDUM. IN THE EVENT OF AN EMERGENCY, AGENCY SHOULD CONTACT 911 AND SHOULD NOT RELY ON THE SERVICES.

8.2 Additional No-Fee Term Requirements. IN NO EVENT SHALL FLOCK'S AGGREGATE LIABILITY, IF ANY, ARISING OUT OF OR IN ANY WAY RELATED TO THE NO-FEE TERM EXCEED \$100, WITHOUT REGARD TO WHETHER SUCH CLAIM IS BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY OR OTHERWISE. Except for Flock's willful acts, Agency agrees to pay for Flock's attorneys' fees to defend Flock for any alleged or actual claims arising out of or in any way related to the No-Fee Term.

8.3 Responsibility. Each Party to this Agreement shall assume the responsibility and liability for the acts and omissions of its own employees, deputies, officers, or agents, in connection with the performance of their official duties under this Agreement. Each Party to this Agreement shall be liable (if at all) only for the torts of its own officers, agents, or employees that occur within the scope of their official duties. Agency will not pursue any claims or actions against Flock's suppliers.

8.4 Indemnity. Agency hereby agrees to indemnify and hold harmless Flock against any damages, losses, liabilities, settlements and expenses (including without limitation costs and attorneys' fees) in connection with any claim or action that arises from an alleged violation of Section 3.2, a breach of this Agreement, Agency's Installation Obligations, Agency's sharing of any data in connection with the Flock system, Flock employees or agent or Non-Agency End Users, or otherwise from Agency's use of the Services, Hardware and any Software, including any claim that such actions violate any applicable law or third party right. Although Flock has no obligation to monitor Agency's use of the Services, Flock may do so and may prohibit any use of the Services it believes may be (or alleged to be) in violation of the Section 3.2 or this Agreement.

9. RECORD RETENTION

9.1 Data Preservation. The Agency agrees to store Agency Data and Non-Agency End User Data in compliance with all applicable local, state and federal laws, regulations, policies and ordinances and their associated record retention schedules. As part of Agency's consideration for paid access and no-fee access to the Flock System, to the extent that Flock is required by local, state or federal law to store the Agency Data or the Non-Agency End User Data, Agency agrees to preserve and securely store this data on Flock's behalf so that Flock can delete the data from its servers and, should Flock be legally compelled by judicial or government order, Flock may retrieve the data from Agency upon demand.

10. MISCELLANEOUS

10.1 Severability. If any provision of this Agreement is found to be unenforceable or invalid, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable.

10.2 Assignment. This Agreement is not assignable, transferable or sublicensable by Agency except with Flock's prior written consent. Flock may transfer and assign any of its rights and obligations, in whole or in part, under this Agreement without consent.

10.3 Entire Agreement. This Agreement and the Order Form(s) are the complete and exclusive statement of the mutual understanding of the parties and supersedes and cancels all previous written and oral agreements, communications and other understandings relating to the subject matter of this Agreement, and that all waivers and modifications must be in a writing signed by both parties, except as otherwise provided herein. None of Agency's purchase orders, authorizations or similar documents will alter the terms of this Agreement, and any such conflicting terms are expressly rejected.

10.4 Relationship. No agency, partnership, joint venture, or employment is created as a result of this Agreement and Agency does not have any authority of any kind to bind Flock in any respect whatsoever.

10.5 Costs and Attorneys' Fees. In any action or proceeding to enforce rights under this Agreement, the prevailing party will be entitled to recover costs and attorneys' fees.

10.6 Governing Law; Venue. This Agreement shall be governed by the laws of the State of California without regard to its conflict of laws provisions. The federal and state courts sitting in California will have proper and exclusive jurisdiction and venue

with respect to any disputes arising from or related to the subject matter of this Agreement. The parties agree that the United Nations Convention for the International Sale of Goods is excluded in its entirety from this Agreement.

10.7 Publicity. Flock has the right to reference and use Agency's name and trademarks and disclose the nature of the Services provided hereunder in each case in business and development and marketing efforts, including without limitation on Flock's website.

10.8 Export. Agency may not remove or export from the United States or allow the export or re-export of the Flock IP or anything related thereto, or any direct product thereof in violation of any restrictions, laws or regulations of the United States Department of Commerce, the United States Department of Treasury Office of Foreign Assets Control, or any other United States or foreign agency or authority. As defined in FAR section 2.101, the Services, the Hardware, the Embedded Software and Documentation are "commercial items" and according to DFAR section 252.2277014(a)(1) and (5) are deemed to be "commercial computer software" and "commercial computer software documentation." Consistent with DFAR section 227.7202 and FAR section 12.212, any use, modification, reproduction, release, performance, display, or disclosure of such commercial software or commercial software documentation by the U.S. Government will be governed solely by the terms of this Agreement and will be prohibited except to the extent expressly permitted by the terms of this Agreement.

10.9 Headings. The headings are merely for organization and should not be construed as adding meaning to the Agreement or interpreting the associated Sections.

10.10 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

10.11 Authority. Each of the below signers of this Agreement represent that they understand this Agreement and have the authority to sign on behalf of and bind the organizations and individuals they are representing.

10.12 Notices. All notices under this Agreement will be in writing and will be deemed to have been duly given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by facsimile or e-mail; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested.

flock safety

EXHIBIT B

INSURANCE REQUIREMENTS

1) Insurance. **CITY RISK MANAGER TO REVIEW PRIOR TO EACH USE**

- (1) Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Consultant shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section.
- (2) Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Consultant, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Consultant agrees to amend, supplement or endorse the policies to do so.
 - (a) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 0001, or the exact equivalent, with limits of not less than \$1,000,000 per occurrence and no less than \$2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); or (3) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.
 - (b) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 0001 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than \$1,000,000 combined limit for each occurrence. *****NOTE: If Consultant does not own any company vehicles or may not be able to purchase a Business Automobile Insurance Policy, the requirement may be satisfied by providing either of the following:** (1) a Personal Automobile Liability policy for the Consultant's own vehicle stipulating "Automobile Liability Insurance with a limit of not less than \$1,000,000 each accident"; or (2) a non-owned auto endorsement to the Commercial General Liability policy if Consultant uses vehicles of others (e.g., vehicles of employees). **ALWAYS DELETE THIS SECTION IF NOT USED.***]**
 - (c) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than \$1,000,000 per accident for bodily injury and disease.
 - (d) Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Consultant's profession with limits of not less than \$1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting

period will be exercised for a period of at least three (3) years from termination or expiration of this Agreement.

- (3) Insurance Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

- (a) Commercial General Liability [INSERT "and Pollution Liability"; OTHERWISE, ALWAYS DELETE]:

- (i) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement.

- i. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Consultant; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Consultant shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement.

- (ii) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

- (b) Automobile Liability:

- (c) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

- (4) Professional Liability (Errors & Omissions):

- (a) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

- (b) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

- (5) Workers' Compensation:

- (a) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

- (b) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

- (6) Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

- (7) Waiver of Subrogation. All policies of Commercial General Liability and Automobile Liability insurance shall contain or be endorsed to waive subrogation against the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby waives its own right of recovery against the City, its officials, officers, employees, agents, and volunteers, and shall require similar written express waivers and insurance clauses from each of its subconsultants.
- (8) Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.
- (9) Evidence of Insurance. The Consultant, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Consultant shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.
- (10) Failure to Maintain Coverage. In the event any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced immediately so as to avoid a lapse in the required coverage, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Consultant or City will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, City may cancel this Agreement effective upon notice.
- (11) Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.
- (12) Enforcement of Agreement Provisions (non estoppel). Consultant acknowledges and agrees that actual or alleged failure on the part of the City to inform Consultant of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.
- (13) Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Appendix are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.
- (14) Insurance for Subconsultants. Consultant shall include all subconsultants engaged in any work for Consultant relating to this Agreement as additional insureds under the Consultant's policies, or the Consultant shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Consultant's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents, and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement

providing equivalent coverage. Consultant shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Consultant shall provide satisfactory evidence of compliance with this section upon request of the City.



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Mariana Sobolewski, Assistant to the City Manager

DATE: January 19, 2021

SUBJECT: Adopt a Resolution creating the Neighborhood Camera Rebate Program.

Recommendation:

Staff recommends approval of the implementation of the City of Wasco's Neighborhood Camera Rebate Program.

Discussion:

On January 5, 2021 City Council gave direction to the City Manager regarding the creation of a camera rebate program for Wasco residents and businesses utilizing Measure X funding. The introduction of this program was discussed with unanimous support from all five City Council Members. The desired outcome is abundant community support and participation to combat crime in the City of Wasco.

The Neighborhood Camera Rebate Program creates a rebate for residents, businesses, nonprofits, and religious institutions, located in the City of Wasco city limits, to purchase and install security camera systems on their property which face the right of way and register them with the Kern County Sheriff's Office (KCSO). The proposed program is outlined below:

The program may provide a maximum rebate of up to \$150.00 per address. For the first qualified, functioning, and registered camera the rebate is \$100.00. If the same resident purchases a second camera, it may qualify for a \$50.00 rebate (based on the actual cost of the camera). NOTE: If the value of the camera is less than \$100.00, the rebate will only be 50% of the cost of the camera. Maximum allowable rebate is \$150.00 per resident. A camera with a motion detected flood light is eligible for the maximum rebate of \$150.00. Some cameras available for purchase may be less than the rebate amount. The rebate amount may cover 100% of the cost or up to an amount Council wishes.

Example Cameras and Vendors:

Camera available for in-store pick-up at Wasco Walmart:

| Camera | Price |
|---|----------|
| Merkury Innovations Smart Doorbell Camera, 1080p | \$59.00 |
| Night Owl 8 Channel 1080P, Wired DVR, 4 Wired Cameras & 1TB HDD | \$199.00 |

Available for in-store pick up

| Retailer | Camera | Price |
|------------|---|----------|
| Target | Arlo Wired Video Doorbell | \$99.00 |
| Target | Ring Video Doorbell 3 | \$199.00 |
| Target | Ring Spotlight Cam- Wireless | \$199.00 |
| Target | Blink Outdoor (2) Camera | \$179.00 |
| Target | Arlo Essential 1080P Wire Free Outdoor Camera | \$99.00 |
| Best Buy | Arlo Essential Spotlight Camera (3-pack) Wire-Free 1080p | \$299.00 |
| Best Buy | Blink Outdoor 3 Cam Kit, wireless, motion detection | \$249.00 |
| Best Buy | Lorex 8 Channel, 4-camera Indoor/Outdoor Wired, 4K UHD 2TB | \$349.99 |
| Best Buy | Blink Outdoor Camera(1) | \$99.99 |
| Best Buy | Night Owl, Expandable 10 Channel WiFi NVR (4) Spotlight Cameras, 1080p | \$399.00 |
| Best Buy | Eufy- Outdoor Wireless 1080p Security Floodlight Camera | \$199.00 |
| Home Depot | Defender Guard Bullet Outdoor 2K (4MP) IP Wireless Security Surveillance Camera (2pack) | \$152.99 |
| Home Depot | EZVIZ 1080p WiFi Outdoor Surveillance Camera with 100ft. Night Vision | \$49.99 |
| Home Depot | Oco Pro Bullet Outdoor/Indoor 1080p Cloud and Security Wireless | \$89.99 |
| Home Depot | NexHT Smart WiFi 1080p Wireless Security Camera with Night Vision, 2-way Audio | \$22.99 |

The rebate is exclusively for the cost of the camera(s) not including any applicable tax. The rebate does not include installation, internet access (if required), additional storage, accessories, or any cameras that are purchased, but not installed on the exterior of the property. Rebates will be given only for the cameras that are installed on the exterior of the property which face the right of way.

Cameras must have been purchased and installed on the property after January 1, 2021 and must be registered with the Kern County Sheriff's Office; proof of purchase is required. Applicant must provide email received from KCSO as proof of registration. Security cameras must monitor the exterior of the registered building and face the right of way to qualify.

Applicants must be an owner or tenant of a property that is used as a residence, business, nonprofit, or religious institution located in within the city limits in the City of Wasco. Applicants who are tenants must provide documentation from the property owner approving the installation of the security camera system on the property.

To apply for the rebate, a completed application must be completed with all required documentation. Upon submission of a completed application, you will receive an e-mail from the Assistant to the City Manager, Mariana Sobolewski acknowledging successful submission of the application. It may take up to 45 working days to issue rebate provided application is complete and approved.

Additional terms and specifications may be added by the City Manager or his disgree.



Fiscal Impact:

The City would be required to make the necessary adjustments in the mid-year budget to obligate \$100,000.00 of Measure X funds for camera rebate program.

Attachments:

1. Resolution
2. Neighborhood Camera Rebate Program Overview
3. Application

RESOLUTION NO. 202 - _____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WASCO APPROVING THE
NEIGHBORHOOD SECURITY CAMERA REBATE PROGRAM.**

WHEREAS, the City wishes to enhance safety measures within city limits in the City of Wasco to cultivate a community that feels safe to be an active participant in helping to deter crime and therefore creating additional resources for Kern County Sheriff's Office for solving crime in the City of Wasco; and

WHEREAS, after crimes have occurred, vital information may be captured by residential or business security cameras that may help solve the crime; and

WHEREAS, Video surveillance is one of the best methods for apprehending criminals and aiding the District Attorney's Office convicting suspects who are caught committing a crime; and

WHEREAS, the impacts of the implementation of Assembly Bill (AB) 109, Proposition 47, and Proposition 57 have had statewide consequences related to public safety; and

WHEREAS, Wasco has experienced an increase in crime in the community; and,

WHEREAS, the Kern County Sheriff's Office maintains a Camera Registry Program so that residents and businesses may register their privately-owned video surveillance system to assist deputies in identifying possible video footage when a crime occurs ; and,

WHEREAS, as of December 29, 2020 the Kern County Sheriff's Office only had fourteen(14) residents and businesses registered; and,

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Wasco as follows:

SECTION 1: Authorizes the City Manager to develop and manage a Neighborhood Security Camera Rebate Program Program subject to City Attorney review.

SECTION 3: Funds shall be appropriated as necessary out of Measure X funds and/or included in future budget amendments.

-o0o-

I HEREBY CERTIFY that the foregoing Resolution No. 2021 - _____ was passed and adopted by the Council of the City of Wasco at a regular meeting thereof held on January 19, 2021 by the following vote:

COUNCIL MEMBERS: CORTEZ, GARCIA, MARTINEZ, PALLARES, REYNA

AYES:

NOES:

ABSTAIN:

ABSENT:

ALEXANDRO GARCIA,
MAYOR of the City of Wasco

Attest:_____

MARIA O. MARTINEZ
CITY CLERK and Ex Officio Clerk of
the Council of the City of Wasco

DRAFT

NEIGHBORHOOD CAMERA REBATE PROGRAM DESCRIPTION

The Neighborhood Camera Rebate Program, creates a rebate for residents, businesses, nonprofits, and religious institutions, located in the City of Wasco city limits, to purchase and install security camera systems on their property which face the right of way and register them with the Kern County Sheriff's Office (KCSO).

The program provides a maximum rebate of up to \$150 per address. For the first qualified, functioning, and registered camera the rebate is \$100. If the same resident purchases a second camera, it may qualify for a \$50.00 rebate (based on the actual cost of the camera). Maximum allowable rebate is \$150.00 per resident. A camera with a motion detected flood light is eligible for the maximum rebate of \$150.00.

NOTE: If the value of the camera is less than \$100.00, the rebate will only be 50% of the cost of the camera.

The rebate is exclusively for the cost of the camera(s) not including any applicable tax. The rebate does not include installation, internet access (if required), additional storage, accessories, or any cameras that are purchased, but not installed on the exterior of the property.

Rebates will be given only for the cameras that are installed on the exterior of the property which face the right of way. If you have purchased your camera system on an installment plan, submit your application when it is paid in full.

This program is intended to help deter crime and assist law enforcement with investigations. Please review the following information and if you have additional questions, please read more about the program at the Neighborhood Camera Program on the City of Wasco's website www.cityofwasco.org

REQUIREMENTS

- The camera system must have been purchased and installed on the property after January 1, 2021.
- The camera must be registered with the Kern County Sheriff's Office (KCSO).
- Only two security cameras per property address are eligible for a maximum rebate of \$150.00.
- Security camera systems must monitor the exterior of the registered building and face the right of way to qualify.
- Applicants will be required to verify installation of the system (see application for complete details).
- Applicants must provide camera specifications to verify if camera meets the minimum specifications below.
- Applicants must provide a copy of proof of purchase.
- Applicants must provide proof of camera registry with KCSO.
- Applicants must include a still image of their camera's view.

Camera System Specifications

Security camera systems shall meet minimum technical and video quality specifications below, and must retain video footage for at least forty-eight (48) hours. Some systems may require the purchase of cloud-based storage plans. The cost of these plans are not reimbursable. All cameras must monitor the exterior of the residence/building and face the right of way. If installing a camera outdoors, we strongly recommend purchasing a camera that is designed for the outdoors as opposed to modifying one designed for indoor use.

| Digital Cameras | Minimum Specifications | Recommended Specifications |
|----------------------|------------------------|----------------------------|
| Camera Resolution | 1 Megapixel | 3 Megapixel |
| Screen Resolution | 1280x720 | 2048x1536 |
| Video Quality | Standard | High |
| Frames per Second | 5 | 15 |
| Storage Requirements | 250 GB per camera | 2.5 TB per camera |

| Analog Cameras | Minimum Specifications | Recommended Specifications |
|-----------------------|-------------------------------|-----------------------------------|
| Screen Resolution | 640X480 | 640X480 |
| Frames per Second | 5 | 15 |
| Storage Requirements | 125 GB per camera | 350 GB per camera |

Restrictions

Applicants must be an owner or tenant of a property that is used as a residence, business, nonprofit, or religious institution located in within the city limits in the City of Wasco. Applicants who are tenants must provide documentation from the property owner approving the installation of the security camera system on the property.

By participating in this program, the Applicant acknowledges that he or she will not use the security camera for any unlawful or harassing purposes and will comply with all applicable building and electrical code requirements.

APPLICATION

To apply for a rebate, complete the following three steps.

Step 1: Purchase and install the camera(s) monitoring the exterior of your property and facing the right of way.

Step 2: Register your camera system with Kern County Sheriff's Office (KCSO) at https://www.kernsheriff.org/Camera_Program. After submitting your registration, you must proceed to Step 3 and complete the rebate application.

Step 3: Complete the [Camera Rebate Application](#).

- *You will need copy of your sales receipt*
- Additional requirements are listed in the application.

Do not submit your application until the cameras are installed on the property and registered with the Kern County Sheriff Office (KCSO). You must answer all questions in the application and provide proof of purchase of cameras that

details the number and cost of cameras purchased, and demonstrates payment made.

Upon submission of a completed application, you will receive an e-mail from the Assistant to the City Manager, Mariana Sobolewski acknowledging successful submission of the application.

Note: It may take up to 45 working days to issue your rebate provided your application is complete and approved.

Neighborhood Camera Rebate Program Application

The program

For a limited time the City is offering a maximum of **one (1) rebate for the owner of a residence** who installs a security camera on the exterior of their property and a maximum of **one (1) rebate for a business** which installs a security camera at their business. The rebate amount is for a maximum of \$150.00 and is subject to the conditions outlined below.

Public safety is a priority for Council and it is believed the addition of security cameras to businesses and residences will support law enforcement, deter criminal activity and contribute to the overall safety and security in the community.

Who is eligible for the program?

This offer is only for businesses or owners of existing residential buildings located within the municipal boundaries of the City of Wasco. Security camera systems must be installed on the exterior of the home/building facing the right of way. Rebates will be issued on a first-come, first-served basis, accepting only valid applications for **security cameras purchased on or after January 1, 2021**, subject to availability of funds. The rebate project may be changed or terminated without notice.

Prior to installing cameras, residents and businesses must ensure the installation of cameras does not violate privacy regulations, including the *Personal Information Protection Act* and *Privacy Act*.

The City of Wasco will issue a rebate check to the applicant based on the application requirements. Rebates are up to a maximum of \$150.00. All claims are subject to verification.

What do I need to apply?

1. Completed application form (on reverse).
2. Proof of installation as follows:
 - ☐ Receipt dated on or after January 1, 2021 for purchase of a security camera.
 - ☐ Photograph of camera installed in place or installer receipt.
 - ☐ Confirmation email from Kern County Sheriff's Office as receipt of camera registration.

We recommend making a copy of your completed application form and receipts for your own records, as all information submitted will not be returned.

Where do I send my completed application form?

Drop off or mail your completed application form to:

City of Wasco
846 8th Street
Wasco, CA 93280



Applicant information:

Owner / Business Name(s): _____

Mailing Address: _____

_____ Postal Code: _____

Installation Address (if different from above): _____

_____ Postal Code: _____

Daytime phone: _____ Email (optional): _____

Security Camera Cost: _____ Installation Cost: _____

I hereby certify that the information given is correct and the noted security camera has been installed at the installation address. I understand that submission of an application does not guarantee a rebate. By participating in this program, I acknowledge I will not use the security camera for any unlawful or harassing purposes; I will comply with all applicable building and electrical codes requirements, protection of privacy legislation and any other applicable regulations enacted by other levels of government; and I release the City from any and all liability resulting from improper installation or inappropriate use of the camera.

To ensure your application's success, make sure it is complete with **proof of purchase and photos attached**. All rebates are issued on a first-come, first-served basis and may take up to 45 days to process. All rebates are subject to availability of funds and the rebate program may be changed or terminated without notice.

Applicant Signature: _____

Date: _____

Camera Technical Specifications

Technical and video quality specifications can affect how effective security cameras are in assisting law enforcement. To assist residents in selecting a camera, examples of low and high quality specifications are outlined below. It is recommended video footage be retained for at least 48 hours.

Cameras must be outdoor, weather-proof cameras. We strongly recommend purchasing a camera designed for the outdoors rather than modifying one designed for indoor use.

| Digital Cameras | Low Quality Specifications | High Quality Specifications |
|----------------------|----------------------------|-----------------------------|
| Camera Resolution | 1 Megapixel | 3 Megapixel |
| Screen Resolution | 1280x720 | 2048x1536 |
| Video Quality | Standard | High |
| Frames per Second | 5 | 15 |
| Storage Requirements | 250 GB per camera | 2.5 TB per camera |
| Analog Cameras | Low Quality Specifications | High Quality Specifications |
| Screen Resolution | 640X480 | 640X480 |
| Frames per Second | 5 | 15 |
| Storage Requirements | 125 GB per camera | 350 GB per camera |



**Questions about this form?
Please call 661-758-7214**

This information is being collected under section 26(c) of the Freedom of Information and Protection of Privacy Act for the purpose of administering the rebate program and will be protected under the provisions of the Act.



STAFF REPORT

CITY OF WASCO

TO: Honorable Mayor and Council Members

FROM: Daniel Ortiz-Hernandez, City Manager
Biridiana Bishop, Public Works Director

DATE: January 19, 2021

SUBJECT: Information Regarding Kern County's Plan to Raise Land Use Fee

Recommendation:

This is an information item.

Discussion:

Illegal dumping has been a persistent problem that poses negative environmental, public health, economic, and community impacts throughout Kern County. On January 8, 2020 Kern County Public Works held a meeting to discuss illegal dumping and a proposal to increase the existing land use fee to support illegal dumping programs in Kern County. Below is a table outlining the proposed increase property owners will see if the County proceeds with the intended method to mitigate costs associated with illegal dumping.

| Property Type | Current Fee | Proposed Fee | Difference |
|--------------------|------------------|-------------------|-------------------|
| Single Family Home | \$82.89 per home | \$105.00 per home | +\$22.11 per home |
| Apartments | \$66.30 per unit | \$84.00 per unit | +\$17.70 per unit |

Kern County currently supports a number of programs including: Keep Kern Beautiful, Keep Kern Roads Clean, Community Cleanups, 14 landfills and transfer stations, 3 special waste facilities with mobile collection events, bulky waste events, curbside bulky waste pick-up programs, and illegal dumping crews that pick up waste. Kern County staff indicated that although a substantial number of programs are offered, the illegal dumping issue persists and requires more resources. Some of the resources that will be supported by the increase in land use fee include:

- Additional Enforcement
- Additional Public Outreach and Education
- Additional County Clean Up Crews
 - Anticipate five additional crews:
 - § Locations – Metro Bakersfield (2), Eastern Side (1), Western Side (1), and Shafter/McFarland (1)

The County currently has no funding source to address illegal dumping and has not increased the land use fee since 2012. The County will be following all Proposition 218

processes as they are required to impose the increase. County staff indicated the increase in fee will be placed in the general fund and utilized to cover the costs of additional crews and additional programs to be instituted by Cities. They are recommending portioning out the increased fee based on maintained road mileage. Based on this recommendation, the County estimates Wasco will receive approximately \$82,717.28 in additional funding from the Land Use fee per year.

County staff indicated they wanted feedback from the cities to identify if this is a good time to proceed with the increase. City staff from Tehachapi, Arvin and Wasco expressed concerns associated with an increase this year as Cities are faced with additional costs associated with implementation of SB 1383 organics programs.

Fiscal Impact:

None.

Attachment:

1. Presentation Slides from Kern County Public Works Department RE: Illegal Dumping and Proposed Land Use Fee Increases