

CITY COUNCIL / LRA BOARD

Mayor/Chair:

Richard D. O'Brien

Vice Mayor/Chair (CM-D1) Luis Uribe

Council/Authority Members:

District 2 Rachel Hernandez

District 3 Cal Campbell

District 4 Darlene Barber-Martinez



CITY OF RIVERBANK

REGULAR CITY COUNCIL AND

LOCAL REDEVELOPMENT AUTHORITY

Board Hybrid Meetings

(In-Person: Face Covering Required)

(Virtual via ZOOM)

Council Chambers, 6707 Third St., Suite B

Riverbank, CA 95367

AGENDA

TUESDAY, OCTOBER 26, 2021– 6:00 P.M.

(THE AGENDA PACKET IS ONLINE AT [HTTP://WWW.RIVERBANK.ORG/AGENDACENTER](http://www.riverbank.org/agendacenter))

NOTICE: THIS MEETING WILL BE HELD IN ACCORDANCE WITH CALIFORNIA GOVERNMENT CODE SECTION 59453, SUBDIVISION (e) OF THE RALPH M. BROWN ACT (CALIFORNIA GC § 54950, ET SEQ.), THE FEDERAL AMERICANS WITH DISABILITIES ACT AND THE RECENT STANISLAUS COUNTY HEALTH OFFICER'S MANDATORY FACE COVERING ORDER (Sept.2, 2021). WHILE THIS MEETING WILL BE PHYSICALLY OPEN TO THE PUBLIC, GIVEN THE STATE OF EMERGENCY REGARDING THE THREAT OF COVID-19, MEMBERS OF THE PUBLIC MAY ALSO PARTICIPATE AND COMMENT VIA THE ZOOM VIRTUAL PLATFORM. REFER TO THE LAST PAGE OF THE AGENDA FOR PARTICIPATION INFORMATION.

1. CALL TO ORDER

2. FLAG SALUTE

3. INVOCATION

4. ROLL CALL

5. AGENDA CHANGES

6. CONFLICT OF INTEREST: *Any Council/Authority Member or Staff who has a direct Conflict of Interest on any scheduled agenda item to be considered is to declare their conflict at this time.*

7. PUBLIC COMMENTS (No action can be taken)

At this time, members of the public may comment on any item not appearing on the agenda, and within the subject matter jurisdiction of the City Council/LRA Board. Individual comments will be limited to a **maximum of 3 minutes (or as stated by the presiding Officer)** and time cannot be yielded to another person. Under State Law, matters presented during the public comment period cannot be discussed or acted upon.

Refer to the last page of this agenda for the Public Comment Procedures via ZOOM.

8. CONSENT CALENDAR

All items listed on the Consent Calendar are to be acted upon by a single action of the City Council/LRA Board unless requested by an individual Council/Authority Member or member of the public for special consideration. Otherwise, the recommendation of staff will be accepted and acted upon by motion of the City Council/LRA Board.

Item 8.1. Waive Readings. All Readings of ordinances and resolutions, except by title, are waived.

Item 8.2. Approval of the October 12, 2021 City Council and Local Redevelopment Authority Board Minutes.

- Item 8.3.** A **Resolution** Authorizing the City Manager to Execute a Contract with the Stanislaus Council of Governments (StanCOG) for the Suballocation of Regional Early Action Planning (REAP) Grant Funds

9. PUBLIC HEARINGS

The Public Hearing Notice was published in the Riverbank News on 10/13/2021

- Item 9.1.** **Public Hearing – Consideration of A Resolution to Adopt the 2020 Revised Urban Water Management Plan; and A Resolution to Adopt the 2020 Revised Water Shortage Contingency Plan** – Staff recommends City Council conduct the public hearing on the 2020 Public Draft Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) and consider the adoption of each resolution separately by roll call vote.

10. NEW BUSINESS

- Item 10.1.** **Redistricting Timeline Discussion** – Consider information from City staff regarding the redistricting process and associated timeline for adoption and implementation.
- Item 10.2.** **Consideration of a Resolution Authorizing the City to Implement Teleconferenced Public Meetings Pursuant to Assembly Bill 361 Allowing the City to Continue a Hybrid Virtual Meeting Environment** – Staff recommends Council adopt a Resolution authorizing the City to Implement Teleconferenced Public Meetings Pursuant to Assembly Bill 361 Allowing the City to Continue a Virtual Meeting Environment.
- Item 10.3.** **Resolution to Adopt the City of Riverbank’s Bicycle and Pedestrian Master Plan** – It is recommended that the City Council consider approving the Resolution to Adopt the City of Riverbank’s Bicycle and Pedestrian Master Plan.
- Item 10.4.** **A Resolution Approving a Memorandum Of Understanding with Cambridge Academies to Provide Outreach/Engagement and Shelter Operation Services for the City of Riverbank Funded by the California Emergency Solutions Grant Round 2 and Authorizing the City Manager to Execute the Agreement** – It is recommended that the City Council consider approving the proposed resolution approving the attached MOU with Cambridge Academies and Authorizing the City Manager to execute the agreement.
- Item 10.5.** **Consideration of A Resolution Declaring the City Owned Parcel Located at the Northeast Corner of 3rd St and Stanislaus Street - Assessors Parcel Number 132-012-024** – It is recommended that the City Council consider approving the proposed resolution declaring APN 132-012-024 surplus land under the Surplus Land Act.

11. COMMENTS/REPORTS

A brief report on notable attendance of a meeting or conference or other notable topics of City business shall be made. The Brown Act does not allow for discussion or action of items by the City Council/LRA Board during this time.

Item 11.1. Staff

Item 11.2. Council/Authority Member

Item 11.3. Mayor/Chair

12. CLOSED SESSION

The public will have a limit of **3 minutes** to comment on Closed Session item(s) as set forth on the agenda prior to the City Council/LRA Board recessing to Closed Session.

Item 12.1. **CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION**
(Pursuant to subdivision (b) of Government Code § 54956.9)
Number of cases: 2 potential cases

Item 12.2. **CONFERENCE WITH LABOR NEGOTIATORS**
(Pursuant to Government Code § 54957.6)
Agency representative: City Manager Sean Scully
Employee organizations: Riverbank Miscellaneous Employees
Riverbank Mid-Management Bargaining Unit

13. RECONVENE – REPORT FROM CLOSED SESSION**14. ADJOURNMENT**

- The next regular City Council meeting will be on Tuesday November 9th at 6:00 pm.
- The regular meeting on November 23rd is canceled by the City Council for the Thanksgiving Holiday.

AFFIDAVIT OF POSTING

I hereby certify under penalty of perjury, under the laws of the State of California that the foregoing agenda was posted at the meeting location, on the North City Hall public exterior bulletin board, the Riverbank Community Center, and the City's website 72 hours prior to the meeting in accordance to the California Ralph M. Brown Act.

Posted this Thursday, October 21, 2021

/s/ Annabelle H. Aguilar, CMC, City Clerk of Riverbank

**ADA COMPLIANCE STATEMENT**

In compliance with the Americans with Disabilities Act, and the Governor's Executive Order N-29-20, the City will make every effort to make reasonable modifications or accommodations from individuals with disabilities. Contact the Administration Dept. at (209) 863-7122 or the City Clerk at aquilar@riverbank.org at least (48) hours prior to the meeting to enable the City to make reasonable arrangements for accessibility.

NOTICE REGARDING NON-ENGLISH SPEAKERS

Pursuant to California Constitution Article III, Section IV, establishing English as the official language for the State of California, and in accordance with California Code of Civil Procedures Section 185, which requires proceedings before any State Court to be in English, notice is hereby given that all proceedings before the City of Riverbank City Council/LRA Board shall be in English and anyone wishing to address the Council is required to have a translator present who will take an oath to make an accurate translation from any language not English into the English language.



**TELECONFERENCE OR VIRUAL PLATFORM
PUBLIC PARTICIPATION COMMENT PROCEDURES
FOR THE CITY COUNCIL/LRA MEETINGS HELD IN
CONFORMANCE WITH THE BROWN ACT AS AMENDED BY SB 361**

PUBLIC "LIVE" VIEWING

- Government Channels: Charter- 2 and AT&T U-VERSE - 99
- YouTube Live <https://www.youtube.com/channel/UCq2x8QChEcknBq7uuJLcZow>
- Via ZOOM Platform (See instructions below)

SUBMITTING PUBLIC COMMENTS

Written Comments via Mail Service: Mail comments to City of Riverbank, Attn. City Clerk, 6707 Third Street, Suite A, Riverbank, CA 95367 by the 4:00 pm deadline of the meeting date. Call the City Clerk at (209) 863-7198 to ensure receipt.

Written Comments via Email to cityclerk@riverbank.org:

- Written comments must be received by 4:00 p.m. on the day of the meeting (Indicate Agenda Item # in the ***subject line***.) Comments received will not be read aloud at the meeting, however, will be distributed to the Council prior to consideration of the matter.
- Technology is not a 100% proven communication tool; please call the City Clerk at (209) 863-7198 to verify receipt of your comments.

Join via ZOOM Platform:

- **Learn about using ZOOM** - Visit <https://support.zoom.us/hc/en-us/categories/201146643>
- Visit <https://zoom.us/j/94943925973?status=success> for a free account or to download the app.
- Join by this link: <https://us02web.zoom.us/j/87522523722>
- Join by accessing website: <https://zoom.us/join>
 - o **Webinar ID: 875 2252 3722**
- Join by telephone: **1 669 900 9128 or 1 346 248 7799, plus Webinar ID**

ORAL COMMENTS VIA ZOOM: The Mayor will announce when public comments may be made for 3 minutes on the agenda item being considered, at which time you will (please make sure the volume on your video device is turned down.):

- o **Using a computer** - click on the "raise hand" feature in the webinar controls. This will alert staff that you wish to speak, and you will be unmuted.
- o **Using a Phone** - press ***9** to "raise the hand". This will alert staff that you wish to speak, and you will be unmuted.

If there are technical difficulties with the ZOOM platform or you get disconnected, please immediately call the teleconference phone number (209) 863-7172 so that Council may receive your comments. Council will be waiting for your call.

ORAL COMMENTS IN-PERSON: The Mayor will ask the audience if anyone wishes to comment, at that time you may approach the podium.

RIVERBANK CITY COUNCIL / LRA AGENDA ITEM NO. 8.1

SECTION 8: CONSENT CALENDAR

Meeting Date:	October 26, 2021
Subject:	Waiver of Readings
From:	Sean Scully, City Manager
Submitted by:	Annabelle Aguilar, CMC, City Clerk / LRA Recorder

RECOMMENDATION

It is recommended that the City Council / LRA Board approve the waiver of readings of any proposed ordinances and resolutions for consideration, except by title.

SUMMARY

In lieu of reading the entire text of a proposed ordinance or resolution that is introduced for consideration for adoption and approval, by majority vote, the City Council/LRA Board may waive the reading of the text and introduce the ordinance or resolution by title only for the record.

The full text of the proposed ordinances and resolutions, and any related documents that are part of the agenda packet, are available for review by the public on the City's website and in the City Clerk's office at City Hall (North) upon distribution to a majority of the City Council/LRA Board; typically 72 hours prior to the scheduled date and time of the meeting.

FINANCIAL IMPACT

There is no financial impact to this item.

ATTACHMENTS

There are no attachments to this report.

**RIVERBANK CITY COUNCIL / LOCAL REDEVELOPMENT AUTHORITY
AGENDA ITEM NO. 8.2**

SECTION 8: CONSENT CALENDAR

Meeting Date:	October 26, 2021
Subject:	Approval of the October 12, 2021, City Council and Local Redevelopment Authority Board Minutes
From:	Sean Scully, City Manager
Submitted by:	Annabelle Aguilar, CMC, City Clerk / LRA Recorder

RECOMMENDATION

It is recommended that the City Council / Local Redevelopment Authority Board approve the City Council /LRA Meeting Minutes as presented.

SUMMARY

The Draft Minutes of the October 12, 2021, regular City Council and the Local Redevelopment Authority Board meetings have been prepared for review and approval.

FINANCIAL IMPACT

There is no financial impact to this item.

ATTACHMENT

1. October 12, 2021, City Council and LRA Minutes

CITY COUNCIL / LRA BOARD

Mayor/Chair:

Richard D. O'Brien

Vice Mayor/Chair (CM-D1) Luis Uribe

Council/Authority Members:

District 2 Rachel Hernandez

District 3 Cal Campbell

District 4 Darlene Barber-Martinez



**CITY OF RIVERBANK
REGULAR CITY COUNCIL AND
LOCAL REDEVELOPMENT AUTHORITY
BOARD MEETINGS**

(In-Person & Virtual Hybrid Meeting)

Council Chambers is located at
6707 Third St., Suite B
Riverbank, CA 95367

MINUTES

TUESDAY, OCTOBER 12, 2021– 6:00 P.M.

NOTICE: THIS MEETING WAS HELD IN ACCORDANCE WITH CALIFORNIA GOVERNMENT CODE SECTION 59453, SUBDIVISION (e) OF THE RALPH M. BROWN ACT (CALIFORNIA GC § 54950, ET SEQ.), THE FEDERAL AMERICANS WITH DISABILITIES ACT AND THE RECENT STANISLAUS COUNTY HEALTH OFFICER'S MANDATORY FACE COVERING ORDER (Sept.2, 2021). WHILE THIS MEETING WAS PHYSICALLY OPEN TO THE PUBLIC, GIVEN THE STATE OF EMERGENCY REGARDING THE THREAT OF COVID-19, MEMBERS OF THE PUBLIC MAY ALSO PARTICIPATE AND COMMENT VIA THE ZOOM VIRTUAL PLATFORM. REFER TO THE LAST PAGE OF THE AGENDA FOR PARTICIPATION INFORMATION.

1. CALL TO ORDER – *This meeting was opened via the virtual platform at 6:04 p.m. with Mayor/Chair Richard D. O'Brien presiding.*

2. FLAG SALUTE – *Lead by Mayor O'Brien.*

3. INVOCATION – *Mayor O'Brien called for a Moment of Silence for the passing of former Council Member Mr. Alan Trawick. Reverend Charles Neal Conducted the Invocation.*

4. ROLL CALL – *All Members of the City Council were present.*

5. AGENDA CHANGES – *There were no changes made at this time; however, the Mayor later announced that consideration of the Closed Session Item was canceled.*

6. CONFLICT OF INTEREST: Any Council/Authority Member or Staff who has a direct Conflict of Interest on any scheduled agenda item to be considered is to declare their conflict at this time.

No one declared a conflict.

7. PUBLIC COMMENTS (No Action Can Be Taken)

At this time, members of the public may comment on any item not appearing on the agenda, and within the subject matter jurisdiction of the City Council/LRA Board. Individual comments will be limited to a **maximum of 3 minutes or as stated by the presiding Officer**. Under State Law, matters presented during the public comment period cannot be discussed or acted upon.

(Public Comment Procedures via ZOOM were provided on the last page of the agenda.)

There were no oral or written public comments.

8. PRESENTATIONS

Item 8.1. Proclamation – Hispanic Heritage Month – October 2021.

Mayor O'Brien presented the proclamation to Saint Francis of Rome Father Misael Avila who thanked Council for the recognition.

Item 8.2. Proclamation – Code Enforcement Officer Appreciation Week.

Mayor O'Brien presented the proclamation to City of Riverbank Neighborhood Improvement Officer Michele Garcia who thanked Council for the recognition.

Item 8.3. Introduction of Assistant Finance Director, Tammy Alcantor.

Director of Finance Marisela Garcia introduced newly hired employee Tammy Alcantor who thanked Council for the opportunity to work for the City of Riverbank.

9. CONSENT CALENDAR

All items listed on the Consent Calendar are to be acted upon by a single action of the City Council/LRA Board unless requested by an individual Council/Authority Member or member of the public for special consideration. Otherwise, the recommendation of staff will be accepted and acted upon by motion of the City Council/LRA Board.

Item 9.1. Waive Readings. All Readings of ordinances and resolutions, except by title, are waived.

Item 9.2. A **Resolution [No. 2021-093]** Approving an Appropriation Request from the Public Benefit Fund in an Amount Not to Exceed \$35,000 to Fund Office Equipment and Furniture for the Creation of an Office Space within the Riverbank Police Services Building.

Item 9.3. Approval of the September 28, 2021 City Council and Local Redevelopment Authority Board Minutes.

In regards to Item 9.3, City Clerk Annabelle Aguilar requested approval of the minutes with an amendment to include a statement declaring that written comments were sent to the City Clerk [for the Gilton Franchise Agreement (Item 12.1)] from Mrs. Evelyn Halbert, who was assured that it would be noted in the minutes for the record.

ACTION: *By motion moved and seconded (Uribe / Barber-Martinez / passed 5-0) to approve Consent Calendar Items 9.1, 9.2, and 9.3 as presented.*

Motion carried by unanimous City Council and LRA Board roll call vote.

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor/Chair O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

10. PUBLIC HEARINGS

The Public Hearing Notices were published in the Riverbank News on 09/29/2021 and 10/06/2021.

Item 10.1. **Public Hearing – 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) Public Draft Review** – Staff recommends the 2020 Public Draft Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) be reviewed and considered at the public hearing. Public and City Council questions and comments are to be received and revisions will be made to the public draft document. Once reviewed, a final draft will be prepared for further consideration and adoption at the next City Council meeting on October 26, 2021.

City Manager Sean Scully introduced the Item and Mr. Neal Colwell, Principal Engineer with Kjeldsen, Sinnock, Neudeck, Inc. Also introduced was Certified Spanish Interpreter Saida Sanchez who made a public announcement in Spanish of her availability to assist anyone in the audience needing Spanish translation. No one declared needing assistance.

*Mr. Colwell proceeded to present both water plans
City Council discussed the Item.*

Mayor O'Brien opened the public hearing at 6:47 p.m.

Evelyn Halbert attempted to make comments via the ZOOM platform; however, there were technical difficulties. Due to the amended Brown Act by AB 361 requiring Council to stop the meeting until the matter could be solved, Mayor O'Brien called for a recess at 6:55 p.m. Several attempts by City staff were made to call Mrs. Halbert for her comments with no avail. Mayor O'Brien reconvened the meeting at 7:02 p.m. and announced that the public comment portion of the public hearing would remain open, and asked if Council consented to proceeding to the next Items of business, and return to close the hearing at the end of all business items; meanwhile staff would continue to attempt to reconnect with Mrs. Halbert. No one objected.

- o Council proceeded to consider Items 11.1 through 11.3. At 7:27 p.m. the Mayor requested Staff to contact Mrs. Halbert via the conference phone; she was not reached. The Council proceeded to consider Item 11.4.*
- o Council returned to this public hearing at 7:45 p.m. There were no oral comments from the audience, and City Clerk Annabelle Aguilar announced that there was no one wishing to speak on the item [via ZOOM]. A last attempt to connect with Evelyn Halbert via the conference phone was made, again with no avail.*

Mayor O'Brien closed the public hearing at 7:46 p.m.

ACTION: *By motion moved and seconded (Barber-Martinez / Campbell / passed 5-0) to accept the public draft review of the presented Draft 2020 Urban Water Management Plan (UWMP) and Draft Water Shortage Contingency Plan (WSCP) as presented.*

Motion carried by unanimous City Council roll call vote.

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

11. NEW BUSINESS

Item 11.1. A Resolution [No. 2021-094] Approving a Subdivision Improvement Agreement for Countryside II with McRoy Wilbur Communities and Authorizing the City Manager to Execute the Agreement – It is recommended that the City Council consider the attached resolution approving the Subdivision Improvement Agreement with McRoy Wilbur Communities for Countryside II and directing the City Manager to execute the agreement.

City Manager Sean Scully presented the staff report.

There were no oral or written public comments.

ACTION: *By motion moved and seconded (Campbell / Uribe / passed 5-0) to adopt Resolution No. 2021-094 to Approve a Subdivision Improvement Agreement for Countryside II with McRoy Wilbur Communities and Authorizing the City Manager to Execute the Agreement as presented.*

Motion carried by unanimous City Council roll call vote.

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

Item 11.2. A Resolution [No. 2021-095] Approving Final Map 05-2021 for McRoy-Wilbur Communities for Countryside II 6036 Claus Road and 6073 Central Avenue (APN 062-022-019 and 062-022-022) – Approve the Final Map (“FM”) for Countryside II based on the required finding that the map is in conformity with the provisions of subdivision law and city code.

Associate Planner Gabriel Salazar presented the staff report.

There were no public oral or written comments.

ACTION: *By motion moved and seconded (Barber-Martinez / Hernandez / passed 5-0) to adopt Resolution No. 2021-095 to Approve Final Map 05-2021 for McRoy-Wilbur Communities for Countryside II 6036 Claus Road and 6073 Central Avenue (APN 062-022-019 and 062-022-022) as presented. Motion carried by unanimous City Council roll call vote.*

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

Item 11.3. A Resolution [No. 2021-096] Approving an Amendment to the Master Subscription Agreement Extending the Current Master Subscription Agreement for a Period of 5 Years for the Lease, Operation and Support Services for a License Plate Reader and Security Camera System with IntelliSite, LLC – It is recommended that the City Council consider approval of the attached resolution authorizing the City Manager to execute an amendment to the Master Subscription Agreement with IntelliSite LLC extending the camera lease and supportive services for a period of 5 years. Alternatively, Council could provide feedback and direction on the proposed amendment or request staff to research other options.

City Manager Sean Scully presented the staff report, and clarified that Riverbank Police Services is the only Personnel who have access to the video, and is used by Police Services for law enforcement purposes only. This system can be audited at any time to determine who has been using the system.

Riverbank Police Chief Ed Ridenour commented in regards to the protection of everyone's privacy, and the official use of this camera system by Police services for the purposes of safety, security, and solving crimes, which is a positive impact to the City.

City Council and Staff discussed the Item.

There were no oral or written public comments.

ACTION: *By motion moved and seconded (Uribe / Campbell / passed 5-0) to adopt Resolution No. 2021-096 to Approve an Amendment to the Master Subscription Agreement Extending the Current Master Subscription Agreement for a Period of 5 Years for the Lease, Operation and Support Services for a License Plate Reader and Security Camera System with IntelliSite, LLC as presented. Motion carried by unanimous City Council roll call vote.*

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

At 7:27 p.m. Mayor O'Brien requested that the City Manager attempt to call Mrs. Halbert (Item 10.1 – Public Hearing Comments) to no avail. Council proceeded to Item 11.4 for consideration.

Item 11.4. **A Resolution [No. 2021-097] Proclaiming a Local Emergency and Authorizing Remote Teleconference Meetings of the Legislative Bodies of the City of Riverbank Pursuant to Assembly Bill 361 and Brown Act Provisions** - Staff recommends Council adopt a Resolution authorizing the City to Implement Teleconferenced Public Meetings Pursuant to Assembly Bill 361 Allowing the City to Continue a Virtual Meeting Environment.

City Attorney Tom Hallinan instructed the Council on their ability to motion to drop the matter or oppose staff's recommendation on the matter at any time.

City Council and Staff deliberated on the matter.

City Manager Sean Scully recommended that the Council approve the Resolution to continue the hybrid meetings and Staff would bring back this matter for further discussion of ZOOM and AB 361 at the next Council meeting.

There were no public written or oral comments on this Item.

ACTION: *By motion moved and seconded (O'Brien / Uribe / passed 5-0) to conditionally adopt Resolution No. 2021-097 to continue further discussion of this matter at the October 26th Council meeting and make a determination on whether or not Council will redo the process [of approving to have teleconference/virtual meetings] every month or to permanently reject it [stop the hybrid meetings]. Motion carried by unanimous City Council roll call vote.*

AYES: Barber-Martinez, Campbell, Hernandez, Uribe, and Mayor O'Brien

NAYS: None / ABSENT: None / ABSTAINED: None

City Council returned to the open public hearing period of Item 10.1,

12. COMMENTS/REPORTS

A brief report on notable attendance of a meeting or conference or other notable topics of City business shall be made. The Brown Act does not allow for discussion or action of items by the City Council/LRA Board during this time.

Item 12.1. Staff

- *City Manager Sean Scully stated the City offered its condolences to the Trawick Family and that the flags were lowered in his memory; he thanked Police Services and Staff for the Wine and Cheese Festival and its revival, a report on the festival is forthcoming; and announced that a tax-sharing agreement with the County is looking positive.*

Item 12.2. Council/Authority Member

- *Council/Authority Member Hernandez reported on her attendance of a meeting with the Promotores (community mental health workers) regarding civic engagement, and welcomed Brian Mark from Los Angeles County.*
- *Council/Authority Member Campbell thanked the Eagle Scout who painted the rocket structure at Jacob Myers Park.*
- *Council/Authority Member Barber-Martinez reported that she along with the City Manager spoke to a group of Realtors on the growth of Riverbank, and how the City acquired its motto; and also announced Dia Del Muertos Event.*
- *Vice Mayor/Chair Uribe announced the recognition of Indigenous People Day; and the new Central Valley Foster Care Organization in Downtown Riverbank that has teamed up with Senator Eggman to do a coat and hoodie drive with four drop-off box locations in Riverbank.*

Item 12.3. Mayor/Chair

Mayor/Chair O'Brien welcomed Tammy Alcantor; thanked Staff for the Cheese and Wine [Festival]; spoke in regards to the slowdown of progression with the Riverbank Industrial Complex (Local Redevelopment Authority) property transfer of 2 and 2A due to ground water contamination issue, and thanked Secretary Ray Houser and Congressman Josh Harder for their efforts to move the process forward.

13. CLOSED SESSION

The public will have a limit of **3 minutes** to comment on Closed Session item(s) as set forth on the agenda prior to the City Council/LRA Board adjourning to Closed Session.

Item 13.1. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION (Pursuant to Government Code § 54956.9(b)) Number of cases: 1 potential case

Mayor/Chair O'Brien announced that they would not be going into Closed Session; opened the Item for public comment; no one spoke.

14. REPORT FROM CLOSED SESSION

No closed session was conducted.

15. ADJOURNMENT OF THE REGULAR MEETING (Immediately after Closed Session)

There being no further business, Mayor/Chair O'Brien adjourned the regular meeting at 7:54: p.m.

ATTEST: (Adopted 10/26/2021)

APPROVED:

Annabelle H. Aguilar, CMC
City Clerk / LRA Recorder

Richard D. O'Brien
Mayor / Chair

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 8.3

SECTION 8: CONSENT CALENDAR

Meeting Date: October 26, 2021

Subject: A **Resolution** Authorizing the City Manager to Execute a Contract with the Stanislaus Council of Governments (StanCOG) for the Suballocation of Regional Early Action Planning (REAP) Grant Funds

From: Sean Scully, City Manager

Submitted by: Donna M. Kenney, Planning and Building Manager

RECOMMENDATION

It is recommended that the City Council approve a resolution to authorize the City Manager to enter into a contract (MOU) with Stanislaus Council of Governments (StanCOG) for the suballocation Regional Early Action Planning (REAP) Funds

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SUMMARY

The California Department of Housing and Community Development (“HCD”) released a Notice of Funding Availability (“NOFA”) for \$118,750,000 for the Regional Early Action Planning Grant Program (“REAP”) to councils of governments and other regional entities with said funds to be released in three packages of funding. A San Joaquin Valley Multi-Agency Working Group was formed, consisting of the Fresno Council of Governments, the Kern Council of Governments, the Kings County Association of Governments, the Madera County Transportation Commission, the Merced County Association of Governments, the San Joaquin Council of Governments, the Stanislaus Council of Governments, and the Tulare County Association of Governments, representing the Counties of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare (the “SJV Working Group”). HCD is authorized to provide up to \$18,975,000 of REAP grant funds to the members of the SJV Working Group.

On August 14, 2020, HCD approved an allocation of \$10,218,830.75 in grant funds (the “Initial Grant”) to the members of the SJV Working Group. A portion of the Initial Grant is available to the members of the SJV Working Group and the majority of the REAP Funds will be allocated to the local jurisdictions for compliance with Regional Housing Needs Allocation (“RHNA”) numbers that are developed to update the housing element of the local jurisdictions as well as other planning activities that would increase housing production. The Initial Grant will be distributed in three separate funding packages and StanCOG is expected to receive approximately \$415,000 and \$1,065,000, as part of the first and third funding packages respectively, for a total of approximately \$1,480,000 to be distributed to the local agencies.

On March 17, 2021, the StanCOG Policy Board approved by Resolution 20-27 the Regional Early Action Planning (REAP) Suballocation Methodology of funding by percent of population adjusted for a minimum funding floor of \$35,000 dollars, effectively suballocating approximately \$1,480,097.57 of the REAP grant funds ("Grant Funds") to StanCOG's local member agencies for funding their planning activities that will accelerate housing production and facilitate compliance in implementing the sixth cycle of RHNA. The City of Riverbank submitted an application and is to be suballocated \$18,232.61 through the REAP Grant Funds as part of the first and third funding packages. HCD will release the third funding package to the SJV Working Group when it has been demonstrated to HCD's satisfaction, with proper invoicing and tracking results, that the local agencies have conducted activities to advance housing-related planning activities and have properly spent funds of the first funding package.

The City of Riverbank's Housing Element was adopted in 2014 and the City is preparing to update it. As an early phase of this project, the City has obtained a Civic Spark Fellow through the California Health Collaborative to conduct community outreach to guide and draft environmental justice policies for the Housing Element update and a future General Plan Update. The Civic Spark Fellow is paid for with a matching grant of which the City must pay \$10,000. The City will use \$10,000 of the first funding package to pay for the Civic Spark Fellow. The rest of the funding can be used for community outreach activities by the Fellow and towards the start of the Housing Element update process.

In addition, the City will be contracting with a separate consultant to update the other sections of the Housing Element. That work is expected to cost around \$85,000. The funding that the City will receive in the third funding package (\$54,989.56) will go to securing a consultant to update the Housing Element. Planning staff is requesting authorization from the City Council for the City Manager to sign a contract (MOU) with StanCOG. Additionally, it is anticipated that the Housing Element will run concurrently with the anticipated General Plan Technical Update that has been directed by the Council during the most recent strategic planning session.

2020-2025 STRATEGIC PLAN

The Strategic Plan's purpose is to help the City prioritize its efforts, allocating both fiscal and human resources to achieve a shared Vision and Goals that also reflect community priorities and needs. Obtaining and using a REAP Grant is a strategy that supports the City's Goal of "Ensure the City's Continued Financial Stability."

1.3 Continue to seek local, regional and federal grant opportunities to support City projects, programs, and initiatives.

FINANCIAL IMPACT

The total REAP grant award for Riverbank is \$73,221.97. Of this amount, \$18,232.61 is being released in the first funding package, \$10,000 of which is earmarked for the Civic Spark Fellow. The remaining REAP grant funding will be used to update the rest of the Housing Element. It is possible that approximately \$10,000 of non-REAP funding will be needed to complete the funding for the full Housing Element Update. Staff will continue to search for other grant funding. However, it should be noted that this grant significantly reduces the financial impact for the Housing Element which would typically be a general fund obligation (absent grant funding).

ATTACHMENTS

1. City Council Resolution 2021-
Exhibit A - StanCOG Contract (MOU) with exhibits attached

CITY OF RIVERBANK

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, AUTHORIZING THE CITY MANAGER TO EXECUTE A CONTRACT WITH STANISLAUS COUNCIL OF GOVERNMENTS FOR THE SUBALLOCATION OF REGIONAL EARLY ACTION PLANNING (REAP) GRANT FUNDS

WHEREAS, the Stanislaus Council of Governments ("StanCOG") is the Regional Transportation Planning Agency ("RTPA") and Metropolitan Planning Organization ("MPO") for the Stanislaus region, pursuant to State and Federal designation; and

WHEREAS, pursuant to California Health and Safety Code section 50515.02, the State of California Department of Housing and Community Development ("HCD") made available \$125,000,000 in local government planning support grants to regional entities and working groups as outlined by the statute; and

WHEREAS, HCD released a Notice of Funding Availability ("NOFA") for \$118,750,000 for the Regional Early Action Planning Grant Program (REAP) to councils of governments and other regional entities with said funds to be released in three packages of funding; and

WHEREAS, pursuant to section 50515.02 of the Health and Safety Code, a SanJoaquin Valley Multi Agency Working Group was formed in accordance with subdivision (c), consisting of the Fresno Council of Governments, the Kern Council of Governments, the Kings County Association of Governments, the Madera County Transportation Commission, the Merced County Association of Governments, the San Joaquin Council of Governments, the Stanislaus Council of Governments, and the Tulare County Association of Governments, representing the Counties of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare (the "SJV Working Group"); and

WHEREAS, a portion of the Initial Grant is available to the members of the SJV Working Group and the majority of the REAP Funds will be allocated to the local jurisdictions for compliance with Regional Housing Needs Allocation ("RHNA") numbers that are developed to update the housing element of the local jurisdictions as well as other planning activities that would increase housing production; and

WHEREAS, the Initial Grant will be distributed in three separate funding packages and StanCOG is expected to receive approximately \$415,000 and \$1,065,000, as part of the first and third funding packages respectively, for a total of approximately \$1,480,000 to be distributed to the local agencies; and

WHEREAS, the City of Riverbank submitted an application to StanCOG and was suballocated \$18,232.61 through the REAP Grant Funds as part of the first and third funding packages; and

WHEREAS, as an early phase of its Housing Element Update, the City has obtained a Civic Spark Fellow through the California Health Collaborative to conduct community outreach to guide and draft environmental justice policies for the Housing Element and future General Plan Updates; and

WHEREAS, the first funding package of the REAP allocation will cover Riverbank's \$10,000 obligation for the Civic Spark Fellow with additional monies going towards community outreach activities and the Housing Element update; and

WHEREAS, HCD will release the third funding package to the SJV Working Group when it has been demonstrated to HCD's satisfaction, with proper invoicing and tracking results, that the local agencies have conducted activities to advance housing-related planning activities and have properly spent funds of the first funding package; and

WHEREAS, the Parties will amend this MOU or enter into a subsequent MOU to address the third funding package released by HCD, of which the City of Riverbank is expected to receive \$54,989; and

WHEREAS, in the third REAP funding phase, the City will be contracting with a separate consultant to update the other requirements of the 2014-2023 Housing Element, which is expected to cost approximately \$85,000 total.

NOW, THEREFORE, be it resolved that the City Council of the City of Riverbank hereby authorizes the City Manager to enter into a contract (MOU) with StanCOG (**Exhibit A**) for the suballocation of Regional Early Planning Grant ("REAP") funds.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of October 2021, motioned by Councilmember _____, seconded by Councilmember _____, and upon roll call was carried by the following City Council vote of ____:____.

AYES:

NAYS:

ABSENT:

ABSTAINED:

ATTEST:

Annabelle H. Aguilar, CMC
City Clerk

APPROVED:

Richard D. O'Brien
Mayor

MEMORANDUM OF UNDERSTANDING
between
STANISLAUS COUNCIL OF GOVERNMENTS (StanCOG),
and
CITY OF RIVERBANK
FOR
SUBALLOCATION OF REGIONAL EARLY ACTION PLANNING (REAP) FUNDS

This Memorandum of Understanding (“**MOU**”) is dated [Month and Day], 2021, for reference purposes, by and between the Stanislaus Council of Governments, a joint powers authority established under California Government Code section 6500 et seq., (hereinafter “**StanCOG**”) and the City of Riverbank (hereinafter “**Sub-Recipient**”) for suballocation of Regional Early Action Planning (REAP) grant funds. StanCOG and the Sub-Recipient are individually referred to herein as “Party” and may be collectively referred to herein as “Parties”.

RECITALS

A. WHEREAS, the Stanislaus Council of Governments (StanCOG) is the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO) for the Stanislaus region, pursuant to State and Federal designation; and

B. WHEREAS, pursuant to California Health and Safety Code section 50515.02, the State of California Department of Housing and Community Development (“**HCD**”) made available \$125,000,000 in local government planning support grants to regional entities and working groups as outlined by the statute; and

C. WHEREAS, HCD released a Notice of Funding Availability (“**NOFA**”) for \$118,750,000 for the Regional Early Action Planning Grant Program (REAP) to councils of governments and other regional entities with said funds to be released in three packages of funding; and

D. WHEREAS, pursuant to section 50515.02 of the Health and Safety Code, a San Joaquin Valley Multi Agency Working Group was formed in accordance with subdivision (c), consisting of the Fresno Council of Governments, the Kern Council of Governments, the Kings County Association of Governments, the Madera County Transportation Commission, the Merced County Association of Governments, the San Joaquin Council of Governments, the Stanislaus Council of Governments, and the Tulare County Association of Governments,

representing the Counties of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare (the “**SJV Working Group**”); and

E. WHEREAS, HCD is authorized to provide up to \$18,975,000 of REAP grant funds to the members of the SJV Working Group; and

F. WHEREAS, on August 14, 2020, HCD approved an allocation of \$10,218,830.75 in grant funds (the “**Initial Grant**”) to the members of the SJV Working Group; and

G. WHEREAS, a portion of the Initial Grant is available to the members of the SJV Working Group and the majority of the REAP Funds will be allocated to the local jurisdictions for compliance with Regional Housing Needs Allocation (“**RHNA**”) numbers that are developed to update the housing element of the local jurisdictions as well as other planning activities that would increase housing production; and

H. WHEREAS, the Initial Grant will be distributed in three separate funding packages and StanCOG is expected to receive approximately \$415,000 and \$1,065,000, as part of the first and third funding packages respectively, for a total of approximately \$1,480,000 to be distributed to the local agencies; and

I. WHEREAS, on March 17, 2021, the StanCOG Policy Board approved by Resolution 20-27 the Regional Early Action Planning (REAP) Suballocation Methodology of funding by percent of population adjusted for a minimum funding floor of \$35,000 dollars, effectively suballocating approximately \$1,480,097.57 of the REAP grant funds (“**Grant Funds**”) to StanCOG’s local member agencies for funding their planning activities that will accelerate housing production and facilitate compliance in implementing the sixth cycle of RHNA; and

J. WHEREAS, the City of Riverbank is to be suballocated \$18,232.61 through the REAP Grant Funds as part of the first and third funding packages; and

K. WHEREAS, HCD will release the third funding package to the SJV Working Group when it has been demonstrated to HCD’s satisfaction, with proper invoicing and tracking results, that the local agencies have conducted activities to advance housing-related planning activities and have properly spent funds of the first funding package; and

L. WHEREAS, the Parties will amend this MOU or enter into a subsequent MOU to address the third funding package released by HCD; and

M. WHEREAS, StanCOG and its participating local member agencies (sub-recipients) will only conduct activities that advance their housing element update in compliance with the sixth cycle of RHNA and any other housing-related planning activities that accelerate housing production and are eligible according to HCD’s requirements; and

N. WHEREAS, technical assistance will be provided by StanCOG, or other members of the SJV Working Group; and

O. WHEREAS, the Sub-Recipient's selected project manager, in coordination with StanCOG's selected project manager, will ensure the Scope of Work is performed by the Sub-Recipient; and

P. WHEREAS, the conditions described in this MOU will begin on the Effective Date and shall be completed by June 30, 2023.

NOW THEREFORE, in consideration of the mutual promises, covenants, terms and condition hereinafter contained, the Parties hereto agree as follows:

AGREEMENT

1. **Recitals**

The recitals above are hereby incorporated in this Memorandum of Understanding as if fully set forth herein.

2. **Compliance with Laws:**

Sub-Recipient must comply with all applicable Federal, State, local laws, codes, ordinances and regulations. Sub-Recipient must specifically comply with the provisions of California Health and Safety Code Sections 50515 *et seq.*, outlined by California's Department of Housing and Community Development 2020 Notice of Funding Availability (NOFA) for REAP. Further, Sub-Recipient will require the appropriate debarment certification form from all contractors and Sub-Recipient certifies that it will not knowingly enter into any transaction with a contractor, subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from covered transactions by any Federal or State agency.

3. **Scope of Work**

Sub-Recipient shall conduct the scope of work described in **Exhibit "A", "Scope of Work."** Sub-Recipient will not be compensated for activities outside the Scope of Work outlined in Exhibit "A", unless otherwise mutually agreed upon in writing by the Parties.

4. **Maximum Contract Amount**

The amount to be paid to Sub-Recipient under this MOU will not exceed Eighteen Thousand Two Hundred Thirty Two and 61/100 Dollars (\$18,232.61), which amount represents Sub-Recipients allocation under HCD's first funding package, unless agreed upon in advance by the Parties pursuant to a written amendment signed by the authorized signer for each party. In no instance will StanCOG be liable for any payments or costs for work in excess of this amount, nor for any unauthorized or ineligible costs.

5. Invoices and Progress Reports

A. Not less frequently than quarterly, Sub-Recipient will provide StanCOG with both a written report on the progress made on the Scope of Work (Exhibit “A”) and an invoice for reimbursement. Invoices shall, at a minimum, be for the periods ending March, June, September and December of each fiscal year. Invoices for work completed through June 30 of a fiscal year must be submitted by July 30. Sub-Recipient shall submit written invoices by e-mail to StanCOG at finance@stancog.org. Sub-Recipient shall also provide to StanCOG a copy of its annual progress report that is submitted to HCD annually in April. Sub-Recipient’s failure to comply with any of the reporting requirements in this MOU may impact the ability to receive future REAP Grant Funds.

B. Payments to Sub-Recipient hereunder will be made in arrears. Sub-Recipient shall be paid within thirty (30) days following the receipt and approval of each invoice by StanCOG. Sub-Recipient will submit a detailed and properly documented invoice on its letterhead for reimbursement which invoice will include the following: (i) a description of the work performed, (ii) name of Sub-Recipient and Consultant personnel performing the work; (iii) a detailed accounting of costs incurred, and (iii) evidence that Sub-Recipient has already incurred costs for the Project. Attached as Exhibit “B” is StanCOG’s matrix of required supporting documentation for Sub-Recipient’s invoices. Invoices for expenditures incurred prior to the Effective Date will not be reimbursed.

C. Sub-Recipient shall submit narrative reports indicating percentage of completion with each set of invoices to allow StanCOG’s Project Manager to determine if Sub-Recipient is performing to expectations, is on schedule, is within funding limitations, as well as to communicate interim findings, and to afford occasions for airing difficulties respecting special problems encountered so that remedies can be developed. Attached as Exhibit “C” is StanCOG’s Quarterly Reporting Form.

D. If the Sub-Recipient is seeking reimbursement for indirect costs, they must annually submit an Indirect Cost Allocation Plan (ICAP) or an Indirect Cost Rate Proposal (ICRP) to its cognizant agency for indirect costs in accordance with Title 2 Code of Federal Regulations Part 200 (2 CFR 200) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The cognizant agency for indirect costs means the agency responsible for reviewing, negotiating, and approving indirect cost allocation plans and indirect cost proposals. The Sub-Recipient must include their estimated indirect cost rate in the project application and provide a copy of the acceptance letter from their cognizant agency for the approved ICAP or ICRP for the current fiscal year. Indirect costs may be sought for reimbursement only after the Sub-Recipient has received ICAP/ICRP approval from its cognizant agency.

E. Sub-Recipient will be notified within ten (10) business days following receipt of its invoice by StanCOG of any circumstances or data identified by StanCOG in Sub-Recipient’s invoice that would cause withholding of approval and subsequent payment. If StanCOG disputes

any portion of a request for payment, StanCOG shall pay the undisputed portion of such request as herein provided and shall promptly notify Sub-Recipient of the amount in dispute and the reason therefore.

F. Sub-Recipient will require its Consultants pay any subconsultants for satisfactorily completed work no later than thirty (30) days of receipt of each payment from the Sub-Recipient, unless a longer period is agreed to in writing.

G. Any costs for which the Sub-recipient receives reimbursement that is determined by a subsequent audit or other review by either StanCOG, HCD or other State of California authorities to be ineligible or otherwise unallowable, are to be repaid by the Sub-Recipient within thirty (30) calendar days of the Sub-Recipient receiving notice of audit findings and penalties or related fees, as determined by HCD or other State authorities (Health and Safety Code section 50515.04(e)). Should the Sub-Recipient fail to reimburse unallowable costs to StanCOG within thirty (30) calendar days of demand, or within such other period as may be agreed between both parties hereto, StanCOG is authorized to withhold future payments due to the Sub-Recipient.

6. Term/Timeline

The term of this MOU shall begin on the “**Effective Date**” of this MOU which shall be the last date of execution by the parties hereto. All work identified in the Scope of Work must be completed by June 30, 2023, unless terminated earlier as provide herein. No extensions will be granted.

7. Allowable Uses of Grant Funds

A. StanCOG shall not award funds unless it is determined that the Grant Funds for the Sub-Recipient shall be expended in compliance with the 2020 Notice of Funding Availability (NOFA) for the REAP Grant Program pursuant to Division 31, Part 2, Chapter 3.1 of Health and Safety Code, Sections 50515 *et seq.*

B. Grant Funds shall only be used by Sub-Recipient for housing planning activities approved by StanCOG that are in accordance with the NOFA published by California Department of Housing and Community Development (HCD).

C. Grant Funds may not be used for administrative or staffing costs of persons employed by the Sub-Recipient for activities not related to the eligible housing planning activities, nor may these funds be used for consultants employed by Sub-Recipient for activities that are not related to the eligible housing planning activities.

D. Sub-Recipient shall use no more than three percent (3%) of its total Grant Funds or Two Thousand Five Hundred Dollars (\$2,500.00), whichever is greater, for administrative costs and purposes related to eligible activities. For purposes of this MOU, administrative costs are defined as: preparing invoices and supporting documentation; preparing quarterly progress

reports; and participating in project management meetings. Additional funds may be used from other sources solely contributed by the Sub-Recipient to support the Sub-Recipient's administration of the project.

8. Accounting, Audit, Retention and Inspection of Records

A. Sub-Recipient, its staff, contractors and subcontractors shall establish and maintain an accounting system and reports that properly accumulate incurred project costs by line. The accounting system shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment voucher or invoices.

B. Sub-Recipient shall establish a separate ledger account for receipts and expenditure of the Grant Funds and maintain expenditure details in accordance with the Scope of Work, project Schedule and budget.

C. Sub-Recipient shall maintain documentation of its normal procurement policy and competitive bid process (including the use of sole source purchasing), and financial records of expenditures incurred during the course of the project in accordance with GAAP.

D. Sub-Recipient agrees that StanCOG, HCD and the State of California or their designated representative(s) shall have the right to review, obtain, copy and audit all books, records, accounts, documentation and any other materials, collectively "**Records**", pertaining to the performance of this MOU.

E. Sub-Recipient agrees to provide StanCOG or its designee, HCD, or any other State or Federal agency, with any relevant information requested and will permit StanCOG or its designees access to its premises, upon reasonable notice, during normal business hours, for the purpose of interviewing employees and inspecting and copying such Records for the purpose of determining compliance with any applicable Federal and State laws and regulations.

F. Sub-Recipient agrees to maintain Records for a period of three (3) years after final payment under the MOU or three (3) years from the conclusion or resolution of any and all audits or litigation relevant to this MOU and any amendments, whichever is later. If any litigation, claim, negotiation, audit, monitoring, inspection or other action has been started before the expiration of the three (3) years after final payment under this MOU, all records must be retained by the Sub-Recipient, its contractors and subcontractors until completion of the action and resolution of all issues which arise from it. Records related to any and all audits or litigation relevant to this Agreement shall be retained for five (5) years after the conclusion or resolution of

the matter. StanCOG and HCD shall have the right to audit Sub-Recipient Records and interview employees.

G. If requested by StanCOG upon expiration of this MOU, Sub-Recipient will deliver all Records relevant to the Scope of Work to be delivered to StanCOG as a depository.

9. Project Manager/Staffing

A. The Project Manager's for the Parties are identified below. Sub-Recipient may not substitute its Project manager without prior written agreement by StanCOG, which agreement will not be unreasonably withheld. With the exception of notice of termination sent pursuant to Section 13, any notice, report or other communication required by this MOU will be mailed by first-class mail or e-mailed with confirmation of receipt to the respective Project Manager at the addresses identified below.

B. During the term of this MOU, the representative project managers for StanCOG and Sub-Recipient will be:

StanCOG

Isael Ojeda
Senior Planner

Stanislaus Council of Governments
1111 I Street, Suite **308**
Modesto, CA 95354
Telephone: (209) 525-4632
Email: iojeda@stancog.org

Sub-Recipient

Donna M. Kenney

City of Riverbank
6707 Third Street
Riverbank, CA 95367
Telephone: (209) 863-7124
Email: dkenney@riverbank.org

10. Subsequent MOUs

Sub-Recipient understands and agrees that subsequent MOUs may be necessary to facilitate the distribution of further grant funding from HCD under Division 31, Part 2, Chapter 3.1, section 50515 *et seq.* of the Health and Safety Code. The Sub-Recipient hereby commits to negotiate the terms and conditions of such subsequent MOUs in good faith, in order to achieve concurrence and ensure execution of same in a timely fashion.

11. Disputes

A. In the event of a dispute among the Parties concerning a question of fact arising under this MOU that is not disposed of by agreement, which involves a decision by HCD's Housing Policy Development Manager (or the Manager's designee) who may consider any written or verbal evidence submitted by StanCOG, the decisions of HCD shall be final and not subject to further appeal pursuant to Health and Safety Code Section 50515.04(g). StanCOG shall include in such submittal to HCD any written or verbal evidence submitted to StanCOG by

the Sub-Recipient as part of this process. Neither the pendency of a dispute nor its consideration by HCD will excuse the Parties from full and timely performance in accordance with the terms of this MOU.

B. For other disputes and except as otherwise provided in this MOU, if a dispute arises between the Parties to this MOU, the Parties hereto agree to use the following procedure to resolve such dispute, prior to pursuing other legal remedies:

- i. A meeting shall be held promptly between the Parties that will be attended by the Sub-Recipient's Project Manager and StanCOG's Project Manager as well as individuals with decision-making authority (to the extent reasonably possible), who will attempt in good faith to negotiate a resolution of the dispute.

C. If the Parties are unsuccessful in resolving the dispute under B.i., above, they may:

- ii. Agree to submit the matter to mediation, binding judicial reference, or a private adjudicator (if all Parties so agree); or
- iii. Initiate litigation following advance written notice to the other Party of not less than thirty (30) days.

D. If any Party should bring a legal action against the other to enforce the terms of this MOU, the prevailing Party shall be entitled to recover reasonable attorneys' fees and costs, as determined by a court of competent jurisdiction in said proceeding.

12. Termination

A. Either Party may terminate this MOU for any reason at any time upon thirty (30) days written notice. The notice for early termination may permit the Sub-Recipient or StanCOG to rectify any deficiency(ies) prior to the early termination date. The Sub-Recipient will submit any requested documents to StanCOG within twenty (20) days of the early termination notice.

B. If either party issues a notice of termination, StanCOG will reimburse Sub-Recipient for work actually performed up to the effective date of the notice of termination less any compensation to StanCOG for damages suffered as a result of Sub-Recipient's failure to comply with the terms of this MOU.

C. Sub-Recipient will have the right to terminate this MOU in the event StanCOG is unable to make required payments, including, without limitation, a failure of HCD to appropriate funds. In such event, Sub-Recipient will provide StanCOG with ten (10) days written notice of termination. StanCOG will make payment to Sub-Recipient through the date of termination.

13. Notices

A. Any notice(s) required pursuant to this MOU shall be made in writing by hand-delivery, facsimile, first-class mail (registered or certified, return receipt requested), overnight courier service, or by electronic mail if the Party to be provided notice has provided its email address to the other Party. Notices of changes or amendments to this MOU, disputes, or court action must be served pursuant to non-electronic means provided for in this section.

B. All notices shall be deemed given and effective on the earliest of: (a) the date of transmission if such notice or communication is delivered via facsimile or electronic mail prior to 5:00 p.m. PST on a business day; (b) the next business day if such notice or communication is delivered via facsimile or electronic mail later than 5:00 p.m. PST on a business day; (c) the third business day following the date of mailing if sent by U.S. mail, nationally recognized courier service; or (d) upon actual receipt by the party to whom such notice is personally given.

C. Notices may be provided at the following addresses below. Each Party reserves the right to change its address for purposes of notice by providing written notice to the other Party.

To StanCOG: Stanislaus Council of Governments
1111 I Street, Suite 308
Modesto, CA 95354
Attention: Isael Ojeda
Telephone: (209) 525-4600
Facsimile: (209) 558-7833
Email: iojeda@stancog.org

To Sub-Recipient: City of Riverbank
6707 Third Street
Riverbank, CA 95367
Attention: Donna Kenney
Telephone: (209) 863-7124
Facsimile: (209) 869-7126
Email: dkenney@riverbank.org

14. Amendments.

This MOU may be modified, amended, changed, added to, or subtracted from by the mutual consent of the parties hereto if such amendment or change is in written form and executed with the same formalities as this MOU and attached to the original MOU to maintain continuity.

15. Insurance

A. Sub-Recipient shall, at its own expense, procure and maintain in effect at all times during this MOU, insurance coverage provided by a California admitted insurer licensed to transact business in California, as least as broad as hereinafter provided, including insurance coverage against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the services set forth in Exhibit "A" of this MOU by the Sub-Recipient or Sub-Recipient's agents, representatives, employees, or subcontractors as follows:

i. General Liability.

Comprehensive general liability insurance covering bodily injury, personal injury, property damage, products and completed operations with limits of no less than ONE MILLION DOLLARS (\$1,000,000). If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to any act by Sub-Recipient under this MOU or the general aggregate limit shall be twice the required occurrence limit.

ii. Automobile Liability Insurance.

If the Sub-Recipient or the Sub-Recipient's officers, employees, agents, representatives or subcontractors utilize a motor vehicle in performing any of the work or services under this MOU, owned/non-owned automobile liability insurance providing combined single limits covering bodily injury damage with limits of no less than ONE MILLION DOLLARS (\$1,000,000) per incident or occurrence, and providing property damage liability of no less than TWO HUNDRED FIFTY THOUSAND DOLLARS \$250,000 per incident or occurrence.

iii. Workers' Compensation Insurance.

Workers' Compensation Insurance as required by the California Labor Code. In signing this MOU, the Sub-Recipient certifies under section 1861 of the California Labor Code that Sub-Recipient is aware of the provisions of section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and that the Sub-Recipient will comply with such provisions before commencing the performance of the work of this contract, as necessary.

iv. Professional Errors and Omissions Insurance with coverage limits of not less than One Million Dollars (\$1,000,000.00).

B. Deductibles, Self-Insured Retentions, Named Insured. Any deductibles, self-insured retentions, or name insureds must be declared in writing and approved by StanCOG.

C. Waiver of Subrogation, Additional Insured. The insurance policies are to contain, or be endorsed to contain, the following provisions:

i. General Liability and Automobile Liability Coverages.

Endorsement providing that the Sub-Recipient's insurance shall waive all rights of subrogation against StanCOG's insurers and StanCOG; or the Sub-Recipients's insurance shall list StanCOG as additional insureds under the insurance policy.

ii. Worker's Compensation Coverages.

Endorsements providing that the Sub-Recipient's insurance shall waive all rights of subrogation against StanCOG's insurers and StanCOG.

D. Other Insurance provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions:

i. General Liability and Automobile Liability Coverages.

Endorsements providing that such insurance is the primary insurance and no insurance of StanCOG will be called upon to contribute to a loss.

The Sub-Recipient's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

ii. All Coverage.

Each insurance policy required by this paragraph shall not be altered, suspended, voided, or canceled by either party, or reduced in coverage or in limits except after thirty (30) calendar days' prior written notice by certified mail, return receipt requested, has been given to StanCOG.

Any failure of Sub-Recipient to comply with reporting provisions of the policies shall not affect coverage provided to StanCOG or StanCOG's board members, officers, employees, or volunteers.

E. Verification of Coverage. Prior to performing any term or condition of the MOU, Sub-Recipient shall furnish StanCOG with evidence of insurance effecting coverage required by this section.

F. Subcontractors. All insurance coverage for subcontractors shall be subject to all of the insurance and indemnity requirements stated herein.

16. Indemnification

Except for the active negligence or willful misconduct of StanCOG and any of its directors, officers, agents, employees, assigns, and successors in interest, the Sub-Recipient undertakes and

agrees to defend, indemnify, and hold harmless StanCOG and any of its directors, officers, agents, employees, assigns, and successors in interest from and against all suits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees and cost of litigation, damage or liability of any nature whatsoever, for death or injury to any person, including StanCOG's employees and agents, or damage or destruction of any property of either party hereto or of third parties, arising in any manner by reason of the acts, errors or omissions or violations of law by the Sub-Recipient, employees and agents in connection with its activities in pursuing the Project or under this MOU. The Sub-Recipient further agrees to require its Consultant(s) to provide indemnification for StanCOG to the same extent as the Sub-Recipient, in the contract(s) between the Sub-Recipient and its Consultant for work related to this Agreement.

17. Independent Contractor, No Joint Venture

The Sub-Recipient and its Consultant(s), officers, employees and agents shall be independent contractors in the performance of this MOU, and not officers, employees, contractors or agents of StanCOG.

18. Assignment

Neither Party shall assign this MOU, or any part thereof, without the written consent of each Party to this MOU, which consent will not be unreasonable withheld. Any assignment without such written consent shall be void and unenforceable.

19. Successors

This MOU shall bind and benefit the parties hereto and their heirs, successors and permitted assigns.

20. Entire Agreement

This MOU contains the entire agreement of the parties and no representations, inducements, promises, or agreements otherwise between the parties not embodied herein or incorporated herein by reference shall be of any force or effect. Further, no term or provision hereof may be changed, waived, discharged or terminated unless the same is in writing executed by the parties. Sub-Recipient and StanCOG represent that in entering this MOU, they have not relied on any previous representations, inducements, or understandings of any kind or nature.

21. Severability

If any portion of this MOU or application thereof to any person or circumstance shall be declared invalid by a court of competent jurisdiction or if it is found in contravention of any Federal, State or local statutes, ordinance, or regulations the remaining provisions of this MOU or application thereof shall not be invalidated thereby and shall remain in full force and effect to the extent that the provisions of this MOU are severable.

22. Governing Law

All questions pertaining to the validity and interpretation of this MOU shall be determined in accordance with the laws of the State of California applicable to agreements made and to be performed within the State. Any dispute not resolved by informal means between the parties to this MOU may be adjudicated in a court of law under the laws of the State of California.

23. Waiver of Default

Waiver of any default by either party to this MOU shall not be deemed a waiver of any subsequent default. Waiver or breach of any provision of this MOU shall not be deemed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of this MOU unless modified pursuant to the terms of this MOU.

24. Counterparts and Electronic Signatures

A. This MOU may be executed in one or more counterparts, each of which shall be deemed an original and all of which taken together shall constitute one and the same instrument.

B. Each Party agrees that this MOU and any other documents to be delivered in connection herewith may be electronically signed, and that any electronic signatures appearing on this MOU or such other documents are the same as handwritten signatures for purposes of validity, enforceability and admissibility.

25. Authority

The Sub-Recipient warrants and certifies that it possesses the legal authority to execute this MOU and to undertake administration of the proposed Project, and that a resolution, motion, or similar action has been fully adopted or passed, as an official act of the Sub-Recipient's governing body.

******Signatures contained on next page******

Stanislaus Council of Governments, a joint powers agency	City of Riverbank
 Rosa De Leon Park Its Executive Director	 Sean Scully Its City Manager
Date	Date
APPROVED AS TO FORM	APPROVED AS TO FORM
 Monica Streeter General Counsel	 Tom Hallinan City Attorney

Exhibit A: Scope of Work

Project Description

Local Agency: City of Riverbank

Project/Activity Name: Riverbank Housing Element Update

Project Location: Riverbank

Project Housing Nexus:

Check all that apply.

☐ Reduce Time

☒ Impact on housing supply and/or affordability

☐ Reduce Development
Costs

☒ Increase approval certainty and/or streamline
entitlements

☐ Infrastructure Capacity

☐ Other: _____

Project Goal Statement:

(Describe the impacts of your project on the acceleration of housing production.)

The goal is to acquire a consultant to update the Riverbank Housing Element and specifically, provide polices which makes housing in Riverbank more affordable and provides entitlement streamlining

Project Description:

(Include a high-level summary of your project.)

The City of Riverbank's Housing Element was adopted in 2014 and the City is preparing to update it. As an early phase of this project, the City is obtaining a CivicSpark Fellow to conduct community outreach to draft environmental justice policies for the Housing Element and a future General Plan Update. The CivicSpark Fellow is paid for with a matching grant of which the City must pay \$10,000. In addition, the City will be contracting with a separate consultant to update the other sections of the Housing Element. That work is expected to cost around \$85,000.

Implementation:

(Summarize plans for adoption or implementation or next steps. If the project is one component of a larger effort, such as a study that will support fee reductions, please specify how this project fits into the larger housing effort.)

Once funding is obtained, the housing consultant will go under contract and begin a thorough review of the existing Housing Element to incorporate the City's changing needs and respond to new housing law. The element will include updated demographics, economic data, and housing supply data. It will analyze housing constraints and resources to create a plan with new programs that identifies sites for potential housing as well.

Exhibit A: Scope of Work

Project Tasks, Deliverables, Timeline and Budget Tracking

Task #	Detailed Description of Tasks / Milestones	Task Timeline (in months and year)	Deliverable(s) including delivery date	Total Budget	REAP Funding	Other Funds (include source)
1	Describe Task		1. Progress report and invoicing(quarterly) 2. Copy of Annual Progress Report submitted to HCD (annually in April) 3. Summary of potential housing units impacted by project (final deliverable upon project completion)			
1	Housing Element Update outreach, including environmental justice policies.	11 months	1. CivicSpark Fellow will conduct community outreach and research and prepare environmental justice policies for the Housing Element.	\$29,000	\$10,000	\$19,000 City of Modesto (\$10,000) and California Health Collaborative (\$9,000 grant)
2	Housing Element research and outreach by consultant. Adoption through public hearings.	18 months	2. Progress report and invoicing (quarterly) 3. Copy of Annual Progress Report submitted to HCD (annually in April) Summary of potential housing units impacted by project (final deliverable upon project completion) 4. Public Hearings (3)	\$85,000	\$54,989.36	General Fund

Exhibit B: Sample Invoice Report Form

Use Agency Letterhead								
SAMPLE				INVOICE				
Email invoice to:				Date: _____ Invoice #: _____ Invoice Period: _____ MOU #: _____ (OWP) #: _____ Project Title: _____				
Cost Categories	Hourly Rate	Hours	Budget	Current Invoice	Previously Invoiced	ITD Expenditure	Balance	
Tasks (labor only)								
Task 1				\$0.00	\$0.00	\$0.00		\$0.00
Task 2				\$0.00	\$0.00	\$0.00		\$0.00
Task 3				\$0.00	\$0.00	\$0.00		\$0.00
Task 4				\$0.00	\$0.00	\$0.00		\$0.00
Task 5				\$0.00	\$0.00	\$0.00		\$0.00
Task 6				\$0.00	\$0.00	\$0.00		\$0.00
Task 7				\$0.00	\$0.00	\$0.00		\$0.00
Subtotal - Tasks:			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Overhead & Fringe (if applicable)								
Overhead	0.00%			\$0.00	\$0.00	\$0.00		\$0.00
Fringe	0.00%			\$0.00	\$0.00	\$0.00		\$0.00
Subtotal - Overhead & Fringe:			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Fixed Fee (if applicable)								
Fixed fee	0.00%			\$0.00	\$0.00	\$0.00		\$0.00
Subtotal - Fixed Fee:			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Other Direct Costs (ODCs)								
Travel				\$0.00	\$0.00	\$0.00		\$0.00
Printing - Directly Chargeable only				\$0.00	\$0.00	\$0.00		\$0.00
Other				\$0.00	\$0.00	\$0.00		\$0.00
Subtotal - ODCs:			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Consultant/Subconsultant								
Consultant 1				\$0.00	\$0.00	\$0.00		\$0.00
Consultant 2				\$0.00	\$0.00	\$0.00		\$0.00
Consultant 3				\$0.00	\$0.00	\$0.00		\$0.00
Consultant 4				\$0.00	\$0.00	\$0.00		\$0.00
Subtotal - Consultant/Subconsultant:			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
GRAND TOTAL			\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Please send check to: CITY OF IBD Address: City/State/ZIP								
By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise.								
Signature of an Authorized Official					Title			
Full Name of An Official who is authorized to legally bind the Organization					Date:			

Exhibit C: Quarterly Reporting Form

Stanislaus Council of Governments (StanCOG)

REAP Suballocation MOU Quarterly Report



Regional Entity	Local Agency	Activity Name
StanCOG	[Insert name]	
California Health and Safety Code Sections 50515 to 50515.05, established for the purpose of providing regions and jurisdictions with funding for housing planning activities that process improvements to accelerate housing production and facilitate compliance to implement the sixth cycle of the Regional Housing Need Assessment (RHNA)		
BRIEF ACTIVITY DESCRIPTION:		

1) BRIEFLY SUMMARIZE THE STATUS OF THE ACTIVITIES

A) Describe Tasks

B) Outline which HCD eligible activity above Activity falls under

2) STATE WHAT STILL NEEDS TO BE COMPLETED ON THIS ACTIVITY?

3) DESCRIBE HOW MUCH FUNDING WILL BE USED AND FOR WHAT

A) Identify any contracts initiated

4) PROVIDE SCHEDULE OF ACTIVITIES

5) PROVIDE CONTACT INFO FOR PROJECT MANAGER/LEAD STAFF PERSON(S)

6) AMENDMENT

A) If any changes to project scope, cost, and/or schedule have occurred fill out this section, if not then skip

7) PROVIDE SIGNATURE AND DATE BELOW

PERSON PREPARING THIS REPORT (please type or print)	PHONE and EMAIL:
APPROVAL AUTHORITY (signature) Date:	

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 9.1

SECTION 9: PUBLIC HEARING

Meeting Date:	October 26, 2021
Subject:	Public Hearing – Consideration of A Resolution to Adopt the 2020 Revised Urban Water Management Plan; and A Resolution to Adopt the 2020 Revised Water Shortage Contingency Plan
From:	Sean Scully, City Manager
Submitted by:	Sean Scully, City Manager Michael Riddell, Public Works Superintendent

RECOMMENDATION:

Staff recommends City Council conduct the public hearing on the 2020 Public Draft Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) and consider the adoption of each resolution separately by roll call vote.

BACKGROUND

The preparation of the Public Draft 2020 UWMP and WSCP updates has been completed with support of consultant, Kjeldsen, Sinnock & Neudeck, Inc. On September 28, 2021, the draft document was released for public review and comment, with electronic versions available on the City's web site. Hard copies are also available for public review at the City's offices.

Per California Water Code Section 10644(a) an Urban Water Supplier (municipalities that supply water to more than 3,000 users or more than 3,000 acre-feet annually) must update, adopt, and implement an UWMP every 5 years in order to be eligible for State funding assistance for certain projects including water and wastewater projects. Furthermore, California Water Code Section 10644(b) requires the WSCP to be treated as a standalone plan for the public hearing and adoption procedures. Separate treatment allows for the WSCP to be revised and re- adopted on a shorter timeline than the rest of the UWMP. This adoption process involves soliciting public review of the UWMP and WSCP, any revisions, and adoption by the governing body of the agency following a public hearing. This process is in addition to local and/or regional Water Master Planning efforts and it is intended to supply information to the State on various water uses and water supply planning information. This UWMP and WSCP is prepared to be consistent with the Urban Water Management Planning Act (California Water Code, §10610-10656 and §10608) and with guidance issued by the California Department of Water Resources. Ultimately, these documents are intended to serve as

benchmarks in assessing if Urban Water Suppliers can reliably supply water to customers.

The UWMP document contains various sections of data and information regarding the production and uses of potable water for the City and its management of that potable water. There are sections that present information regarding groundwater management, availability of groundwater, and the conservation measures to be implemented throughout the City under drought conditions or water supply shortages. There are also sections of the UWMP that assess reliability of water supply within the context of single and multi-year drought conditions. Included in the UWMP is a WSCP, which provides steps to respond to a water shortage. The WSCP address the several types of water supply shortages that could potentially impact the City and its customers and provides prescriptive elements for conducting an Annual Water Supply and Demand Assessment. Water demands and water supply availability are evaluated under long-term consecutive dry-year conditions, shortages due to contamination, etc. and short-term supply shortages that are the result of low-probability, high-impact natural or man-made disasters that would place restrictions on production capacities.

The UWMP and WSCP must be reviewed by the City Council and input solicited from the general public during a public hearing meeting. The UWMP and WSCP shall be reviewed and/or revised as needed to address comments and concerns prior to their separate adoption by the City Council. Once adopted by the City, the UWMP and WSCP are to be submitted to the Department of Water Resources (DWR) within 30 days for final approval by the State.

In order to ensure the City qualifies for all available State project funding opportunities the UWMP and WSCP has been prepared to comply with the 2020 (and subsequent) guidelines so it can be adopted as soon as practical. It is expected this document(s) will be updated as necessary in 2025.

At the October 12th City Council meeting the Council conducted a public hearing and reviewed the draft documents. Staff received comments from the Public and the Council with regard to detail located within the exhibits. Corrections and updates have been made based on that feedback and are incorporated into the final documents being considered for adoption.

FINANCIAL IMPACT:

Once adopted by the City Council, there may be a need in the future to implement water conservation education and outreach programs to the community, inspect irrigation and landscape installations as required per irrigation and water efficiency regulations. The Public DRAFT UWMP includes economic analysis of 14 Demand Management Measures (DMMS) and as allowed by current law has not committed to implement those particular DMMS that are too costly, relative to the value of water that may be conserved.

As with many plan documents adopted by the City Council there are frequently capital expenditures that will be presented or suggested as possible avenues for action. Fortunately, this document will partially used as a guide in future capitol improvement programs developed and presented for Council consideration.

ATTACHMENTS:

1. Resolution of Approval UWMP 2020
2. 2020 Urban Water Management Plan
3. Resolution of Approval WSCP
4. Water Shortage Contingency Plan

CITY OF RIVERBANK

RESOLUTION NO. 2021-____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK,
CALIFORNIA, ADOPTING THE 2020 REVISED URBAN WATER MANAGEMENT
PLAN**

WHEREAS, the State of California requires an Urban Water Management Plan (UWMP) be prepared per California Water Code Section 10620(e); and,

WHEREAS, Kjeldsen, Sinnock & Neudeck, Inc. have prepared the 2020 UWMP in accordance with State requirements; and,

WHEREAS, the City Council directs minor changes to be made prior to submission of the UWMP to the State DWR as discussed at the public hearing.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves and adopts the 2020 UWMP, subject to minor changes as may be necessary.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th of October 2021; motioned by _____, seconded by _____, and upon roll call was carried by the following City Council vote of __-__:

AYES:

NAYS:

ABSENT:

ABSTAINED:

ATTEST:

Annabelle H. Aguilar, CMC
City Clerk

APPROVED:

Richard D. O'Brien
Mayor

Attachments: 2020 UWMP Final



2020 Urban Water Management Plan



Prepared for:
The City of Riverbank

Prepared by:
Kjeldsen, Sinnock & Neudeck, Inc.



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Executive Summary

ES - 1.1 INTRODUCTION

The City of Riverbank prepared this 2020 Urban Water Management Plan (UWMP) to submit to the California Department of Water Resources (DWR) to satisfy the UWMP Act of 1983 and later updates to the California Water Code requirements. An UWMP helps water suppliers gauge the availability and reliability of their water supplies and their projected water use in the long term (20-25 years). This projected water supply and demand analysis is crucial given the state of California's future water supply and development challenges, and California law requires larger suppliers to develop and submit UWMPs to evaluate the long-term outlook of water suppliers.

This Executive Summary serves as a Lay Description of the City of Riverbank's UWMP per the California Water Code §10630.5.

ES - 1.2 CALIFORNIA WATER CODE REQUIREMENTS

The City of Riverbank serves more than 3,000 connections and is therefore required to prepare an UWMP. Along with the UWMP Act, the California Water Code details the essential components that constitute a plan. Within this document is a detailed discussion of the City's water system, how many customers and connections are contained within its service area, how much supply is available, and specific response measures the City would enact to respond to a drought or supply shortage. Projections of demand and supply for next 20 years are then made based on historical growth and water use practices.

The Water Conservation Act of 2009 (SB X7-7) was enacted in November 2009 and requires that all water suppliers increase their water use efficiency. SB X7-7 required that retailers to establish 2015 interim and 2020 final targets for water use resulting in water savings of 20% by the year 2020.

Since the 2015 plans have been completed, several amendments and a few major reporting requirement changes have been made to the UWMP Act. Below is a summary of the applicable changes:

- **Lay Description** – Suppliers are now required to include a lay description on key components of the UWMP such as water service reliability, future challenges, reliability risk management strategies, and any other information to provide a general understanding of the 2020 UWMP (Executive Summary).
- **Groundwater Supplies Coordination** – Suppliers are now required to be consistent with Groundwater Sustainability Plans (GSP) where applicable (Chapter 6).
- **Five Consecutive Dry-Year Water Reliability Assessment** – Suppliers are now required to analyze the water service reliability from multiple dry water years to a period of drought lasting five consecutive water years (Chapter 7).

- **Five-year water loss reporting** – Suppliers are now required to include the water loss audit reports over the past five-years. The City’s water loss reporting is provided in Chapter 4 of this plan. (CWC §10608.34)
- **Energy Use Information** – Suppliers are now required to include information on estimated energy use for suppliers’ water systems (Chapter 6).
- **Drought Risk Assessment** – Suppliers are now required to include assessment of water supply reliability within the five-year cycle of the UWMP update, which is from 2021 to 2025 for the 2020 UWMP (Chapter 7).
- **Water Shortage Contingency Plan (WSCP)** – Suppliers are now required to include and adopt a WSCP as part of their UWMP with specified elements (Chapter 8).
- **Seismic Risk Analysis** – Suppliers are now required to include local or regional seismic risk assessments and mitigation plans. The City’s seismic risk is discussed in Chapter 8 of this plan. (CWC §10632.5)
- **Water Loss Management** – The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. (Chapter 9)

ES - 1.3 CITY OF RIVERBANK WATER SERVICE AREA AND FACILITIES

The City of Riverbank is located adjacent and south of the Stanislaus River, approximately 4 miles to the southwest of the City of Oakdale, and just northeast of the City of Modesto. The City, and its General Plan area, is located within the Stanislaus and San Joaquin Basins of the Great Central Valley. The City supplies potable water to all the residential, commercial, and institutional / governmental water users within City limits. The population of the City continues to grow and has increased to 25,133 in the year 2020, an overall increase of more than 5,000 from 2005 to 2020. The City supplies potable water through a pressurized distribution system. The City water supply and distribution system is comprised of nine active wells and one inactive wells due to water quality wells with pumps, two 1 million gallon (MG) storage tanks with booster pumping stations, and over 44 miles of pipeline 8 inches to 12 inches in diameter. There are also several miles of 4-inch and 6-inch diameter pipelines.

The City exclusively produces and supplies all of its water from groundwater wells located within the service district. Opportunities for future water supply expansion are included in the water supply master plan with a proposal of 16 new municipal wells to meet build-out water demand.

ES - 1.4 CITY OF RIVERBANK WATER USE CHARACTERIZATION

Population growth is anticipated alongside planned development within the service area. As such, water demands are projected to increase to 4867 AF by the year 2030. Demands into the future are projected to be sufficiently met by the Modesto Ground Water Subbasin with water supplied estimated to be 5,309 AF in the year 2040.

ES - 1.5 CONSERVATION TARGET COMPLIANCE

The City achieved the compliance requirements imposed by SB X7-7, requiring retailers to establish 2015 interim and 2020 final targets for water use resulting in water savings of 20% by

the year 2020. The City of Riverbank set a confirmed 2020 target of 165 Gallons per Capita per Day (GPCD) and met the requirements with its actual 2020 use of 157 GPCD. This is indicative of conservation efforts on behalf of the City and California legislative requirements that enable more efficient end uses of water.

ES - 1.6 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

Water service reliability is required to be assessed with a hypothetical normal water year, a single dry water year, and multiple dry water years (5 years) The reliability assessment evaluates the projected demand during the above mentioned long-term hydrological conditions and compares that demand alongside the projected water supply. The City of Riverbank relies exclusively on groundwater and DWR has not identified the Modesto subbasin as being critically overdrafted. Suppliers are also required to include an assessment of water supply reliability via a drought risk assessment within the five-year cycle of the UWMP update. Supply from the groundwater basin is expected to be highly reliable and the City is well positioned to withstand the effects of a 5-year drought with the period of 2025 and 2045.

ES - 1.7 WATER SHORTAGE CONTINGENCY PLAN AND DEMAND MANAGEMENT MEASURES

A Water Shortage Contingency Plan (WSCP) details how a supplier will prepare for and respond to water shortages. The plan is consistent with the provisions of the City's emergency response procedures to implement during an interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. The WSCP parallels existing City code detailing water restrictions and their water shortage levels that match state messaging on water shortages with an appropriate local response.

The City of Riverbank is committed to the implementation of the most feasible water conservation measures appropriate for the City to produce the greatest reduction in water use practicable. Demand Management Measures (DMMs) are intended to lessen demands on the State's water resources through increased conservation and efficient water use, including water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system loss, water conservation program coordination and staffing support, and other DMMs.

ES - 1.8 UWMP PREPARATION, REVIEW AND ADOPTION

The UWMP Act requires identification of the City's coordination with relevant public agencies and the general public. Notices of preparation were sent to Stanislaus County and San Joaquin County to inform them of the preparation process of the City's 2020 UWMP and to solicit input and comments. The notice details the availability of the draft plan and the schedule, including the public hearing and expected adoption dates.

The City actively encourages community participation in its urban water management planning efforts, and held a public meeting on October 12, 2021 for review and comments on the draft plan prior to adoption by the City Council. In accordance with Section 6066 of the Government Code, notices of a public hearing were placed in the Riverbank News at least two weeks prior to the public hearing and the UWMP was made available to the public for review and comment before the City Council adoption (notice attached in Appendix M). Copies of the draft UWMP were available online and in hard copy format at the City office.

Introduction and Overview

1.1 BACKGROUND AND PURPOSE

The City of Riverbank's Urban Water Management Plan (UWMP) is prepared in accordance with California Water Code Division 6, Part 2.6: Urban Water Management Planning (10610 et. seq.) and Division 6, Part 2.55: Water Conservation (10608 et. seq.). Through this legislation, the State of California is promoting the managed use of water for urban and municipal purposes. The UWMP Act requires municipalities, which supply water to more than 3,000 customers (or supplying more than 3,000 acre-feet annually) to prepare an UWMP. Under the Act, urban water suppliers are required to submit a complete plan to the DWR in years ending in zero (0) and (5). An UWMP is required in order for a water supplier to be eligible for State grants and loans associated with water system planning and capital improvement projects.

In November 2007, The Water Conservation Act of 2009, also known as SB X7-7, was signed into law as part a comprehensive water legislation package. The Water Conservation Act sets a goal to achieve a 20% reduction in urban per capita water use in California by December 31, 2020, and directs urban retail water suppliers to set interim (2015) and final (2020) water use targets to achieve this reduction.

The purpose of this plan is to describe and evaluate system water demands; sources of water supply; efficient uses of water; water conservation demand management measures; and implementation, strategy and schedule to meet the requirements of the Urban Water Management Planning and Water Conservation acts.

1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

Over the years the UWMP Act has been modified as a result of California's water shortages, droughts, and other contributing factors. This plan has been prepared in compliance with the CWC sections 10610 through 10656 of the UWMP Act, added in 1983 through AB 797.

1.2.1 APPLICABLE CHANGES TO THE WATER CODE SINCE 2015

Since the 2015 plans have been completed, several amendments and a few major reporting requirement changes have been made to the UWMP Act. Below is a summary of the applicable changes:

- **Lay Description** – Suppliers are now required to include a lay description on key components of the UWMP such as water service reliability, future challenges, reliability risk management strategies, and any other information to provide a general understanding of the 2020 UWMP. The lay description is included in the Executive Summary of this plan. (CWC §10630.5)

- **Groundwater Supplies Coordination** – Suppliers are now required to be consistent with Groundwater Sustainability Plans (GSP) where applicable. This requirement is addressed in Chapter 6 of this plan. (CWC §10631(b)(4))
- **Five Consecutive Dry-Year Water Reliability Assessment** – Suppliers are now required to analyze the water service reliability from multiple dry water years to a period of drought lasting five consecutive water years. This requirement is part of the water use assessment presented in Chapter 4, the water supply analysis shown in Chapter 6, and the water reliability assessments in Chapter 7 of this plan. CWC §10635(a))
- **Five-year water loss reporting** – Suppliers are now required to include the water loss audit reports over the past five-years. The City’s water loss reporting is provided in Chapter 4 of this plan. (CWC §10608.34)
- **Energy Use Information** – Suppliers are now required to include information on estimated energy use for suppliers’ water systems. The City’s energy use information is provided in Chapter 6 of this plan. (CWC §10631.2)
- **Drought Risk Assessment** – Suppliers are now required to include assessment of water supply reliability within the five-year cycle of the UWMP update, which is from 2021 to 2025 for the 2020 UWMP. The Drought Risk Assessment (DRA) is discussed in Chapter 7 based on the water use information in Chapter 4, the water supply analysis is presented in Chapter 6, and the water reliability determinations are discussed in Chapter 7 of this plan. (CWC §10635(b))
- **Water Shortage Contingency Plan (WSCP)** – Suppliers are now required to include and adopt a WSCP as part of their UWMP with specified elements. The City’s WSCP is discussed in Chapter 8 of this plan and included in Appendix I to this plan. (CWC §10632)
- **Seismic Risk Analysis** – Suppliers are now required to include local or regional seismic risk assessments and mitigation plans. The City’s seismic risk is discussed in Chapter 8 of this plan. (CWC §10632.5)
- **Water Loss Management** – The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. This requirement is addressed in the Demand Management Measures presented in Chapter 9 of this plan. (CWC §10608.34(a) (1))

Plan Preparation

This chapter presents the basis for the preparation of the UWMP and coordination and outreach efforts.

2.1 BASIS FOR PREPARING A PLAN

The UWMP Act requires “urban water suppliers” to prepare a UWMP every five (5) years. An urban water supplier is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually. As presented in Table 2-1, The City supplied 3,932 AF of water to 6,853 municipal connections in 2020, requiring the preparation of a UWMP.

**Table 2-1 (DWR Table 2-1)
Public Water Systems**

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)
CA5010018	City of Riverbank	6,853	3,932
TOTAL		6,853	3,932

2.2 REGIONAL PLANNING

The City is not participating in a Regional UWMP, and is instead reporting on an individual basis for its own service area

2.3 INDIVIDUAL AND REGIONAL PLANNING AND COMPLIANCE

The City has prepared its 2020 UWMP on an individual basis (see Table 2-2). The City has notified and coordinated with all appropriate regional agencies and constituents.

**Table 2-2 (DWR Table 2-2)
Plan Identification**

Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
☒	Individual UWMP	
	☐ Water Supplier is also a member of a RUWMP	
	☐ Water Supplier is also a member of a Regional Alliance	
☐	Regional Urban Water Management Plan (RUWMP)	

2.4 CALENDAR YEAR AND UNITS OF MEASURE

The City is a water retailer and has prepared this report on a calendar year basis, from January 1, 2020, to December 31, 2020. The reporting water volume units are in acre-feet (AF) unless otherwise specified. Table 2-3 summarizes the reporting methods for this UWMP.

**Table 2-3 (DWR Table 2-3)
Supplier Identification**

Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☒	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☒	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP	
Unit	AF

2.5 COORDINATION AND OUTREACH

The UWMP Act requires identification of the City's coordination with relevant public agencies and the general public.

2.5.1 WHOLESALE AND RETAIL COORDINATION

The City of Riverbank is an independent water supplier and does not purchase from, nor wholesale water, to other agencies. The development of this UWMP was coordinated with City Public Works Department staff. Public Works is responsible for maintaining statistical data regarding water consumption and overseeing all development activities in the City. The Finance Department is responsible for utility billing.

The City does not rely upon a wholesale agency for water supply. Therefore, Table 2-4 is intentionally left blank.

**Table 2-4 (DWR Table 2-4 Retail)
Retail Water Supplier Information Exchange**

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
<i>Add additional rows as needed</i>
NOTES: The City of Riverbank does not rely upon a wholesale agency for water supply.

On July 30, 2021, a notice of preparation was sent to Stanislaus County and San Joaquin County to inform them of the preparation process of the City's 2020 UWMP and to solicit input and comments. The notice details the availability of the draft plan and the schedule, including the public hearing and expected adoption dates.

2.5.2 COORDINATION WITH OTHER AGENCIES AND THE COMMUNITY

The City has actively encouraged community participation in its urban water management planning efforts. The City held a public meeting on October 12, 2021 for review and comments on the draft plan prior to adoption by the City Council. In accordance with Section 6066 of the Government Code, notices of a public hearing were placed in the Riverbank News at least two weeks prior to the public hearing in English and in Spanish and the UWMP was made available to the public for review and comment before the City Council adoption (notice attached in Appendix D). Copies of the draft UWMP were available on the City website and at City offices. Additionally, community input was sought during the development of the City's Water Ordinances initially adopted in 1967 and subsequently amended

2.5.3 NOTICE TO CITIES AND COUNTIES

At least 60 days before the public hearing Per Water Code Section 10621(b), the City has notified the City and counties, Stanislaus County and San Joaquin County, within which the City supplies water. The notice of preparation letters are included in Appendix D. Further discussion is included in Chapter 10.

System Description

This chapter provides a general description of the City's water supply system and service area, including facilities, climate, population, and housing.

GENERAL DESCRIPTION

The City of Riverbank is located adjacent and south of the Stanislaus River, approximately 4 miles to the southwest of the City of Oakdale, and just northeast of the City of Modesto as depicted in Figure 3-1. The City, and its General Plan area, is located within the Stanislaus and San Joaquin Basins of the Great Central Valley. The City supplies potable water to all the residential, commercial, and institutional / governmental water users within City limits. The City also supplies water to several residential locations and complexes outside of the city limits, but within the Sphere of Influence. Figure 2-2 portrays the City limits, Sphere of Influence, and General Plan boundary. The vicinity map for the City of Riverbank is shown in Figure 3-1.

3.1 SERVICE AREA BOUNDARY

The City's actual distribution area substantially overlapped with the City boundaries during the baseline years. As population and economic growth continue in the future, the actual distribution area will geographically expand into the General Plan build-out areas.

The City's current actual distribution area substantially overlaps the city limits as shown in Figure 3-2. The City provides water service to the developed areas within the sphere of influence, which consists of single-family and multifamily residential units; commercial establishments; and industrial, private, and governmental institutions. The City's sphere of influence will expand over time to serve the General Plan boundary area as a result of economic and population growth. The General Plan also details a Land Use Element with general plan buildout assumptions. The buildout assumptions listed for the year 2025 include a mix of clustered rural residential, industrial, medium -density residential, lower-density residential among others. Figure 3-2 shows the Riverbank City Limits, Sphere of Influence, and General Plan Boundaries.



**Figure 3-1
Vicinity Map**

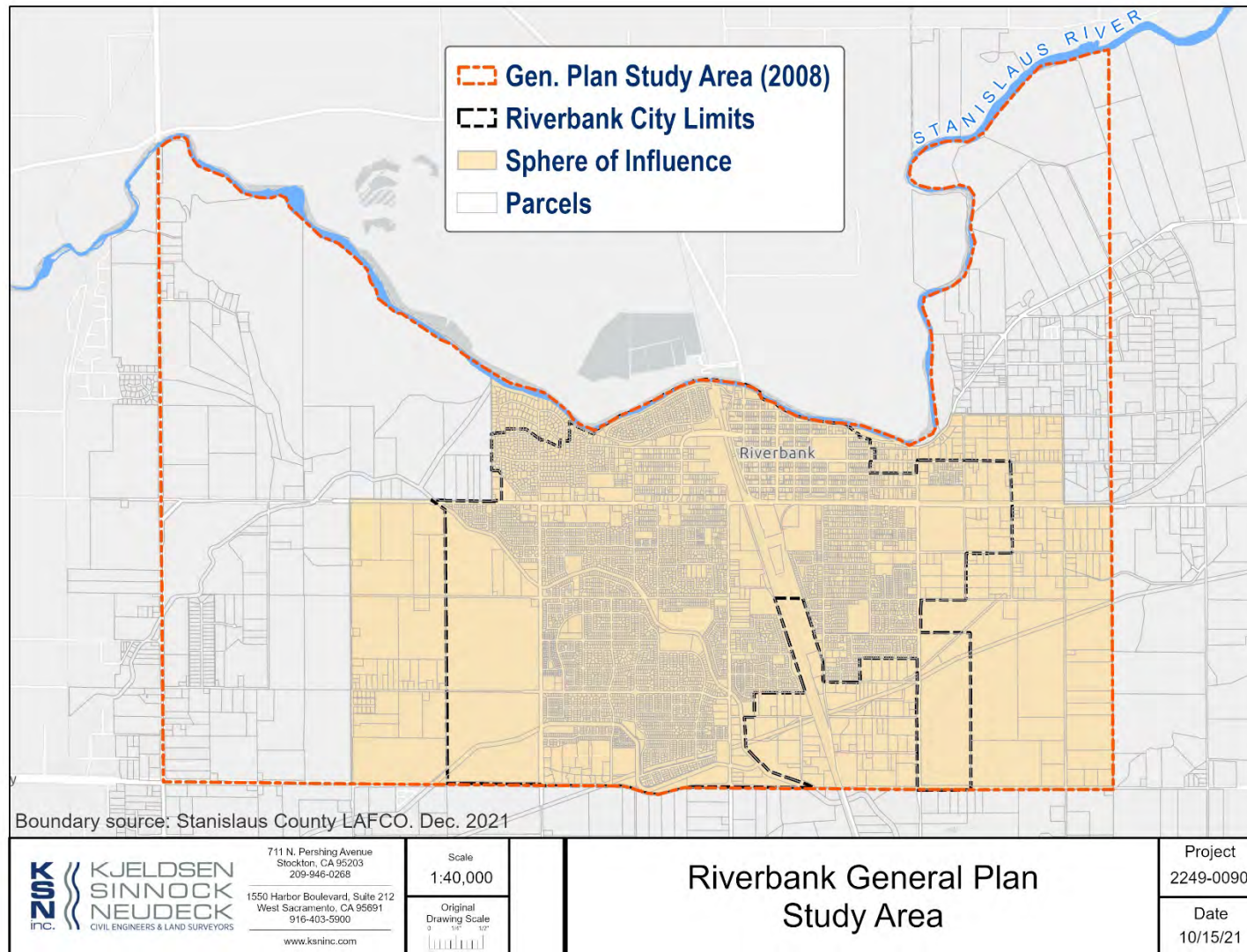


Figure 3-2
Riverbank City Limits, Sphere of Influence, and General Plan Boundaries

3.2 SERVICE AREA CLIMATE

The Riverbank area is considered semi-arid, characterized by hot, dry summers and mild, wet winters. Average winter temperatures range from the mid-40s to the high-60s and average summer temperatures from the 50s to the 90s. Per information from Western Regional Climate Center, NOAA, and CIMIS station observations the annual rainfall amounts range from 5.7 inches to 27.4 inches per year for the period between 1906 and 2020. In the region, average rainfall is approximately 13.60 inches per year.

3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.3.1 SERVICE AREA POPULATION

From 2005 to 2020, the population increased by approximately 5,055 residents per the State of California, Department of Finance (DOF). Growth rates have been as high as 5.9% between 2014-2015 and as low as 0.4% between 2019-2020. For purposes of this plan, the City has a future projected average population growth rate of 1.0% growth rate based on historical average growth data from 2010 through 2020. Table 3-1 summarizes the projected population growth of the City to the year 2040.

**Table 3-1 (DWR Table 3-1)
Population – Current and Projected**

Population Served	2020	2025	2030	2035	2040
	25,133	26,390	27,709	29,095	30,549
NOTES: CA DOF population estimate for the year 2020 used. DOF straight-line percentage change for the City of Riverbank for the years 2010 to 2020 was 1.0%. Future projections are applied at this rate.					

3.3.2 OTHER SOCIAL, ECONOMIC, AND DEMOGRAPHIC FACTORS

The 2016 Riverbank Housing Element (Housing Element) details household and employment characteristics as well as the social, economic, and demographic factors that affect the City's water supply management planning. The City was historically a self-described small, agricultural, service town housing resident who generally worked within or nearby the City. Per the Housing Element comparison of 2000 and 2010 census data, the age distribution of the City is relatively constant with an overall slight increase in the population aged 45 to 59 year and 60 to 74 years and a decrease in the 5-to-14-year age range. Table 3-2 present demographic race factors for the City including a 2020 projection of demographics as prepared in 2016. The economy is generally focused around agriculture and the City's largest employer is the Riverbank Unified School District.

Table 3-2
City of Riverbank Persons by Race

<i>Race</i>	2000	% OF TOTAL	2010	% OF TOTAL	2020 PROJECTED	% OF TOTAL
WHITE	7,612	48.15%	8,964	39.53%	9,557	36.53%
BLACK OR AFRICAN AMERICAN	200	1.26%	410	1.81%	461	1.76%
AMER. INDIAN / ALASKAN NATIVE	143	0.90%	129	0.57%	137	0.52%
ASIAN	187	1.18%	733	3.23%	911	3.48%
NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER	15	0.09%	81	0.36%	84	0.32%
OTHER RACE	12	0.08%	34	0.15%	N/A	N/A
HISPANIC OR LATINO (OF ANY RACE)	7,266	45.91%	11,822	52.13%	14,387	54.99%
TWO OR MORE RACES	391	2.47%	505	2.23%	627	2.40%
TOTAL	15,826	100%	22,678	100%	26,164	100%
SOURCE: U.S. Census Bureau, 2000 and 2010 Census, QT-PL and P2 Tables; State of California, Department of Finance, Report P-1 (Race): State and County Population Projections by Race/Ethnicity, 2010-2060. Sacramento, California, January 2013.						

3.4 LAND USES WITHIN SERVICE AREA

The City's land use is primarily residential neighborhoods with approximately 1,676 acres designated as Medium-Density Residential or Low-Density Residential with 184 acres of primarily Medium-Density Residential infill designation per the City's 2007 Water Master Plan. In 2018, a Water Supply Assessment for the Crossroads West Specifics Plan was developed in accordance with Water Code section 10910(c)(4) for which the city determined that its total projected future water supplies met the 381-acre project area needs within the expanded City limits.

**Table 3-3
Existing Land Uses Within City Limits**

Type of Land Use	Area (ac)
Medium Density Residential (MDR)	1,426.5
Low Density Residential (LDR)	249.6
Commercial (C)	211.5
Industrial (I)	208.9
School (SC)	69.4
Park (PK)	39.0
Open Space (OS)	29.8
Total	2,235
Source: City of Riverbank Water Supply Study and Water Master Plan existing land use within city limit.	

Water Uses Characterization

This chapter describes the City's water system demands, including calculating its baseline (base daily per capita) water use and interim and urban water use targets. It quantifies the City's current water system demand by category and projects them over the planning horizon of the UWMP. The projections also include system water losses and water use target compliance. This section is intended to provide a realistic prediction of future water use based upon past and current water use, combined with considerations of anticipated growth, new regulations, changing climate conditions, and trends in customer water use behaviors.

When calculating future water demands, the projected demands were based on the assumed reduction in per capita daily use determined from planning for and implementing actions associated with the Water Conservation Bill of 2009.

This chapter also includes a description of how the City calculated its baseline and targets, following the technical methods and methodologies described in Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (For the Consistent Implementation of the Water Conservation Bill of 2009) (DWR 2010a).

4.1 NON-POTABLE VERSUS POTABLE WATER USE

Potable water use is a water use fit for consumption. Groundwater supplied by the City is potable and not treated with chemicals. Non-potable water is water not fit for consumption. Recycled water is a type of municipal wastewater that is treated to a specified quality level and can be used as a source of non-potable water use. The City does not currently have a recycled water program implemented.

4.2 WATER USES BY SECTOR

The City categorizes metered water use sectors by Single Family Residential, Commercial, Institutional/Governmental, Industrial, and Other. The City defines specific water use sectors according to the DWR definitions listed below with the caveat that the City does not differentiate between Single-Family and Multi-Family residential end use.

- **Single-Family Residential** - A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. This is a retail demand.
- **Multi-Family Residential** - Multiple dwelling units contained within one building or several buildings within one complex. This is a retail demand.
- **Commercial** - A water user that provides or distributes a product or service. This is a retail demand.

- **Industrial** - A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. This is a retail demand.
- **Institutional and Governmental** - A water user dedicated to public service. This type of user includes, among other users, higher-education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
- **Distribution System Losses** – Distribution system water losses result in the physical loss of water from the distributions system. These values are quantified in accordance with a water system balance methodology developed by the American Water Works Association.

4.2.1 HISTORICAL RETAIL WATER USE

Table 4-1 shows the historical water use values that are estimated to have occurred from the years 2016 to 2019. This estimation was necessary due to the City's change over to an advance metering infrastructure system that was completed in 2020. As a result of software issues encountered while changing systems, there are no recorded usages for specific end uses. As such, a flat rate fee was charged to all customers. Values in Table 4-1 were proportioned using data from the 2020 water use sector breakdown. The values were calculated as a percentage of the total water supplied and reported in the AWWA Water Loss Audit Data for the years listed. Note that the estimated losses in Table 4-1 do not correspond to reported data in Table 4-6.

**Table 4-1
Historical Water Use Estimates**

Table 4-1 Historical Water use in AF				
Water Use Sector	2016	2017	2018	2019
Single Family	3,007	3,251	3,400	3,630
Multi-Family				
Commercial	205	219	226	239
Institutional/Governmental				
Industrial	92	101	108	117
Other ¹	-	-	-	-
Losses	399	436	460	495
TOTAL	3,749	4,043	4,219	4,494
<i>1. Other category was discontinued for the 2020 UWMP.</i>				
NOTES: Residential end use is not categorized by Single Family or Multi-Family use, only residential use. Commercial and Institutional/Governmental use are grouped together for comparison to 2015 UWMP. All volumes are in AF.				

4.2.2 CURRENT RETAIL WATER USE

Table 4-2 (DWR Table 4-1) below presents the City's current water use based on 2020 metered data. The City supplied 3,932 AF of water to 6,853 municipal connections in 2020.

**Table 4-2 (DWR Table 4-1)
Demands for Potable and Non-Potable Water – Actual**

Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume
Add additional rows as needed			
Single-Family		Drinking Water	3,581
Multi-Family			
Commercial		Drinking Water	224
Industrial		Drinking Water	9
Institutional/Governmental		Drinking Water	117
Losses		Drinking Water	493
TOTAL			4,425
NOTES: Residential end use is not categorized by Single Family or Multi-Family use, only residential use. All volumes are in AF.			

4.2.3 PROJECTED RETAIL WATER USE

DWR Table 4-2 and DWR Table 4-3 provide projected water demands for 2025, 2030, 2035, and 2040. In calculating the estimated number of accounts and water usage by sector, a straight-line projection with a 1.0% assumed water use growth was made from 2020 to 2040. This is consistent with the historical 2010 – 2020 population growth of 1.0% Based on 2020 metered data, residential usage represents approximately 90% of the total usage. The remaining 10% is for commercial/institutional, industrial and other use categories. Land use buildout estimates from the 2009 General Plan were not used in this plan to estimate the projected water use volumes in Table 4-3.

An additional conservation factor was not assumed for planning purposes, since the 2020 water uses of 157 GPCD already meet the 2020 water use target of 165 GPCD, as discussed in Chapter 5.

Table 4-3 (DWR Table 4-2)
Use for Potable and Non-Potable Water - Projected

Use Type	Additional Description (as needed)	Projected Water Use ² Report To the Extent that Records are Available			
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040
Single Family		3,760	3,940	4,119	4,298
Multi-Family		-	-	-	-
Commercial		235	246	257	269
Institutional/Governmental		9	10	10	11
Industrial		123	129	135	141
Losses		518	542	567	591
TOTAL		4,646	4,867	5,088	5,309
NOTES: Residential end use is not categorized by Single Family or Multi-Family use, only residential use. All volumes are in AF.					

Total water use projections are summarized in Table 4-4.

Table 4-4 (DWR Table 4-3)
Total Water Use

	2020	2025	2030	2035	2040
Potable Water, Raw, Other Non-potable	4,425	4,646	4,867	5,088	5,309
Recycled Water Demand	0	0	0	0	0
TOTAL WATER USE	4,425	4,646	4,867	5,088	5,309
NOTES: All volumes are in AF. The City of Riverbank does not have a recycled water project in place to contribute to projections.					

4.2.4 CHARACTERISTIC FIVE-YEAR WATER USE

The California Water Code (CWC) Section 10635(b) requires that suppliers include a drought risk assessment for its water service to customers. Required elements of the Drought Risk Assessment (DRA) are the comparison of total water supply sources that are available to the water supplier with the total projected water use for the drought period. To make this comparison in the DRA, an estimation of demand over the 2021 to 2025 period is required without the constraints imposed by drought conditions (unconstrained demand). Chapter 7 includes the DRA, but the projections of unconstrained demand over the course of the next five years (2021-2025) is included. These projections, seen in Table 4-5, were completed via linear interpolation between the actual 2020 demands and the 2025 projected demands.

**Table 4-5
Projected Water Demands for the Drought Risk Assessment**

Water Use Sector	Water Demands in AF per Year				
	2021	2022	2023	2024	2025
Single Family	3,617	3,653	3,689	3,725	3,760
Multi-Family					
Commercial	226	228	231	233	235
Institutional/Governmental	9	9	9	9	9
Industrial	119	120	121	122	123
Losses	498	503	508	513	518
TOTAL	4,469	4,513	4,557	4,601	4,646
NOTE: Unconstrained demand projections are based on linear interpolation of actual 2020 demands and those projected for the Table 4-4 2025 demands.					

4.3 DISTRIBUTION SYSTEM WATER LOSSES

Additional water use and losses are defined in Table 4-6. System losses could include system leaks, meter inaccuracies, construction water, distribution system flushing, and unauthorized connections. A new meter and billing system was instituted in 2016 and finalized in the year 2020 which explains the significant variability in water loss volume. While implementing during period, software issues resulted in a flat rate fee being charged to customers. Water losses are estimated using the American Water Works Association (AWWA) Water Auditing Worksheet, attached in Appendix N.

**Table 4-6 (DWR Table 4-4)
Last Five Years of Water Loss Audit Reporting**

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2020	492.97
01/2019	11.78
01/2018	182.41
01/2017	15.22
01/2016	190.59
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ² Units of measure (AF)	
NOTES: All volumes are in AF. A new meter system was implemented in the year 2020 explaining the significant increase in water loss volume.	

4.4 ESTIMATING FUTURE WATER SAVINGS

Additional water savings from codes, standards, ordinances, or transportation and land use plans, also known as passive savings, can decrease the water use for new and future customers. Codes like SB 407, which imposes requirements for residential and commercial real property built and available for use on or before January 1, 1994, for replacing plumbing fixtures that are not water conserving, and the Modern Water Efficient Landscape Ordinance (MWELO), increase these passives savings. However, as noted in Table 4-7 below, these potential passive savings have not been included in the City's water demand projections. Additionally, Table 4-7 notes that lower income residential demands were included in the projections.

**Table 4-7 (DWR Table 4-5)
Inclusion in Water Use Projections**

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

The current UWMP requirement includes projections of lower income household water use projections. Table 4-8 provides these projections. The City of Riverbank's low-income households make up 12.3% of the population based on economic and housing data for the City. A lower income household is defined as a household with income below 80% of the Area Median Income (AMI), adjusted for family size. This percentage of low-income population was then applied to the residential water demand projections to estimate "low-income water demand".

**Table 4-8
Low-Income Projected Water Demands**

Low Income Water Demands	Current Water Use	Projected Water Use				
	2020	2025	2030	2035	2040	
Single Family Residential	448	470	492	515	537	
NOTES: All Volumes are in AF.						

Table 4-9 below confirms that future water savings and lower income household demands have been included in water demand projections.

**Table 4-9 (DWR Table 4-5)
Inclusion in Water Use Projections**

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc.... utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES: Future Water Savings are projected to keep water usage steady as opposed to decreasing water usage, due to future water use targets already being met.	

4.5.1 CLIMATE CHANGE CONSIDERATIONS

Demands under climate change considerations must be included as part of the DRA. The City is likely to experience warmer temperatures which lead to an expected impact of increased irrigation demands, increased frequency of drought, and possible increases in the frequency of wildfire that would also increase water demands. Impacts of likely conditions imposed by climate change on the City are discussed further in Chapter 6. Climate change impacts were not directly incorporated into demand projections but are important considerations for further implementation of existing demand management measures and supply projections.

SB X7-7 Baselines and Targets

Beginning with the 2010 UWMPs, SBX7-7 (CWC §10608 (e)) requires each urban retail water supplier to include the following in its UWMP.

- **Baseline daily per capita water use** — how much water is used within an urban water supplier's distribution system area on a per capita basis. It is determined using water use and population estimates from a defined range of years.
- **Urban water use target** — how much water is planned to be delivered in 2020 to each resident within an urban water supplier's distribution system area, taking into account water conservation practices that currently are, and/or planned to be, implemented.
- **Interim urban water use target** — the planned daily per capita water use in 2015, a value halfway between the baseline daily per capita water use and the urban water use target.

In 2015 and 2020, each water supplier will also determine compliance daily per capita water use to assess progress toward meeting interim and 2020 urban water use targets. Determining and tracking use levels and targets will support the goal of reducing the state's per capita urban water consumption by 20 percent.

The steps required to calculate the City's urban water use targets include developing the gross water use, the current and estimated service area population, followed by calculating the baseline daily per capita water use. The SB X7-7 Compliance Form used to calculate baselines and targets are included in Appendix F. As a reference, the City has included its SB X7-7 Verification Form submitted with the City's 2015 UWMP in Appendix E.

5.1 UPDATING CALCULATIONS FROM 2010 UWMP

The City has not made any changes to its 2020 urban water use target in this 2020 plan. In 2015, the interim target was successfully met, and the City has confirmed its 2020 target.

5.2 GENERAL REQUIREMENTS FOR BASELINE AND TARGETS

The Water Code specifies two different base periods for calculating Base Daily Per Capita Water Use under Section 10608.20 and Section 10608.22:

- The first base period is a 10- to 15-year continuous period, and is used to calculate baseline per capita water use per Section 10608.20.
- The second base period is a continuous five-year period, and is used to determine whether the 2020 per capita water use target meets the legislation's minimum water use

reduction requirement per Section 10608.22.

Unless the urban retail water supplier's five-year Base Daily Per Capita Water Use per Section 10608.12 (b) (3) is 100 gallons per capita per day (GPCD) or less, Base Daily Per Capita Water Use must be calculated for both baseline periods.

In determining the proper length of time to use for the first base period, the following criteria must be followed:

- If recycled water made up less than 10 percent of 2008 retail water delivery, use a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
- If recycled water made up 10 percent or more of 2008 retail water delivery, use a continuous 10- to 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

Since the City does not use recycled water, a 10-year baseline period will be used. The base period ranges selected for calculating the baseline daily per capita water use are the following:

- 10-year baseline period: 1996-2005
- 5-year baseline period: 2003-2007

These periods are the same as those reported in the City's 2010 UWMP. SB X7-7 Table 1 in Appendix F lists these baseline periods.

DWR Table 14 presents the calculated base daily per capita water use for the 10-year and 5-year ranges. The maximum allowable 2020 per capita water use target is the lower of either: 95% of the 5-year baseline daily per capita water use, or the target determined by one of the DWR target methods discussed in the following section.

5.3 SERVICE AREA POPULATION

Section 10608.20(f) of the Water Code indicates that when calculating per capita values for the purposes of this section, an urban retail water supplier shall determine population using federal, state, and local population reports and projections. To obtain an accurate estimate of daily per capita water use, water suppliers must estimate population of the areas that they actually serve, which may or may not coincide with either their jurisdictional boundaries or with the boundaries of cities. Customers may be in the distribution area with a wholly private supply during the baseline and compliance years, and new areas may be annexed into a water supplier's distribution system over time. The area used for calculating Service Area Population shall be the same as the distribution system area used in calculating the gross water use. The method used to estimate the service area population is shown on Table 5-1 (SB X7-7 Table 2). DOF estimates City of Riverbank's 2020 population to be 25,133 as shown in Table 5-2 (SB X7-7 Table 3).

**Table 5-1 (SB X7-7 Table 2)
Method for Population Estimates**

Method Used to Determine 2020 Population (may check more than one)	
☒	1. Department of Finance (DOF) or American Community Survey (ACS)
☐	2. Persons-per-Connection Method
☐	3. DWR Population Tool
☐	4. Other DWR recommends pre-review

**Table 5-2 (SB X7-7 Table 3)
Service Area Population**

2020 Compliance Year Population	
2020	25,133
NOTES: Population is from the Department of Finance	

Since the service area is substantially the same as the City boundary, it is appropriate to use population estimates directly from the Department of Finance.

5.4 GROSS WATER USE

Gross water use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass through the distribution system. Recycled water deliveries are to be excluded from the calculation of Gross Water Use. Water delivered through the distribution system for agricultural use may be excluded from the calculation of Gross Water Use.

Section 10608.12(g) of the Water Code defines “Gross Water Use” as:

The total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long-term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in*

subdivision (f) of Section 10608.24

The historical annual metered groundwater production for the City's water system for the chosen baseline periods is presented in SB X7-7 Table 4 of Appendix E. Per Methodology 1: Gross Water Use in the DWR guidance, the City's gross water use is equivalent to the annual groundwater production as there is no import/export of water and no recycled water use within the system.

5.5 BASELINE AND TARGETS SUMMARY

Baseline per capita water use must be calculated for a water system to define their 2015 interim and 2020 water use targets. Base Daily Per Capita Water Use is defined as average gross water use, expressed in GPCD, for a continuous, multiyear base period. From the 2015 UWMP, these values have been adjusted according to the population estimate update. The calculated Base Daily Per Capita Water Use for each baseline period is as follows:

- 10-year baseline period (1996-2005)
 - 198 GPCD
- 5-year baseline period (2003-2007)
 - 218 GPCD

The current, 2020 water use is 157 GPCD. These values are summarized in the 2020 SB X7-7 Compliance Form in Appendix F. The City's baseline and target values are summarized in Table 5-3.

**Table 5-3 (DWR Table 5-1)
Baselines and Targets Summary from SB X7-7 Verification Form**

Income and Targets Summary from SBX7-7 Verification				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1996	2005	198	165
5 Year	2003	2007	147	
*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)				

5.6 2020 COMPLIANCE DAILY PER CAPITA WATER USE

The City set a 2020 water use target and a 2015 interim target using one of four methods. Three of these are defined in Section 10608.20(a)(1), with the fourth developed by DWR. The 2020 water use target will be calculated using one of the following four methods:

- **Method 1:** 80% of the water supplier's baseline per capita water use.

- **Method 2:** Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses.
- **Method 3:** 95% of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan. The Modesto Groundwater Subbasin is located in the San Joaquin River Hydrologic Region. This region has a year 2015 conservation target of 211 GPCD and a year 2020 target of 174 GPCD. A reduction to 95% for this region makes the urban water target 165 GPCD.
- **Method 4:** This is a method developed by DWR to account for climate and population density and differences in regions related to levels of per capita water use according to plant water needs and levels of commercial, industrial, and institutional water use. Water savings are calculated using a BMP Calculator tool provided by DWR.

The Water Code directs that water suppliers must compare their actual water use in 2020 with their calculated targets to assess compliance. In addition, water suppliers will report interim compliance in 2015 as compared to an interim target (generally halfway between the baseline water use and the 2020 target level). The years 2015 and 2020 are referred to in the methodologies as compliance years. All baseline, target, and compliance-year water use estimates must be calculated and reported in GPCD.

The City of Riverbank has selected Method 3 for establishing their interim 2015 and final 2020 urban water use targets. Method calculations, as well as the 2020 target confirmation of at least a 5% reduction from the 5-year baseline GPCD, are shown in the 2020 SB X7-7 Tables of Appendix F. Based on this, the City's targets are as follows:

- Final 2020 Target = 165 GPCD
- Interim 2015 = 182 GPCD

Table 5-2 summarizes the baseline periods and target GPCDs.

Table 5-4 (DWR Table 5-2)
2020 Compliance from SB X7-7 2020 Compliance Form

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* (Adjusted if applicable)		
157	0	157	165	Yes
*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)				

The target did not need to be adjusted further to achieve a minimum reduction in water use. The City has made progress due to the continued water conservation efforts and metering efforts. The City has chosen not to make any adjustments as they are not required to comply with SB X7-7.

5.7 REGIONAL ALLIANCE

The City did not participate in a regional alliance to comply with the requirements of SB X7-7 and will instead comply on an individual basis

Water Supply Characterization

This chapter describes the City's sources of water. It includes a description of City's groundwater source(s), source limitations (physical or political), water quality, and water exchange opportunities. Also included is a short discussion regarding planned future water supply projects to meet future water system demands. A detailed analysis of the City's groundwater supply and supply reliability issues are discussed in Chapter 7 of this UWMP.

6.1 DESCRIPTION OF EXISTING FACILITIES

The City relies exclusively on groundwater as a potable water supply. Surface water applications are limited to natural recharge to the groundwater supply. An urban recycled wastewater program is not planned at this time.

The City supplies potable water through a pressurized distribution system. The City water supply and distribution system is comprised of nine working wells with pumps, two 1 million gallon (MG) storage tanks with booster pumping stations, and over 68 miles of pipeline 8 inches to 12 inches in diameter. There are also several miles of 4-inch and 6-inch diameter pipelines. There is a 10th well that is not currently in operation due to high levels of 1,2,3-Trichloropropane (TCP) detected in the well.

An eleventh well, Well No. 11 has been designed and is planned for the south side of Santa Fe Street, east of Central Avenue in rural northeastern Riverbank. The locations of existing and planned water supply wells are shown in Figures 6-1 and 6-2. A summary of the production capacity of the existing groundwater wells 2-10 and 12, including pertinent well characteristics, is presented in Table 6-1. A summary of the amount of groundwater pumped in the previous years is provided in Table 6-2.

**Table 6-1
Existing Groundwater Wells**

Well No.	Well Name	Pumping Capacity (gpm)	Date Constructed	Depth to Intake (ft bgs)	Depth to Uppermost Screen (ft bgs)	Total Production Calendar Yr 2020 (AF)
1	2 nd Street	<i>Abandoned</i>	1949	<i>Abandoned</i>	<i>Abandoned</i>	<i>Abandoned</i>
2	8 th St	660	1956	112	130	290
3	Jackson	625	1965	112	130	1182
4	Pioneer	900	1972	145	132	62
5	River Heights ^(b)	900	1978	112	130	447
6	Whorton	1,000	1981	178	225	153
7	Crossroads	1200	1990	150	209	1024
8	Novi	1,200	2001	178	210	304
9	Prospector	1,300	2004	130	148	772
10	Heartland	1,500	2010	185	165	0
12	Chief Tucker	1,500	2010	260	240	216
Total		9,885				

(a) Assumed values based on characteristics of other wells.

(b) Well not in operation due to high levels of TCP. Does not count towards total pumping capacity.

**Table 6-2 (DWR Table 6-1)
Groundwater Volume Pumped**

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Modesto Ground Water Subbasin	3,750	4,067	4,319	4,266	4,452

NOTES: All Volumes are in AF.

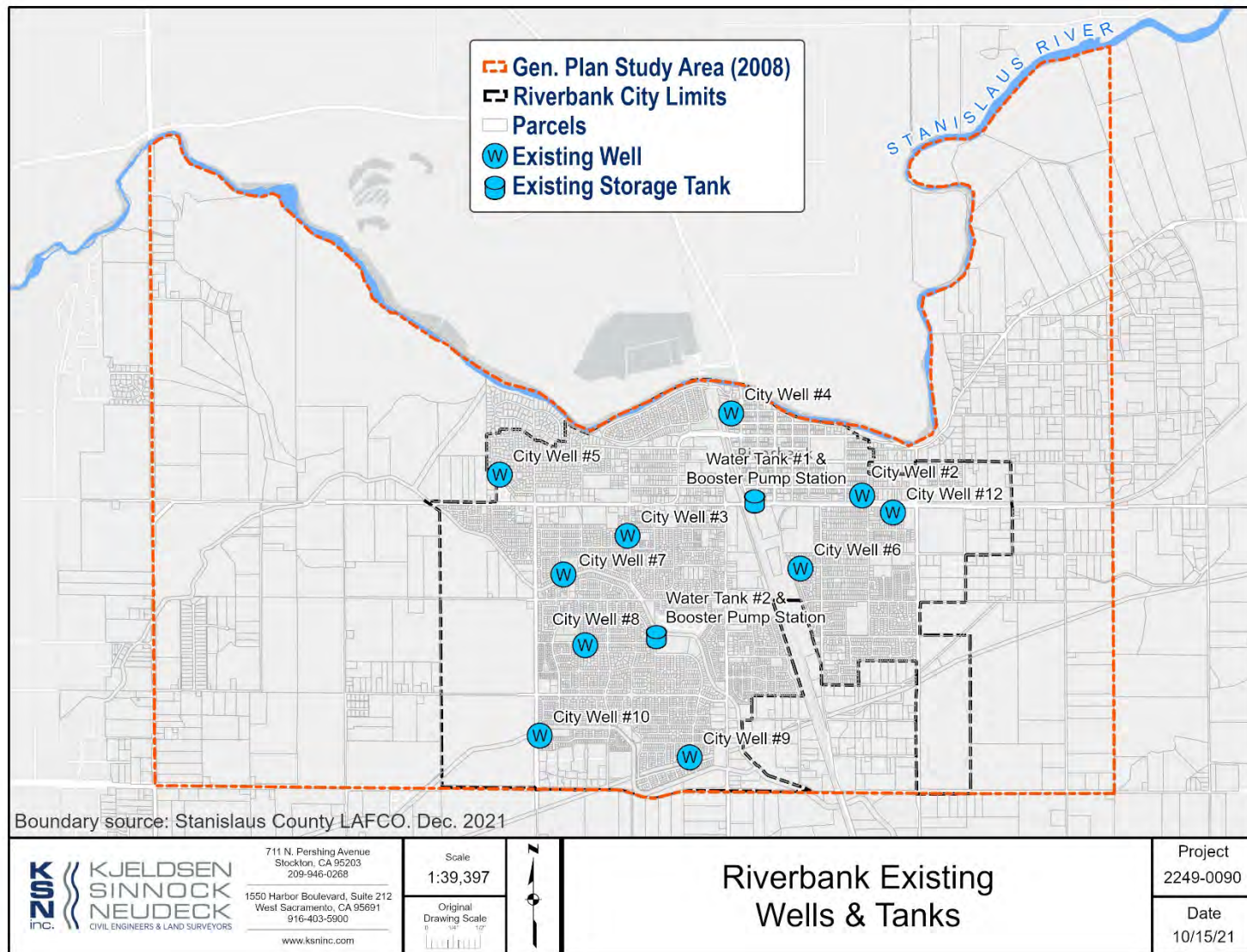
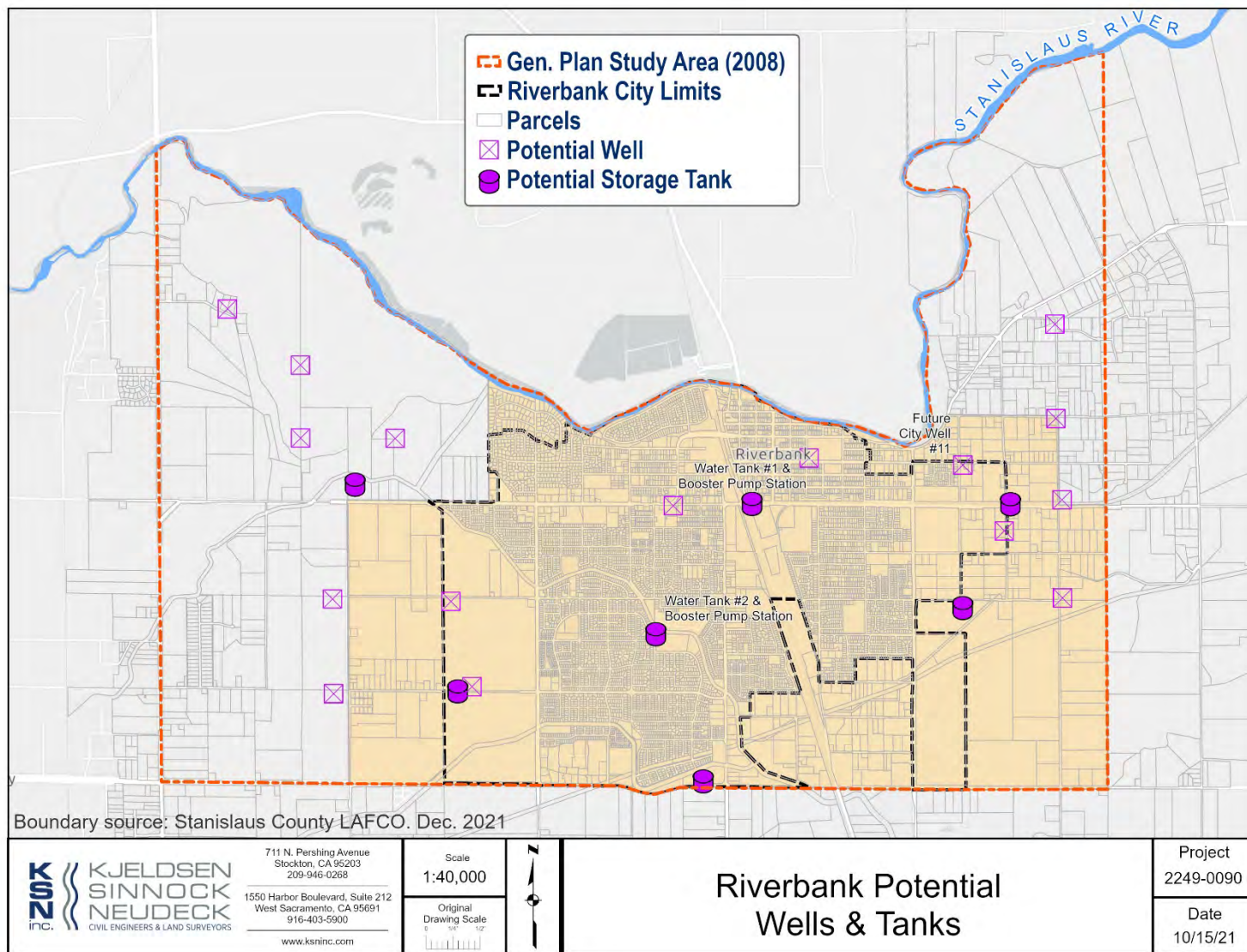


Figure 6-1
Existing Water Supply Facilities



**Figure 6-2
Planned Water Supply Facilities**

6.2 TRANSFER AND EXCHANGE OPPORTUNITIES

Proposed water supply strategies for the City do not consider the use of surface water from the Stanislaus River. At present, conjunctive (surface water) uses are limited to natural groundwater recharge from surface water. Should Oakdale Irrigation District embark on a program of supplying treated surface water for municipal uses, opportunities to purchase water may become available.

6.3 WATER QUALITY

Regional water quality is generally good, with total dissolved solids, nitrate, and DBCP (a soil fumigant) being the only potential concerns. There are a number of possible contaminating activities within the Riverbank General Plan area, including the Thunderbolt Wood Processing facility and the Riverbank Army Ammunitions Plant. Neither of these, or any other potential contaminating activities, has shown a water quality impact to the City's production wells.

In 2018, 1,2,3-TCP was detected at Well #5 above the 0.005ug/L maximum allowable limit. In response, this well has been taken off-line and is no longer serving drinking water to the community. In the future, steps can be taken to mitigate this contaminant, and the well can be rehabilitated for use in the future if water supply becomes a concern. Otherwise, there are no projected water supply changes due to water quality for the duration of the current UWMP planning horizon.

6.4 CURRENT AND PROJECTED NORMAL WATER SUPPLIES

The City's current projected water supplies are provided in Table 6-3. As mentioned previously, the City relies exclusively on groundwater for their water supply. The City does not anticipate using a wholesale supply source to meet future needs. The projected water supplies are based on the total water use defined in Chapter 4 of this UWMP.

**Table 6-3 (DWR Table 6-9)
Water Supplies – Projected**

Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report to the Extent Practicable</i>			
		2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Groundwater (not desalinated)		4,646	4,867	5,088	5,309
Total		4,646	4,867	5,088	5,309
NOTES: All Volumes are in AF.					

6.5 FUTURE WATER SUPPLY PROJECTS

The City prepared their Water Supply Study and Water Master Plan in 2007 to ensure the required infrastructure will be in place to provide a reliable water source for existing and future City residents. The following summary includes a description of the build-out facilities. Development within the General Plan study area is anticipated to occur over an extended period of time (in excess of 20-30 years). Figure 4-2 highlights the proposed water supply wells and tanks as shown in the master plan.

The City has no future water supply projects planned at this time so City will not be completing DWR Table 6-7. The 2016 Supply Reliability Certification analysis and 2021 Risk Assessment Summary Report suggests that existing water supplies are more than adequate to satisfy existing system demands. Future water supplies will be brought on as necessary to satisfy specific development needs as discussed below.

6.5.1 FUTURE GROUNDWATER EXTRACTIONS

The nine existing City wells (Well No. 2-4,6-10, 12) have an approximate total capacity of 9,885 gpm as summarized previously in Table 6-1. In order to meet future water demands, the City's master plan suggested the addition of sixteen new groundwater wells (including Well No. 11), with a capacity of 1,500 gpm each, to meet 20% reserve capacity provisions and maximum day demands, as well as emergency storage requirements at build-out conditions.

Besides Well No. 11, which will be located within the City's city limits, most of these new water supply wells will be located outside of the City's current sphere of influence and within the General Plan areas east and west of the current City limits. A summary of the anticipated wells by area is presented in Table 6-4.

**Table 6-4
Future Water Supply Needs**

Buildout Area¹	Existing Wells	Total Wells Needed	New Wells Needed
West Riverbank	0	8	8
Central Riverbank	9	11	2
East Riverbank	0	6	6
Total	9	25	16

¹ Central Riverbank includes the City's current sphere of influence. East and West Riverbank include the General Plan build-out areas.

6.5.2 FUTURE GROUNDWATER EXTRACTIONS – IMPLEMENTATION STRATEGIES

As noted, sixteen new municipal wells are proposed to meet build-out water demands. Planning, design, construction, and startup of these wells will require a collaborative effort between City staff and development interests. Timing of well construction is critical to ensure that water supply facilities are on-line well in advance of increased demands. For this to occur, the City has initiated the following implementation strategy:

1. A water supply master plan has been prepared including a recommended phasing plan

for capital facilities. The phasing plan establishes priorities based on likely development scenarios and provides a framework for City-developer financing of proposed wells through impact fees.

2. Siting and design criteria have been established for new municipal wells. The criteria allow for early-on identification of superior well sites, particularly in areas proposed for development. The City expectation is that property developers will reserve well sites based on the approved criteria as part of the entitlement process.
3. Triggers for new well construction will be established based on an annual review of well production versus water demands. Master plan recommendations will be updated on a bi-annual basis to reflect current demand trends and development plans. Where a specific development triggers the need for additional wells, the development agreement between the property owner and the City will include provisions for financing and construction of required wells. Development will not be allowed to proceed without consideration of water supply facilities.

6.6 CITY OF RIVERBANK GROUNDWATER SYSTEM

This section describes the Modesto groundwater subbasin from which the City's groundwater sources are located. The City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA) and was a part of the development of Integrated Regional Groundwater Management Plan (IRGMP) for the Modesto Subbasin in 2005. The IRGMP provides a framework for coordinating groundwater and surface water management activities in order to enable the efficient use of groundwater and surface water and protect water quality. The IRGMP can be found online at: <http://www.mid.org/water/irgmp/default.html>.

In 2014, Governor Jerry Brown signed the Sustainable Groundwater Management Act of 2014 (SGMA). As part of the SGMA legislation, local agencies must form a local Groundwater Sustainability Agency (GSA) and adopt a Groundwater Sustainability Plan (GSP). Once the GSP is in place, the local agencies then have 20 years to implement and reach the sustainability goals outlined in the GSP.

In response to these requirements, the STRGBA formed into a GSA in 2017, and plans to complete a GSP by 2022, which meets the requirement for the Modesto Subbasin that the City is located in, designated as a high priority basin. The basin is not currently listed as adjudicated, nor critically overdrafted.

Based on the IRGMP for the Modesto Subbasin, and various groundwater investigations performed on groundwater availability in the subbasin, including the Self-certification of Supply Reliability of Potable Water¹ (2016), this section provides the supporting information in determining the reliability of the City's groundwater sources during normal, single dry, and multiple dry year events.

¹ Self-Certification of Supply Reliability for Three Additional Years of Drought pursuant Section 864.5 of Article 22.5 of the California Code of Regulations as required by the State Water Resources Control Board

6.6.1 WELL SYSTEM

The City of Riverbank is located within the San Joaquin Valley and the Modesto Ground Water Subbasin (see Figure 6-3). The subbasin lies between the Stanislaus River to the north and the Tuolumne River to the south, and between the San Joaquin River on the west and crystalline basement rock of the Sierra Nevada foothills on the east (source: California Bulletin 118, updated 2/27/04).

The City's water supply is provided by nine active production wells. As shown in Appendix G, the wells range in depth from 240 feet to 830 feet and average 440 feet deep. Yields from the wells range from 620 gallons per minute (gpm) at Well No. 2, to 1,500 gpm at Wells No. 10 and 12. The average yield per well is about 1,000 gpm, while the total available yield from all active wells is 9,285 gpm. Based on pumping test performed by in 2019, the minimum specific capacity of the wells ranges from a low of about 44 gallons per minute per foot of drawdown (gpm/ft) at Well No. 4, to more than 115 gpm/ft at Well No. 12. The average of the minimum specific capacities for all wells is about 80 gpm/ft.

However, an analysis of historical records maintained by the City of Riverbank of measured depths to groundwater surface from 1999-2020² suggests that typical specific capacity ranged from about 41 gpm/ft of drawdown at Well No. 4, to 94 gpm/ft of drawdown at Well No. 5. The average specific capacity is approximately 71 gpm/ft of drawdown.

6.6.2 HYDROGEOLOGIC SETTING

Groundwater in the Modesto subbasin is produced from several sedimentary units that are Pleistocene to Miocene in age. The younger formations, known as the Turlock Lake, Riverbank, Modesto and Laguna Formations, are typically unconsolidated deposits of poorly-sorted gravel, sand, silt and clay. The units host predominantly unconfined to semi-confined aquifers that support high yielding wells. Transmissivities range from 60,000 to 280,000 gpd/ft, while storage coefficients range from 7 to 17 percent (source: California Bulletin 118, updated 2/27/04).

Underlying these formations is the older Mehrten Formation, which is comprised of semi-consolidated claystone, siltstone, sandstone, and agglomerate. The Mehrten is also an important aquifer and supports high-yielding wells. The Mehrten Formation surfaces in the eastern part of the Basin and dips to the southwest at a slope of about 0.006 (Burow, 2004). Transmissivities for the Mehrten Formation range between 28,000 and 250,000 gpd/ft while storage coefficients range from 1×10^{-4} to 1×10^{-6} . The Mehrten Formation is underlain by the Valley Springs and Lone Formations. Because these deep formations may contain saline water, they are typically not a source of groundwater. Most of the City of Riverbank wells are completed in the upper unconsolidated aquifers, although the deepest wells penetrate the Mehrten Formation.

² City of Riverbank records of measured depths to static and pumping groundwater surface below ground surface (bgs), 1999-2020.

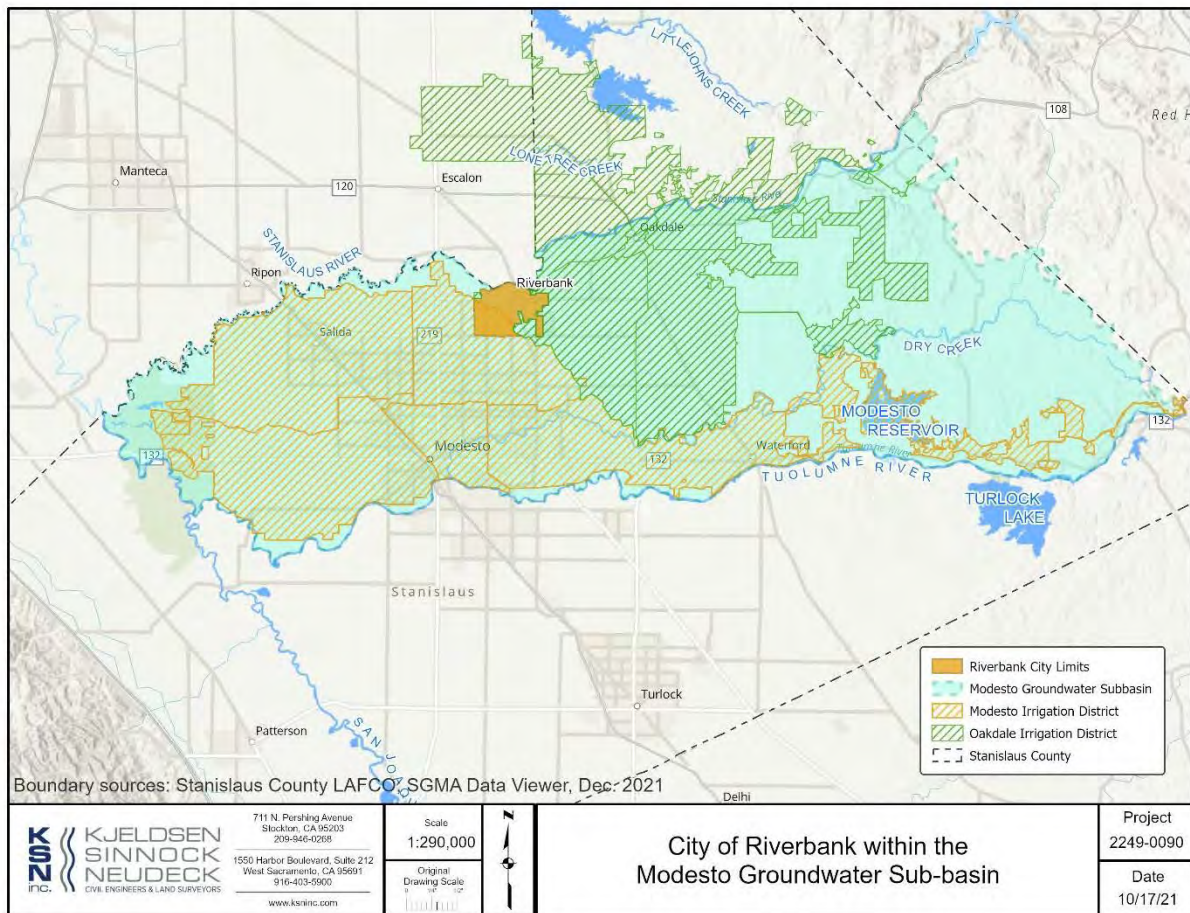


Figure 6-3
City of Riverbank within the Modesto Groundwater Subbasin³

6.6.2.1 Pumping Test Data

Dunn Environmental (2007) completed pumping tests on two City of Riverbank wells, No. 7 and No. 9. The testing included both step tests and 10-hour constant discharge tests, and utilized other nearby wells as monitoring wells. Dunn Environmental also completed a pumping test on Well No. 12 in 2009 which included a 24-hour constant discharge test.

At Well No. 7, the step tests were completed at rates of 240 gpm, 650 gpm and 1,300 gpm. The specific capacity at each rate was 74 gpm/ft. At Well No. 9, the step tests were completed at rates of 1,000 gpm, 1,750 gpm and 2,400 gpm. The well was slightly less efficient and the specific capacity ranged from 50 to 47 gpm/ft of drawdown. At Well No. 12, the step tests were completed at rates of 1,000 gpm, 1,700 gpm, and 2,700 gpm with a specific capacity at each rate of approximately 43 gpm/ft. These values are similar to the average specific capacity value

³ Water Resources & Information Management Engineering, Inc. Memo entitled: Recharge Characterization for Stanislaus and Tuolumne Rivers Groundwater Basin Association. Available online at: <http://gis.stancounty.com/wateratlas/pdf/Stanslaus%20and%20Tuolumne%20River%20Groundwater%20Basin%20Assoc%20Recharge%20Anaylsis.pdf>

of 56 gpm/ft reported by Burow (2004) for wells in the unconfined aquifer above and east of the Corcoran Clay (p. 31). All Riverbank wells are located east of the Corcoran Clay.

For the constant-discharge tests, Well No. 7 was pumped at 1,500 gpm, well No. 9 was pumped at 2,400 gpm, and Well No. 12 was pumped at 2,500 gpm. For Well No. 7, Dunn Environmental calculated the transmissivity at 530,000 to 588,000 gpd/ft, while for Well No. 9, it ranged between 290,000 gpd/ft and 313,000 (using recovery data). Well No. 12 transmissivity ranged from 93,000 to 123,000 gpd/ft. Storage coefficients for the wells were calculated to be in the range of 1×10^{-3} and 7×10^{-4} , indicating semi-confined conditions.

These specific capacity values, and others previously reported for the remaining City of Riverbank wells are provided in Appendix G, and can be used to estimate the maximum pumping rate that can be attained without dewatering the aquifer to the top of the well screen or the depth of the pump bowls. In the case of Well No. 7, the well drillers report indicated that a seal was set at 216 feet bgs, and that most groundwater was produced from sand, gravel and cobbles located between that depth and 314 feet bgs. At the above specific capacity, and with a maximum drought-year depth to static water level of about 66 feet bgs, the well should be able to produce significantly more than its rated capacity of 1,200 gpm (potentially up to 150 ft times 74 gpm/ft) without drawing water levels below the depth of the well seal. Other infrastructure likely constrains the output.

In the case of Well No. 9, the well drillers report indicated that a seal was set to 148 feet bgs, and that most groundwater was produced from coarse sand located between 152 and 174 feet, 293 and 307 feet, and 382 and 392 feet bgs. At the above specific capacity of 47 gpm/ft, and with a maximum drought-year depth to static water level of about 66 feet bgs, this well should also be able to produce significantly more than its rated capacity of 1,300 gpm (potentially up to 82 ft times 47 gpm/ft) without drawing water levels below the depth of the well seal.

Calculations for the other city wells are attached as Appendix G. As shown, using the maximum dry year depth to water, all of the City wells should be able to provide water in the near-term at their maximum pumping rates without drawing water levels below the reported depth of the pump bowls or the top of the well screen (base of the seal) with the exception of Well No. 2 which has a shallow seal and is open hole below 25 feet bgs. In the long-term, wells should be monitored and evaluated for adjustment of intake bowl elevation.

6.6.3 CITY OF RIVERBANK GROUNDWATER SYSTEM AND USAGE

As shown in the well data in Appendix G, for the year 2020, the City produced about 4,452 AF of groundwater from the nine active wells (Well No. 5 has been removed from service). Appendix G shows the annual production for each well and how production has steadily increased over the past twenty years through 2007, which was the maximum groundwater pumped by the City at 5,187 ac-ft. From 2007 through 2013, the City has seen a noticeable decrease in annual pumping, even though there has been a steady population increase within the City's sphere of influence.

City staff believes the reduction in annual pumping is due to conservation efforts and the effect of the economic downturn.

The maximum daily use typically occurs in July or August. The largest monthly volume pumped was in July 2007, when 720 ac-ft of ground water was produced. This is equal to about 23 ac-ft/day or 5,260 gpm (7.6 million gallons per day).

It is estimated that at full build-out, for the entire plan area (i.e. future demand within the City limits and General Plan areas), the projected water demand will be 14,610 AFY, or 3.2 times the 2020 production. Suggested facilities in the area Master Plan include the addition of sixteen new groundwater wells (including Well No. 11), each at a capacity of 1,500 gpm, to meet 20% reserve capacity provisions and maximum daily demands, as well as emergency storage requirements at buildout conditions.⁴

6.6.4 MODESTO SUBBASIN GROUNDWATER STORAGE AND BUDGET

According to California's Groundwater Bulletin 118, updated 2/27/04, the estimated specific yield for the Modesto Subbasin is 8.8 percent. The estimated storage capacity to a depth of 300 feet is approximately 6,500,000 AF. The annual water demand for the basin was estimated at 590,000 AF in 2000. Groundwater accounted for 206,500 AF of the total supply (Nolte Engineers, 2008). Total annual recharge to the basin was estimated at 310,000 AF, the largest component of which is from irrigation followed by precipitation.

Assuming no recharge, the current City of Riverbank groundwater usage of 4,452 AFY (in 2020) is less than 1% of the total annual subbasin withdrawals, and less than 0.1% of the total estimated storage capacity of the basin.

At full build-out, it is anticipated that the City of Riverbank annual groundwater requirements will be 3.3 times the current volume. It is uncertain when the full build-out scenario would occur, but the anticipated groundwater requirements would amount to less than 0.2% of the total amount of subbasin groundwater storage and less than 5% of the total annual basin recharge.

6.6.5 GROUNDWATER LEVEL TRENDS

According to California's Groundwater Bulletin 118, updated 2/27/04, groundwater levels in the subbasin "declined nearly 15 feet from 1970 through 2000. The period 1970 through 1978 showed steep declines totaling about 12 feet. The six-year period from 1978 through 1984 saw stabilization and rebound of about 7 feet. 1984 through 1995 again showed steep declines, bottoming out in 1995 at nearly 20 feet below the 1970 level. Water levels then rose about 5 feet from 1996 to 2000. Water level declines have been more severe in the eastern portion of the subbasin, but have risen faster in the eastern subbasin between 1996 and 2000 than in any other portion of the subbasin".

As shown in Figure 6-4, in addition to water level declines from increasing pumping, there is also a positive correlation between water levels and annual precipitation in Modesto Irrigation District wells. A known drought occurred between the years 1987 and 1992, and water levels dropped significantly during that period. Above average precipitation and groundwater recharge then occurred in 1993, 1996 and 1998, and groundwater levels rebounded almost to the pre-drought elevations, although there is somewhat of a lag period in the response of the aquifer to precipitation. Precipitation was also less than normal in 2002 and 2003, and regional ground

⁴ Nolte Associates, Inc., 2007: City of Riverbank, SB 610 Water Supply Assessment Report for 2007 General Plan September 2007 Update. Unpublished report prepared for the City of Riverbank, dated November 2007.

water levels again declined, although not as severely as during the earlier drought period. The smaller decline is likely the result of the use of surface water as discussed below.

Recovery of the aquifer was enhanced by the opening of the Modesto Irrigation District's surface water treatment plant in 1994, as use of surface water from the Tuolumne River has allowed the City of Modesto to reduce pumping from its water supply wells. In addition, recent conservation efforts, in addition to the SBx7-7⁵ (20x2020 Plan), have encouraged an increase in static groundwater elevations ranging from 3 ft to 14 ft from 2015 to 2016. A summary of increases in groundwater surface levels is summarized in table 6-5.

**Table 6-5
Groundwater Surface Levels at Each Well**

Well No.	2015-2016 Increase in Static GW Level (ft)
2	14.7
3	3.3
4	4.5
5	3.8
6	6.2
7	2.2
8	3.7
9	16.2
10	3.0
12	14.2

6.6.5.1 Riverbank Wells

Hydrographs for Riverbank area monitoring wells, obtained online from the California Division of Water Resources, Water Data Library, are provided in Figures 6-5 and 6-6. Most hydrographs show a relatively small, but steady decline in water levels beginning in the 1950's, which accelerated somewhat through the mid-1980s. Similar to the MID wells in Figure 6-4, the most severe period of aquifer drawdown occurred during the drought years of 1987 to 1992. During this period, more than 20 feet of additional drawdown occurred in many area wells and a portion of the ground water storage within the basin was depleted. Although the data sets are incomplete, a strong rebound in water levels is again associated with years of increased precipitation, or more recently, conservation efforts.

In general, Dunn Environmental (2007) believed that wells further from the Stanislaus River experienced larger drawdown than wells closer to the river, as a result of aquifer recharge to shallow aquifers from river infiltration, as the river near Riverbank is a losing stream. However, the amount of drawdown in a given monitoring location is likely related to the depth of the well,

⁵ State Water Resources Control Board. *Chapter 2 Statewide Targets* (pg. 27). 20X2020 Water Conservation Plan. February 2010.

the aquifer from which it produces, and the proximity of the well to other large municipal or irrigation wells.

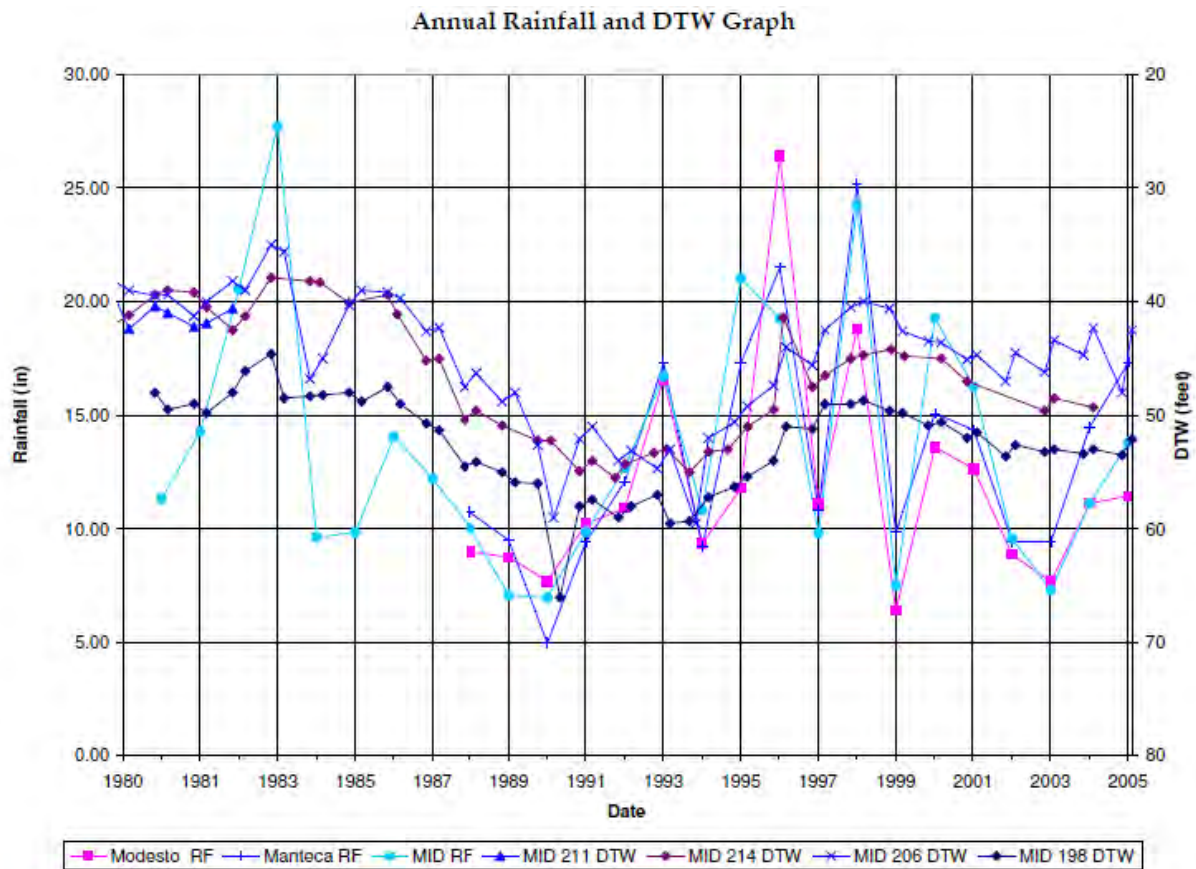


Figure 6-4
Comparison of Average Rainfall (RF) and Depth to Groundwater in Modesto Irrigation District Monitoring Wells ⁶

⁶ Dunn Environmental, Inc., 2007: Source Sufficiency Report for the City of Riverbank General Plan Update. Unpublished report prepared for the City of Riverbank, dated June 2007. 63 pages.

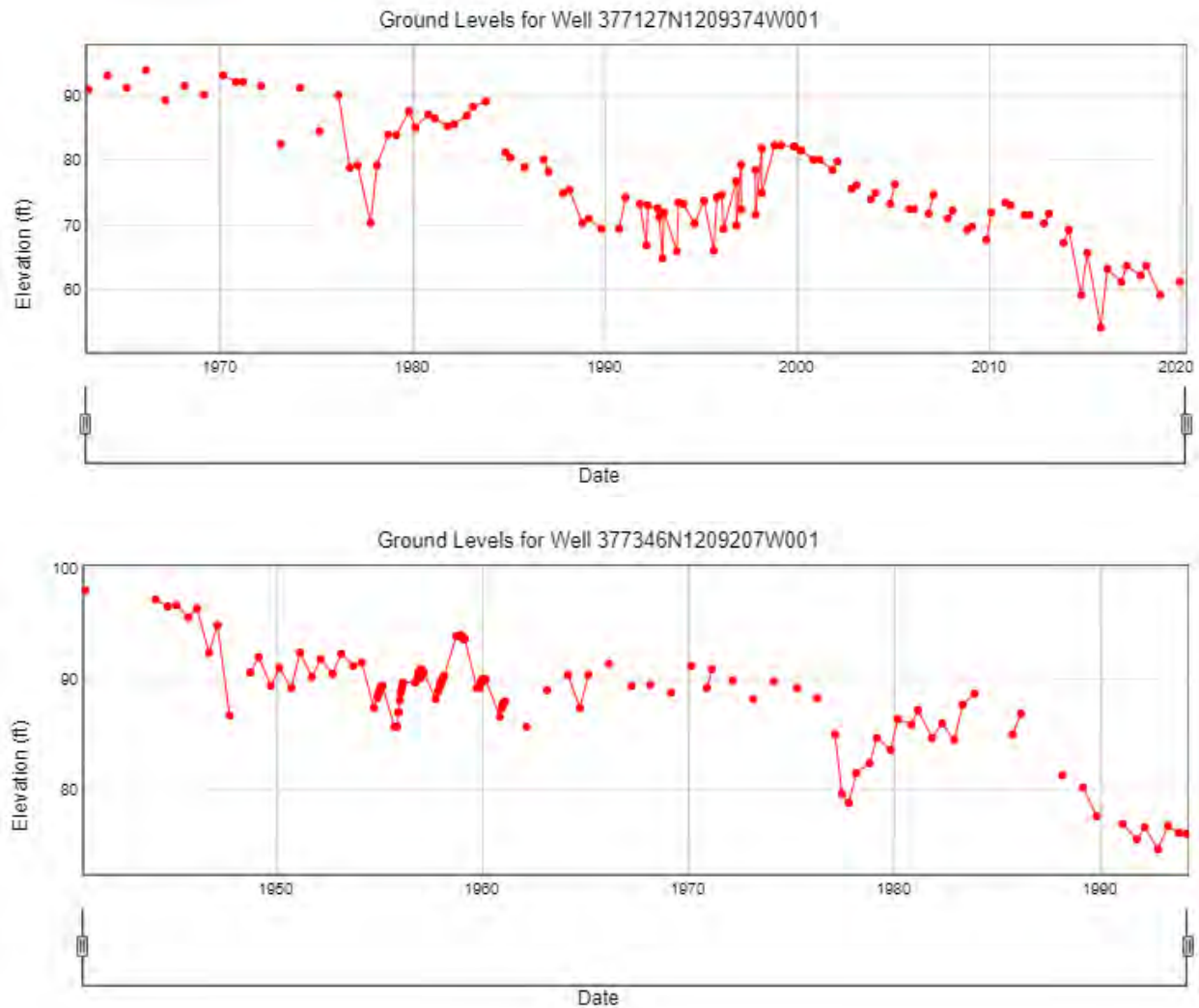


Figure 6-5
Well Hydrographs for Monitoring Wells

Top - Hydrograph of a well located in Township 02 South, Range 09 East, Section 36. This well is located about 1.5 miles south of downtown Riverbank just east of City Well No. 9. Ground surface elevation 134 ft amsl. Bottom - Hydrograph of a well located in Township 02 South, Range 9 East, Section 25. This well is located about 0.5 miles southeast of downtown Riverbank, southeast of City Well No. 2. Ground surface elevation 144 ft amsl.

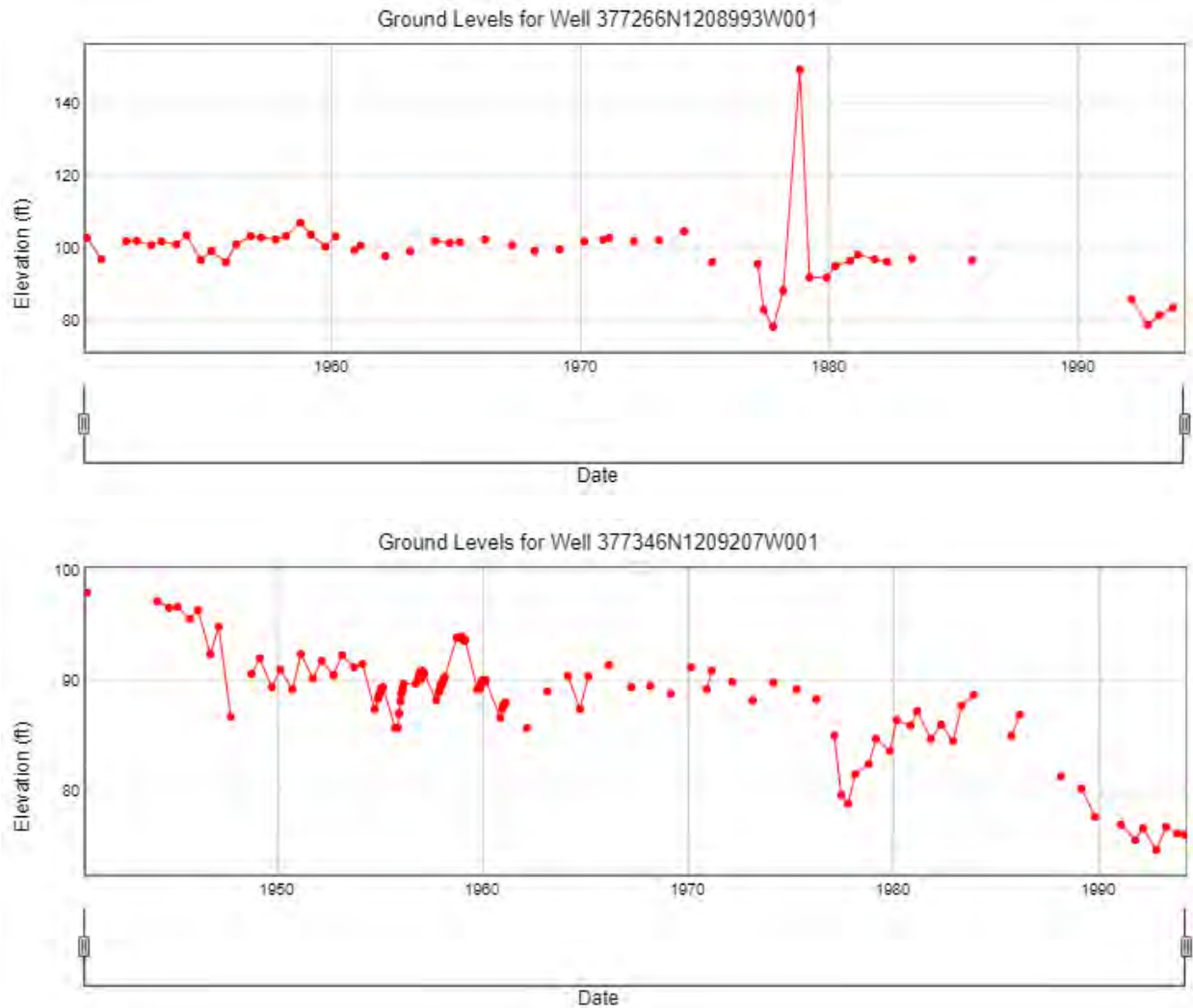


Figure 6-6
Well Hydrographs for Monitoring Wells

Top - Hydrograph of a well located in Township 02 South, Range 10 East, Section 29. This well is located about 1.5 miles east of downtown Riverbank. Bottom - Hydrograph of a well located in Township 02 South, Range 10 East, Section 30. This well is located about 0.5 miles east of downtown Riverbank, east of City Well No. 2. Ground surface elevation 145 ft amsl.

Dunn Environmental (2007) prepared a chart of available water level data for City of Riverbank production wells during the period from 1989 to 1998 (see Figure 6-7). This data set only includes the latter part of the five-year drought that occurred between 1987 and 1992. In general, water levels in the City of Riverbank wells range from 60 to 65 feet bgs, which is similar to, or a few feet higher than, the depths to water for nearby monitoring wells indicated in Figures 6-5 and 6-6.

During the drought years of 1989 to 1992, most wells show relatively small water level declines of a few feet in that period, similar to the declines shown in Figure 6-4 for the MID wells. Water levels reached their lowest point in 1994 and then began to rebound during the following years

of above average precipitation. This rebound occurred despite an increase in groundwater pumping during the period shown in Appendix G. As previously described, a portion of the recovery is also likely due to the opening of the Modesto Irrigation District's surface water treatment plant in 1994 and their subsequent decrease in groundwater usage.

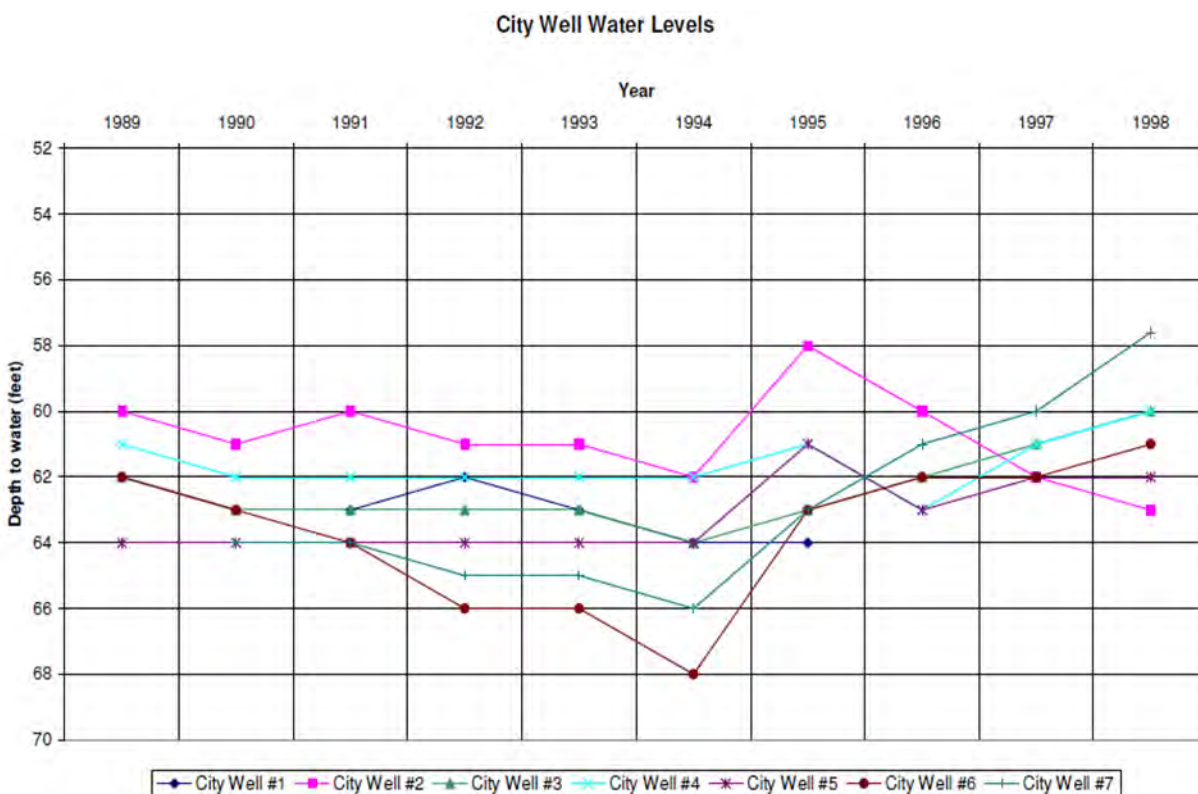


Figure 6-7
Annual Depth to Water Measurements for City of Riverbank Wells

The data in the chart from 1989 to 1994 represent that periods lowest known water levels for City wells after both the five-year drought period and prior to use of surface water by the City of Modesto. As previously discussed in Section 6.6.2.1, the pumping test data from the wells and the specific capacity calculations, coupled with the well construction information, indicates that most of the City wells should be able to provide water at their maximum pumping rates without drawing water levels below the reported depth of the pump bowls or the top of the well screen (base of the seal) with the exception of Well No. 2 which has a shallow seal and is open hole below 25 feet bgs. Figure 6-8 shows more recent depth to water measurements for the City's wells. There has been a consistent downward trend in the groundwater levels for the City's wells with the pronounced dip in levels coinciding with the drought. After the drought, groundwater level changes appear to have tapered off. More detailed projections for each of the wells is detailed in Appendix H.

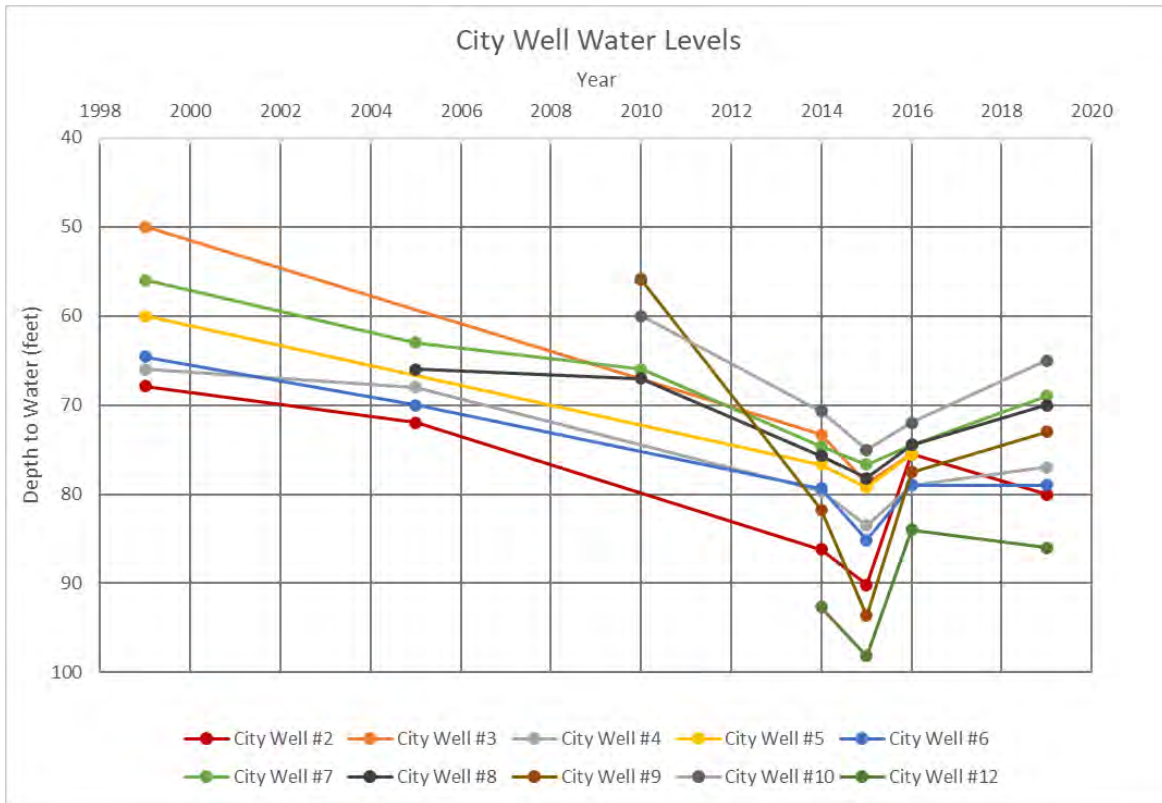


Figure 6-8
Recent Historical Depth to Water Measurements for City of Riverbank Wells

In 2016, the City of Riverbank conducted an analysis to complete the Self-Certification of Supply Reliability for Three Additional Years of Drought pursuant Section 864.5 of Article 22.5 of the California Code of Regulations as required by the State Water Resources Control Board. The self-certification required water suppliers to identify and report the water supply available for potable use assuming three additional years of drought (2016-17, 2017-18, and 2018-19) and identify and report the level of conservation, if any, necessary to assure that demands do not exceed projected supply at that time.

Typical well operating criteria were used to assess the potential for the City's wells to continue to produce consistent with historical trends. The criteria used in this analysis include:

1. Recommended static and pumping groundwater levels approximately 8-10 ft. or more above the pump intake as shown in Figure 6-9; and
2. Static and pumping groundwater levels above the uppermost screened interval in order to avoid cascading water and associated pumping issues such as pump cavitation as shown in Figure 6-9.

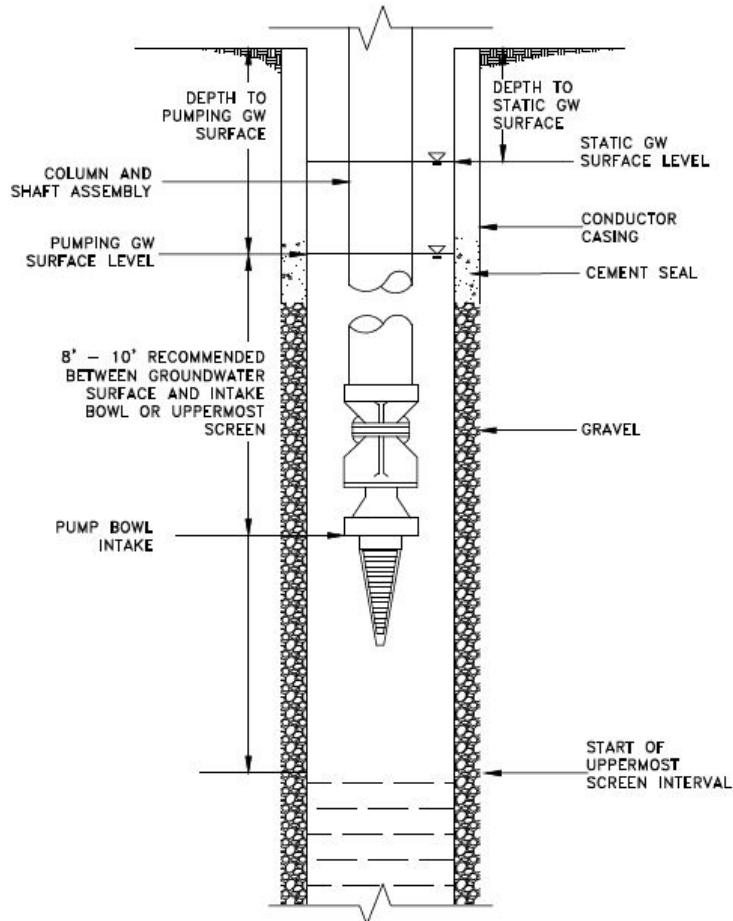


Figure 6-9
Example of Well Characteristics

All of the City's wells exhibited a decline in groundwater levels up to around 2015, after which an upward trend was observed from 2015 to 2016, possibly as a result of the City's successful water conservation efforts and reduced pumping from the aquifer for this period. For the 2019 year, the groundwater levels were once again observed to increase for nearly all wells that were recorded, with the exception of Well No. 2, which seems to be decreasing at a normal rate but still well above year 2015, and Well No. 12, which has decreased negligibly from 2016. For the purpose of the analysis, a near-term projection over the next three years assumes that the historical downward trend will continue as a conservative estimate, but that the rate of declines will be based on the depth to groundwater recorded in 2016 or 2019 for each well (see Appendix H for historical and projected depth to groundwater levels for all wells). An example of the method of projection is depicted in Figure 6-10 for Well No. 2.

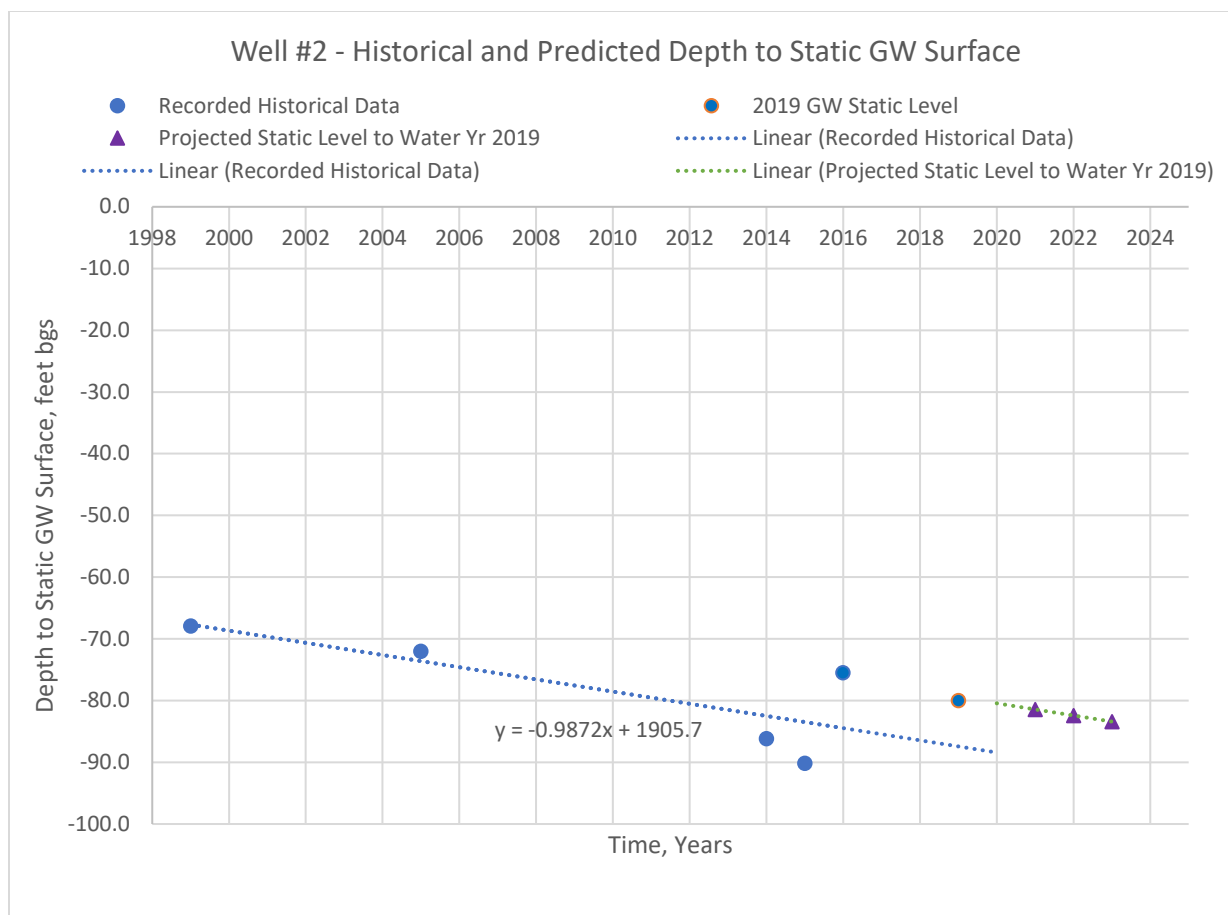


Figure 6-10
Recent and Near-Term Projections of Depth to Static Groundwater Surface in Well No. 2 (feet bgs)

The City's historical depths to static groundwater surface before 2016 indicate a mild decline of static groundwater levels (relative decline in groundwater elevation) ranging from 1.1 ft per year to 3 ft per year, with the exception of Wells 9 and Wells 12 which exhibit declines of 7.5 ft per year and 5.5 ft per year respectively (from 2014-2015). However, all wells exhibit an increase in static groundwater elevations ranging from 3 ft to 14 ft from 2015 to 2016 (changes in static groundwater levels are summarized in Table 6-5). An additional increase has been observed in recent years in most wells.

6.6.6 CONCLUSIONS

Long-term pumping has impacted the aquifer in the Modesto subbasin and in the vicinity of the City of Riverbank. During the extended drought years from 1987 to 1992, water levels dropped up to 30 feet, when compared to water levels that existed in the 1950's. However, increases in annual precipitation, coupled with reduction of groundwater pumping by, has allowed water levels to recover somewhat up into 2013 and again from 2015 to 2016.

Considering the near future (2021-22 through 2023-24), the data, historical trends, and projected static and pumping levels in the City's wells, suggest that the City will not experience

a decline in water availability and that the existing wells will have sufficient capacity to continue to meet existing and near-term projected demands.

Even at the water levels that existed at the end of the drought period and prior to implementation of Modesto's surface water facility, the City of Riverbank wells and the aquifer had the capacity to supply additional production. Only a small percentage of the storage capacity in the upper 300 feet of the aquifer is tapped and it appears that properly spaced wells will be able to provide the required capacity at full build out.

6.7 WASTEWATER AND RECYCLED WATER

The City owns and operates a wastewater treatment plant (WWTP) on the north bank of the Stanislaus River. The WWTP consists of a headworks facility equipped with a mechanical screen, a screenings compactor, a flow metering device, a parallel channel for overflow protection and a future additional screen, four mechanically aerated treatment ponds, and seven evaporation/percolation ponds. The City WWTP receives wastewater from residential, commercial, and industrial sources.

Influent flows to the WWTP were analyzed and summarized in a 2018 WWTP improvements analysis. The existing average dry weather flow is 1.53 mgd, with a peak month flow of 1.82 mgd.

The City WWTP is subject to Waste Discharge Requirements (WDR) Order No. 94-100 adopted by the Regional Board in April 1994. The WDR permitted the WWTP for flows up to 7.9 mgd. Effective July of the year 2020, an active regulatory measure for Order No. 2020-0015-DWQ was issued to all publicly owned treatment works that have a design capacity at or exceeding one mgd including the City of Riverbank WWTP, to determine the presence of per- and polyfluoroalkyl substances.

In April 2001, the Regional Board issued Cleanup and Abatement Order No. 5-01-703 (C&A) for the City WWTP. The City has subsequently implemented all operational and facility improvements ordered in the C&A, including completion of the pond expansion project, berm remediation work, and other physical improvements.

Following a Regional Board staff inspection of the facility, the City was determined to be in violation of its WDR and was subsequently issued a Notice of Violation (NOV) in March 2003. As part of its commitment to address sludge management at the WWTP and satisfy requirements of the NOV, the City has constructed lined treatment ponds and essentially reconfigured the plant layout. The plan, which was approved by the Regional Board, significantly upgraded the plant and provided increased treatment capabilities and environmental protection. Phase 1 of the project converted Ponds P-1 and P-2 to treatment ponds through deepening and installing a dual liner system of 1-ft compacted clay and a 60 mil HDPE geomembrane liner system, which is protected by a 2-ft layer of soil on the pond bottoms. The project was constructed according to a Construction Quality Assurance Plan as required by the Regional Board and with geotechnical reports confirming the construction details of the liner.

Phase 1 also included new piping, control gates, inlet and outlet structures, and a new pipeline from the existing headworks structure to the new treatment ponds; relocation of six 75 hp aerators to each pond; and construction of a new parallel headworks structure to increase the inflow capacity and prevent potential spillage during peak flows coupled with rain events. The

new ponds operate in series and the treated wastewater flows through Pond T-4 to the percolation ponds. This provides more thorough treatment and control of the sludge generated in the lined ponds. Phase 2 included sludge removal from Pond P-2. Phase 2 was completed in the Summer of 2008. As required by the Regional Board, two new monitoring wells have been constructed near the new lined treatment ponds.

In 2015, the six aerators in each pond were replaced by a fine bubble aeration system in an effort to decrease energy consumption at the treatment plant. Observation of low dissolved oxygen (D.O.) levels in both treatment ponds has resulted in violations of the City's WDRs. The City is currently investigating options to control dwindling D.O. levels.

The City continues to expend considerable time and resources in its on-going efforts to operate and maintain the WWTP in compliance with the current WDR.

Table 6-6 and Table 6-7 summarize information on the collection and disposal of wastewater in the City's service area.

Table 6-6 (DWR Table 6-2)
Wastewater Collected Within Service Area in 2020

Wastewater Collection			Recipient of Collected Wastewater		
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020 (AF)	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?
City of Riverbank	Metered	1,568	City of Riverbank	Riverbank Wastewater Treatment Plant	Yes
Total Wastewater Collected from Service Area in 2020:		1,568			

Table 6-7 (DWR Table 6-3)
Wastewater Treatment and Discharge Within Service Area in 2020

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes			
						Wastewater Treated (AF)	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Riverbank Wastewater Treatment Plant	Riverbank	Percolation Ponds	Percolation ponds	No	Secondary, Undisinfected	1,568	1,568	0	0
Total						1,568	1,568	0	0

6.7.1 WATER REUSE

In an effort to implement the City's General Plan policy on recycled water, the City of Riverbank General Plan 2005-2025, Conservation Element, Policy CONS-6.6 directs that "The City will encourage the use of recycled water for appropriate use, including but not limited to outdoor irrigation, toilet flushing, fire hydrants, and commercial and industrial processes."

The City WWTP incorporates secondary treatment through a pond system. Effluent disposal occurs through a series of percolation ponds. The plant is not currently configured for the production of recycled wastewater. An urban recycled wastewater program is not implemented or planned at this time, and the City will not complete DWR Tables 6-4 through 6-7. No salinity management plans, as would be required for large water reuse implementation, have been performed.

The City has been evaluating the potential feasibility of implementing a recycled water project. The Riverbank Regional Recycled Water Project is envisioned as a program for the production and use of recycled water in south-eastern San Joaquin County. The project has the potential to capture and reuse wastewater generated by the City of Riverbank Wastewater Treatment Plant to supplement fresh water sources. It is envisioned that this water will be used to offset water used for agricultural needs.

6.7.2 GRAY WATER AND RAINWATER HARVESTING

The City may consider gray and rainwater collection and reuse in larger, new development areas in the future.

6.8 DESALINATED WATER OPPORTUNITIES

The City is not considering the use of desalinated water as a long-term water supply, as the City is not located near seawater, nor is the groundwater underneath the City brackish in nature. Therefore, there is no opportunity for the City to incorporate desalinated water into the City's water supplies.

6.9 CLIMATE CHANGE IMPACTS TO SUPPLY

The City is likely to experience warmer temperatures which lead to an expected impact of increased irrigation demands, increased frequency of drought, and possible increases in the frequency of wildfire that would also increase water demands.

Although the City is not part of the official East Stanislaus Integrated Regional Water Management Group, the City is located in the Region in which climate change evaluations were extensively evaluated as part of the the East Stanislaus Integrated Regional Water Management Plan (ESIRWMP) Update in 2018. The WSIRWMP planning region contains the Stanislaus, Tuolumne, Merced, and San Joaquin Rivers. Currently, multiple endeavors to study climate change impacts to the watersheds that affect the City include:

- Changes in snow cover patterns in the Sierra Nevada (university of Washington);
- The role of atmospheric rivers in extreme events in the Sierra Nevada (USGS);
- Impacts of climate changes on soil properties and habitats in the Sierra Nevada

(University of California Merced and USGS); and

- Study effects of climate change on hydrology and stream temperatures in the Merced and Tuolumne River watersheds (Santa Clara University).

These recent studies are multi-year endeavors and are currently in progress or under evaluation. The final publications of these studies are not yet available.

Due to the lack of diversified water supply sources for the City of Riverbank, climate change vulnerability for the City can be damaging due to potential reduction in groundwater recharge and runoff, increase in groundwater overdrafts, and declining water quality.

Climate change projections are uncertain, so an appropriate approach to address climate change incorporates a combination of adaptation and mitigation strategies that include Best Management Practices or other measures taken to reduce greenhouse gas emissions.

The California Water Plan Resource Management Strategies (RMS) were considered in the ESIRWMP as part of the planning process to meet the region objectives. The categories of RMS that were adopted into the ESIRWMP include:

- Reduce Water Demand
- Improve Operational Efficiency and Transfers
- Increase Water Supply
- Improve Water Quality
- People and Water
- Practice Resource Stewardship
- Improve Flood Management

Of the RMS identified, all were incorporated, with the exception of desalination due to the region not being coastal.

For the City's part, the newly completed water meter replacement and water metering program will help to reduce water demands, conserve energy with reduced water demands through reduced pumping. The City is also in compliance with SB X7-7 will ensure that the City is prepared to conserve water and energy into the future.

As part of the STRGBA GSA, the City is committed to help identify areas in the region and the Modesto Subbasin that may be drastically affected by climate change and complete steps to prevent undesirable results over the next 50 years.

6.10 ENERGY USE

In fulfillment of Water Code Section 10631.2.(a), information that could be used to calculate the energy intensity of the City's water service over a one-year reporting period is shown in Table 6-8.

The energy used to provide water surface to the City of Riverbank includes only electricity used in City's pumping facilities that both draw the water from aquifers and deliver them to customers. The City does not treat its groundwater, so energy usage is limited only to pumping power.

For the 2020 year, the calculated total energy intensity for the City's water service was 976 kWh/AF.

Table 6-8 (DWR Table O-1B)
Recommended Energy Report – Total Utility Approach

Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/31/2020			
Is upstream embedded in the values reported? No.		Sum of All Water Management Process	Non-Consequential Hydropower	
Water Volume Units Used	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (AF)		4,425		4,425
Energy Consumed (kWh)		1,415,700		1,415,700
Energy Intensity (kWh/vol. converted to MG)	N/A	975.9	0.0	975.9

For wastewater, the City collects and treats its wastewater with a City-owned wastewater treatment plant. The energy information and calculated energy intensity is shown in Table 6-9 below. The total energy intensity for wastewater is approximately 265 kWh/AF.

Table 6-9 (DWR Table O-2)
Recommended Energy Report – Total Utility Approach

Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control			
End Date	12/31/2020				
Is upstream embedded in the values reported? No.		Water Management Process			
Volume of Water Units Used	AF	Collection / Conveyance	Treatment	Discharge / Distribution	Total
Volume of Wastewater Entering Process (volume units selected above)		1,568	1,568	1,568	4,704
Wastewater Energy Consumed (kWh)			405,464		405,464
Wastewater Energy Intensity (kWh/volume)		0.0	793.6	0.0	264.5

Water Service Reliability and Drought Risk Assessment

This chapter discusses the long-term reliability of the City's water supplies. Short term reliability is addressed in Chapter 8.

7.1 CONSTRAINTS ON WATER SOURCES

The water source at Riverbank has been consistent in both source production levels and levels of water use. In the foreseeable future, there are no environmental or legal factors that are expected to affect water supplies.

Regional water quality is generally very good, with total dissolved solids, nitrate, 1,2,3-TCP, and DBCP (a soil fumigant) being the only potential concerns. There are a number of possible contaminating activities within the Riverbank General Plan area, including the Thunderbolt Wood Processing facility and the Riverbank Army Ammunitions Plant. Neither of these, or any other potential contaminating activities, has shown a water quality impact to the City's production wells, as neither are near Well #5 where 1,2,3-TCP was found. There are no projected water supply changes due to water quality for the duration of the current UWMP planning horizon.

7.2 RELIABILITY BY TYPE OF YEAR

The average/normal water year groundwater supply is based on the reliable expected water supply from the City's existing 9 wells, which provide a reliable pumping capacity of 9,885 gpm, or approximately 15,944 AFY. Based on the groundwater basin discussion presented in Chapter 6 of this UWMP, it was concluded that the City's water supply is firm and would not see a reduction in available pumping capacity during single and multiple dry year conditions. Table 7-1 provides the basis of water year data for defining average, single dry and multiple dry water years to develop water supply reliability.

**Table 7-1 (DWR Table 7-1)
Basis of Water Year Data**

Year Type	Base Year	Available Supplies if Year Type Repeats	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.
		☒	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available (AF)	% of Average Supply
Average Year	2008	15,944	100%
Single-Dry Year	1977	15,944	100%
Consecutive Dry Years 1st Year	1929	15,944	100%
Consecutive Dry Years 2nd Year	1930	15,944	100%
Consecutive Dry Years 3rd Year	1931	15,944	100%
Consecutive Dry Years 4th Year	1932	15,944	100%
Consecutive Dry Years 5th Year	1933	15,944	100%

7.3 WATER SUPPLY VERSUS DEMAND COMPARISONS

This section provides an assessment of the reliability of the City's water service to its customers during normal, dry, and multiple dry water years. The supply totals are based on Table 6-9 in the groundwater supply discussion in Chapter 6 of this UWMP. Demand totals are detailed in Chapter 4 of this UWMP. In projecting future water use for the City, interim and final urban water use targets were applied. Table 7-2, 7-3, and 7-4 provide the City's water supply and demand comparisons for normal, single dry, and multiple dry year scenarios. The City concludes that its water system is adequate to meet demand with supply.

Table 7-2 (DWR Table 7-2)
Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2040 (Opt)
Supply totals (autofill from Table 6-9)	4,646	4,867	5,088	5,309	0
Demand totals (autofill from Table 4-3)	4,646	4,867	5,088	5,309	0
Difference	0	0	0	0	0
NOTES: All Volumes are in AF.					

Table 7-3 (DWR Table 7-3)
Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040
Supply totals	15,944	15,944	15,944	15,944
Demand totals	4,646	4,867	5,088	5,309
Difference	11,298	11,077	10,856	10,635
NOTES: Supply values are based off Table 7-1. All volumes are in AF.				

**Table 7-4 (DWR Table 7-4)
Multiple Dry Years Supply and Demand Comparison**

		2025	2030	2035	2040
First year	Supply totals	15,944	15,944	15,944	15,944
	Demand totals	4,513	4,739	4,964	5,190
	Difference	11,431	11,205	10,980	10,754
Second year	Supply totals	15,944	15,944	15,944	15,944
	Demand totals	4,513	4,739	4,964	5,190
	Difference	11,431	11,205	10,980	10,754
Third year	Supply totals	15,944	15,944	15,944	15,944
	Demand totals	4,558	4,786	5,014	5,242
	Difference	11,386	11,158	10,930	10,702
Fourth year	Supply totals	15,944	15,944	15,944	15,944
	Demand totals	4,604	4,834	5,064	5,295
	Difference	11,340	11,110	10,880	10,649
Fifth year	Supply totals	15,944	15,944	15,944	15,944
	Demand totals	4,650	4,883	5,115	5,348
	Difference	11,294	11,062	10,829	10,597
NOTES: Supply values are based off Table 7-1. All volumes are in AF.					

7.4 REGIONAL SUPPLY RELIABILITY

The City uses its own local groundwater supply and does not rely on imported water use to satisfy system demands. The City completed their most recent update to the Water Supply Study and Water Master Plan in 2007. This plan outlines the projected water demands within the existing City sphere of influence as well as the City's 2005-2025 General Plan area. The plan evaluates the current and future water demands for the City based on projected growth within the existing service area and future General Plan build-out area. The plan was prepared by the City to identify: needed water system improvements to the existing infrastructure; expansion necessary to accommodate anticipated growth; and methods to maximize available resources and minimize the need to import water.

The City has also prepared a number of reports addressing the reliability of the City's groundwater supply, including a Source Sufficiency Report for the City of Riverbank General Plan Update, 2007.

7.5 DROUGHT RISK ASSESSMENT

In accordance with CWC Section 10612, urban water suppliers must conduct a drought risk assessment (DRA) to assess its water service capabilities to its customers assuming drought conditions for five consecutive years starting in 2021. Supply conditions reflect the five driest consecutive years on record.

7.5.1 DRA DATA, METHODS, AND BASIS FOR WATER SHORTAGE CONDITIONS

For a five-year drought, the supply conditions would be the same as Section 7.2. As discussed in Chapter 6 of this UWMP, groundwater is not significantly reduced in dry years. Supply is also expected to be maintained throughout those years along with efforts to increase sustainability and groundwater recharge in coordination with the STRGBA GSA.

7.5.2 DRA INDIVIDUAL WATER SOURCE RELIABILITY

During drought years, the City will still be utilizing groundwater for its water supply. With the City's current operating pumps and wells, the City is able to draw up to 15,000 AF per year from the Modesto groundwater basin. For a five-year consecutive drought, the supply would not change from 15,000 AF.

7.5.3 DRA TOTAL WATER SUPPLY AND USE COMPARISON

Table 7-5 shows that the City's water supply is adequate to meet projected demand through 2025 assuming drought conditions. With water conservation methods from the WSCP, there are additional savings for the water surplus available in the area.

**Table 7-5 (DWR Table 7-5)
Five-Year Drought Assessment Tables**

2021	Total
Total Water Use	4,513
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,431
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	312
Revised Surplus/(shortfall)	11,743
Resulting % Use Reduction from WSCP action	7%

Table 7-5 (cont.)

2022	Total
Total Water Use	4,513
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,431
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	11,431
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	4,558
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,386
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	11,386
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	4,604
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,340
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	48
Revised Surplus/(shortfall)	11,388
Resulting % Use Reduction from WSCP action	1%

Table 7-5 (cont.)

2025	Total
Total Water Use	4,650
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,294
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	648
Revised Surplus/(shortfall)	11,942
Resulting % Use Reduction from WSCP action	14%

Water Shortage Contingency Plan

This section describes the City's water shortage contingency planning and structured steps to respond to a water shortage. A water shortage is triggered when the supply of available water is unable to meet the normally expected customer water use at any given point in time.

In accordance with the City of Riverbank's emergency response procedures, the City has developed a comprehensive water shortage contingency plan. The plan is consistent with the provisions of the City's emergency response procedures to implement during an interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. A sample resolution to declare a water shortage emergency is included in Appendix J.

The WSCP addresses the several types of water supply shortages that could potentially impact the City and its customers. The potential impacts experienced may result from:

- Long-term supply shortages due to years of consecutive dry-year conditions, contamination, etc.
- Short-term supply shortages that are the result of natural or man-made disasters, such as earthquakes, flood, fire, or other emergencies, that would place restrictions on production capacities.

The City's WSCP has been updated so that it is consistent with 2018 California State Legislature enacted Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman)). The 2018 water conservation legislation, set new requirements for WSCPs while establishing a new foundation for drought planning due to projected impacts of climate change. The City considers the WSCP as a dynamic tool that is adaptable to ensure that its shortage response actions are effective and will produce the desired results. As such, the WCSP refinement procedures and adoption requirements are provided in this plan to allow the City to modify the WSCP outside of the UWMP process.

8.1 WATER SUPPLY RELIABILITY ANALYSIS

Water supply and its reliability are evaluated in Chapter 6 and Chapter 7, respectively, in the 2020 UWMP. Analysis of the supply sources show that the City will have enough supply to meet increases in retailer water demand in both the short-term and long-term. The Water Supply Reliability Analysis includes both the water service reliability assessment and the DRA. Under a normal year, a single-dry year, and five consecutive dry year period conditions, a supplier must evaluate the long-term (2025-2040) water service reliability assessment. In the short-term (2021-2025), a supplier must evaluate the Drought Risk Assessment (DRA) to evaluate the effects of an impending five consecutive dry-year period.

The water source at Riverbank has been consistent in both source production levels and levels of water use. In the foreseeable future, there are no environmental or legal factors that are expected to affect water supplies. Therefore, the City expects to meet demands under all water year scenarios while still promoting conservation. In the event of an unforeseen sudden emergency event, the City well production and/or water quality may be affected. Since the City relies exclusively on groundwater, a low probability, high impact issue—like the sudden presence of an unforeseen toxin—may require shuttering the main groundwater pumping system and activating the WSCP.

As stated in Section 7, the City’s water supply is very reliable through multiple dry years, and there is no expectation of a drop in water supply. Table 8-1 shows that the City anticipates for the water supply to meet the projected water demands at the very minimum. These demands are calculated as described in Section 4.1.

Table 8-1
Minimum Supply Next Five Years

	2021	2022	2023	2024	2025
Available Water Supply (AF)	4,469	4,513	4,557	4,601	4,646

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Per Water Code Section 10632 (a)(2) and after the adoption of the 2020 UWMP, an Annual Water Supply and Demand Assessment (Annual Assessment) report will be submitted to DWR starting in 2022. It is an evaluation of the short-term outlook supplies and demands to determine whether the potential for a supply shortage exists and whether to trigger a WSCP shortage level.

The WSCP will include the elements required for the Annual Assessment and outlines how the City will conduct its Annual Assessment. Specific procedures will include:

- Decision-Making Process
- Data and Methodologies
 - o Evaluation Criteria
 - o Watery Supply
 - o Current Year Unconstrained Customer Demand
 - o Current Year Available Supply
 - o Infrastructure Considerations
 - o Other Factors

The Annual Assessment will reflect circumstances specific to the City per Water Code Section 10632(a).

8.2.1 DECISION-MAKING PROCESS

The decision-making process below details how the City will determine its water supply reliability in the Annual Assessment with the Public Works Director or their designee being responsible for the preparation of the Annual Assessment and submittal of the prepared report

to the Department of Water Resources (DWR) by July 1 of each year. The Annual Assessment report should report the projected shortage level, the triggered shortage response actions, compliance and enforcement actions and the resulting communication actions that will be implemented to mitigate the anticipated water shortage impacts outlined in the Annual Assessment.

Using methodology described in Section 8.2.3 the City will determine water demands and water supply to evaluate the water supply reliability for the current year and subsequent dry year.

Steps determining the decision-making process are outline in Table 8-2 below:

**Table 8-2
Decision-Making Process and Activities**

Step	Activity	Responsible Party
1	Muster team and develop timeline	Public Works Department
2	Outline the water supply for the current year and a subsequent dry-year. Detail significant changes that may impact supply factors. Describe the City sources of water and quantities available.	Public Works Department
3	Outline the water demands for the current year and subsequent dry-year. Detail significant changes that may impact demand factors. Describe the City type and projected quantity of City specific water end uses.	Public Works Department
4	Use methodology presented in Section 8.2.2 to evaluate the water supply, water demands, and ultimately water supply reliability for the current year and subsequent dry-year.	Public Works Department
5	Determine if water shortage emergency exists and which, if any, protocols to enact. If necessary, present determinations to City Council.	Public Works Department
6	Make determinations and recommendations based on previous analysis presented to declare a water shortage emergency and authorize a response.	City Council
7	Implement WSCP if emergency is declared and evaluate further for advancement to subsequent level or withdrawal to previous level	Public Works Department

8.2.2 KEY DATA INPUTS

Evaluation criteria will require key data inputs that reflect the water supply reliability condition for the current year and one dry-year. The criteria listed below can be used in any combination to make a determination and declare the severity of a supply shortage:

- Groundwater supply projections based on:
 - o Monthly precipitation data
 - o Monthly static and pumping groundwater elevations to the extent recorded
 - o Construction details of operating municipal wells including pump settings, and screened intervals
 - o Well specific capacity and well pumping rates
 - o Pump curves, if available for operational municipal groundwater well pumps
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Groundwater demand projections:
 - o Monthly and annual total groundwater production data
 - o Projected future pumping groundwater levels
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Infrastructure capabilities and constraints imposed by a crisis
 - o Production data
 - o Staff input from the Public Works Division

8.2.3 ASSESSMENT METHODOLOGY

City staff will perform the assessment methodology to complete and submit the Annual Assessment to DWR. Evaluation of the Section 8.2.2 key inputs will be used to determine the agency's water supply reliability for the current year and subsequent single-dry year. Supply and demand assessments will be used to determine if the reliability of the City's water supply is sufficient to meet dry year conditions described in Table 7-3.. If the water supply is deemed insufficient to meet the expected demand supplied by the City in the current year and/or a subsequent dry year, a determination of the water shortage level will be made, and the City will implement a prepared response outlined in this WSCP.

8.3 SIX STANDARD WATER SHORTAGE STAGES

The 2018 Water Conservation Legislation mandates that water suppliers plan for six standard water shortage levels that correspond to six ranges of up to 10%, 20%, 30%, 40%, 50%, and greater than 50% shortages from the normal reliability conditions. However, WCS 10632(a)(3)(B) allows for already existing water shortage levels to be used provided that there is a crosswalk detailing the differences between the two. Table 8-3 details existing water shortage contingency plan levels with shortage response actions that the City would take when a shortage level is triggered.

**Table 8-3
Water Shortage Contingency Plan Levels**

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
1	15%	Other - Require automatic shut of hoses		Yes
1		Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
2	25%	Other - Prohibit use of potable water for washing hard surfaces	Sidewalk/Street Cleaning	Yes
2	25%	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
4	50%	Landscape - Other landscape restriction or prohibition		Yes
4	50%	Other - Prohibit use of potable water for washing hard surfaces		Yes
4	50%	Landscape - Limit landscape irrigation to specific times		Yes
4	50%	Landscape - Limit landscape irrigation to specific days		Yes
4	50%	Other	No new service connections	Yes

Table 8-3 (Continued)
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Levels		Other	Use prohibitions; additional water conservation enforcement; voluntary rationing, mandatory rationing; reduction of water pressure in water lines where feasible; flow restrictions; installation of water kits, plumbing fixture replacements; restriction on building permits; and installation of pool covers	YES
All Levels		Other	Expansion of leak and repair programs	YES

Figure 8-1 details the already existing WSCP shortage levels authorized by WCS 10632(a)(3)(B) and presents a crosswalk that translates the City's water shortage levels to those mandated by statute.

2015 UWMP Stage	Supply Condition/Shortage			2020 WSCP Level	Shortage Level
Action Stage	Percent Supply Reduction	Water Supply Condition			
1 - Minimal	15%	- Below average rainfall in the previous 12-24 months 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 15% - Extended warm weather patterns typical of summer	→	1	Up to 10%
2 - Moderate	25%	- Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 25% - Extended warm weather patterns typical of summer	→	2	Up to 20%
3 - Severe	35%	- Below average rainfall in the previous 36-48 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 35% - Extended warm weather patterns typical of summer	→	3	Up to 30%
4 - Critical	50%	- Below average rainfall in the previous 48-60 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 50% - Extended warm weather patterns typical of summer	↘	4	Up to 40%
			↘	5	Up to 50%
			↘	6	>50%

Figure 8-1
Water Shortage Contingency Plan Levels Crosswalk

8.4 SHORTAGE RESPONSE ACTIONS

Shortage response actions in accordance with California Water Code 10632(a)(4) and 10632.5(a) are described in this section and may be implemented or considered to the water shortage level. The City's response actions are dependent on the type of event triggering the water shortage level. Other factors considered in response will be the time of year, available water sources, and the condition of the water system infrastructure. A dynamic approach will be taken that considers a combination of supply augmentation, demand reduction, and any relevant operation changes to ensure that actions taken are effective in meeting the water use goals determined by the water shortage emergency.

Both the City's production wells and customer meters are fully metered and can provide daily readings to assess the effectiveness of the City's actions. Shortage action responses are discussed in this section.

8.4.1 DEMAND REDUCTION

Reduction in end water use may be necessary during a water shortage. The plans to City will meet some of the emergency water shortage reliability challenges via demand reductions. Table 8-3 details these demand reductions actions and volume of reduction estimated to occur.

Table 8-4 (DWR Table 8-2)
Demand Reduction Actions

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
<i>Add additional rows as needed</i>				
1	Improve Customer Billing	5%	AWE (2015)	No
1	Expand Public Information Campaign	2%	AWE (2015)	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Unknown		No
3	Increase Water Waste Patrols	Unknown		No
3	Landscape - Restrict or prohibit runoff from landscape irrigation	Unknown		Yes
4	Other	1%	Assume no growth in water use	Yes
5	Landscape - Prohibit all landscape irrigation	14%	Landscape types include: - Turf water - Median watering - Further reduction of irrigation to parks AWE (2015)	Yes
6	Other	Unknown	Water use limited to public water use to health and safety purposes	Yes
NOTES: Demand reduction action and water restrictions as seen in § 52.34 of city code. Demand reduction estimations were taken from the compiled best available estimates of water savings in the Alliance for Water Efficiency Outdoor Water Savings Research Initiative (AWE 2015). Estimated reductions were then applied to residential end uses of water within the City of Riverbank. A drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.				

8.4.2 SUPPLY AUGMENTATION

The City's current (2020) and projected water supplies are provided in Chapter 6 of this 2020 UWMP. As mentioned previously, the City relies exclusively on groundwater for their water supply. The City does not anticipate using a wholesale supply source to meet future needs. The projected water supplies are based on the total water use defined in Chapter 4 of this 2020 UWMP.

The City has no future groundwater extraction projects planned at this time but has identified recommended phasing of capital facilities in its water supply master plan. The 2016 Supply Reliability Certification analysis and 2021 Risk Assessment Summary Report suggests that existing water supplies are more than adequate to satisfy existing system demands. Future water supplies will be brought on as necessary to satisfy specific development needs as discussed below. Therefore, DWR Table 8-3 detailing supply augmentation and other actions details low-probability, high-impact events for supply augmentation. A future evaluation and adoption of the WSCP may conclude that expansion of groundwater extractions may be necessary to augment supply.

**Table 8-5 (DWR Table 8-3)
Supply Augmentation Methods and Actions**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
6	Stored Emergency Supply	6	City of Riverbank has two water storage tanks totaling 2 million gallons of system storage
6	Other Actions (describe)	Unknown	Procurement of bottled water
6	Other Actions (describe)	Unknown	Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.
4-6	Other Purchases	Unknown	The City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

In a low-probability, high-impact event, the City of Riverbank has two water storage tanks totaling 2 million gallons of system storage. Each of the storage tanks is equipped with a booster pumping station with backup power. These tanks will supply water for essential needs in the case of short-term emergencies. The City has chlorination pumps at each well site that may be put into operation when needed. Seven of the City's wells have diesel engine electric generators with enough fuel to run 12 to 24 hours without refueling.

The City can contact bottled water companies in cases of emergencies. Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.

To meet future long-term water demand beyond 2020, the City will continue working on the possibility of bringing in surface water to supplement groundwater. Recycled water opportunities will also be studied further. To offset future potential water shortages due to a drought or disaster, the City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

8.4.3 OPERATIONAL CHANGES

The City may modify its operational actions in the short-term or long-term to effectively respond to any water shortage condition. During a water shortage emergency, the city may reduce pressure in the water distribution system to minimize system losses while still maintaining adequate fire flows. In addition, the city may increase its response to the repair of system leaks and losses in the water distribution system.

8.4.4 ADDITIONAL MANDATORY RESTRICTIONS

Water Use Regulations of Chapter 52 of city water code detail elements of water use restrictions. Specifically, §52.33 and §52.34 detail prohibited acts and restricted water use provisions. For example, the washing of commercial and noncommercial privately owned automobiles, trucks, trailers, motor homes, boats, buses, and other types of vehicles is restricted to the use of a hand-held bucket and quick rinses using a hose with a quick-acting positive shut-off nozzle.

8.4.5 EMERGENCY RESPONSE PLAN

Section 8.4.2 details response actions to augment supplies in a low-probability, high impact event. A sample resolution to declare a water shortage emergency is included in Appendix J.

Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Below is an example of actions the City would undertake if a catastrophe were imminent or declared.

1. Determine extent of water shortage
2. Activate the water shortage response team

3. Monitor existing storage
4. Obtain additional water supplies
5. Develop alternative water supplies
6. Determine where immediate funding will come from
7. Contact and coordinate with other agencies
8. Put employees and contractors on-call
9. Communicate with the public

8.4.6 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

Disasters can strike any time and cause loss of life; damage buildings and infrastructure; and have devastating consequences for a community's economic, social, and environmental well-being. Per Water Code Section 10632.5, the City has included a seismic risk assessment and mitigation plan Refer to the Stanislaus County Local Hazard Mitigation Plan (Appendix O) Section 5 for the Seismic Risk Assessment and Section 6 for Mitigation Plan procedures.

8.5 COMMUNICATION PROTOCOLS

The City must inform their customers, the general public and interested parties, and local, regional, and state agencies. With any emergency, clear, timely, and effective communication is vital. In accordance with California Water Code 10632(a)(5), this section describes the communication protocols the City will use to inform customers, the public and other regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.

When a water shortage level is enacted or changed the public shall be notified via a notice published in the local newspaper and the City's website. If the water shortage is severe, the City may consider alternative modes of communications like local radio advertisements, door hangers, or mailed notifications among other options.

8.6 COMPLIANCE AND ENFORCEMENT

Any customer violating the regulations and restrictions on water use set forth in the City's no waste ordinance shall receive a warning for the first such violation. Upon a second violation, the customer shall receive a fine of \$35. A third violation triggers the levy of a \$50 fine. A fourth violation triggers a \$100 fine, and fifth and subsequent violations trigger a \$200 fine each violation.

8.7 LEGAL AUTHORITIES

Per city code §52.34, it is unlawful for any customer or person to fail to comply with any of the provisions set forth or by City Council resolution. The Enforcement Officer or designee may issue an administrative citation for failure to comply. The Enforcement Officer is defined in City code as the City Manager, Department Director, Public Safety Officer, or any designated city

personnel or other designated person that the City Manager or City Council has authorized and charged with the responsibility for the enforcement of any provision of this chapter.

At the discretion of the Enforcement Officer with the approval of the City Manager, an issued administrative citation for noncompliance of this section may be reduced to a formal written warning and the related citation fines waived or the citation may be cancelled after review of the findings. All results of a citation issued shall be entered into the record. Any further violation of the water conservation regulations provided in this section or adopted pursuant to this section shall result in the imposition of an administrative citation and its related penalties as set forth herein.

In accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies, the City shall declare a water shortage emergency when emergency conditions are met and shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

8.8 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

Water rates need to be set up to enable water suppliers to cover the costs in pumping, storing, treating, and delivering water. Revenues need to be collected to build reserves for future water system repairs, maintenance, and replacement. Water shortages increase costs to the water supplier by increasing expenses for public educational campaigns, stricter conservation efforts, and facility development. Likewise, water shortages impact the operations cash flow as water use falls. Other costs for repairs, maintenance, and replacement are fixed. Refer to the City 2015 Water Rate Study for an analysis of rates during a drought scenario. Water shortage pricing is not considered feasible due to Proposition 218 requirements.

8.9 MONITORING AND REPORTING

Monitoring and Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance is enhanced through the City's advanced metering infrastructure (AMI) of customer connections and metering on production wells. Per City code related to outdoor water use (§ 52.34(C)), a drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.

8.10 WSCP REFINEMENT PROCEDURES

The City's WSCP is an adaptable document and subject to any needed changes to ensure that the City's water shortage response and mitigation plan are effective. A continual adaptation process is necessary to respond to hazards posed by water shortages.

If certain procedural refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the Director of Public works will consider the actions or refinements to evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

8.11 SPECIAL WATER FEATURE DISTINCTION

A distinguished special water feature would include a decorative fountain or pond, separately from pools or spas. At the time of this plan, City water use regulations make no distinction for the special water features.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The WSCP will be adopted concurrently with the UWMP, by separate resolution. Before the adoption, a notice of preparation was sent to San Joaquin County and Stanislaus County. In addition, a notification of the public was completed and a public hearing took place.

Within 30 days of both the WSCP and UWMP adoption, a copy of the WSCP and UWMP will be available at the City office and a copy will also be provided to the San Joaquin County and Stanislaus County. An electronic copy of the WSCP will be submitted to DWR within 30 days of the adoption and made available on the City website.

Demand Management Measures

The City of Riverbank is committed to the implementation of the most feasible water conservation measures appropriate for the City to produce the greatest reduction in water use practicable. The City of Riverbank is not signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore not a member of the California Urban Water Conservation Council (CUWCC).

Water Code Section 10631(f) requires the City to implement to the extent practicable Demand Management Measures (DMMs) intended to lessen demands on the State's water resources through increased conservation and efficient water use, including water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system loss, water conservation program coordination and staffing support, and other DMMs. This section presents the City's program to implement and monitor the practicable DMMs; as well as the required cost benefit analyses (CBAs) for those that are not currently feasible to be implemented, or scheduled to be implemented.

9.1 DEMAND MANAGEMENT MEASURES

The City is committed to providing safe and reliable water to its customers in the most efficient and cost-effective manner; therefore, in response to the Water Code, the City will address the required DMMs to the extent feasible.

In general, feasibility is based primarily on a cost benefit analysis comparing the value of the water saved versus the costs to implement the DMM. Certain costs have been determined which applies to multiple DMM cost benefit analyses (CBA) which are summarized as follows:

Cost of incremental water supplied: This is the electrical cost for pumping and chemical costs per AF of water delivered. It does not include fixed operational costs. Data (rounded to the next highest \$25) from a 1.5-year period are utilized as follows:

Table 9-1
Cost of Incremental Water Supplied

Beginning of period	8/16/2012
End of period	2/6/2014
Total Energy	\$551,000
Total Chemical Costs	\$4,000
Total Water delivered	5,600 AF
Incremental Cost per AF	\$100
Incremental cost per million gallons	\$325

Cost of City Staff: This is the approximate cost per hour for City staff to administer and/or conduct field audits or outreach programs. For the CBA it is assumed the costs would be limited to staff that would cost \$50/hour, including benefits.

Cost of Vehicle Use: For the CBA it is assumed the costs would be at least \$0.60/mile, including depreciation, registration, insurance, maintenance, and fuel.

Number of Residences built before 1993: Greater water savings can be attained in older houses that were completed before 1993 when water conserving fixtures were mandated in the building code. It is presumed of the 6,614 residences currently served, less than 3,000 are older than 1993.

Water Use Per household: Current population is reported to be 25,133, which averages to 3.5 persons per household. Although recent water use averages about 157 GPCD, for water savings CBA, a value of 200 GPCD (closer to historic average), or 700 gallons per household per day is utilized as a conservative estimate.

For each DMM, an overall outline of the City's schedule for DMM implementation is provided with a means of tracking and evaluating DMM implementation and effectiveness. Specific tasks will be summarized and reported in UWMP updates for each DMM; therefore, a reporting period is defined as the five-year period between UWMP updates.

9.1.1 WATER WASTE PREVENTION ORDINANCES

The most visible forms of wasteful practices occur during residential irrigation and outdoor water use. To combat wasteful use, water waste prohibition in the form of an ordinance informs the customer that water waste is prohibited.

DMM Description

Section 52.34 of the City of Riverbank Code of Ordinances outlines restricted water use. The Code of Ordinances states, "These provisions shall apply to all persons using water in the City regardless of whether any person using water shall have a contract for water service with the City. Failure to comply with any provision, requirement, rules or regulation under this chapter shall be unlawful and punishable as an infraction".

Schedule and Steps for Implementation

The City has permanently incorporated implementation of this DMM into their ordinances. The policy indicates as follows:

1. Washing cars, without the use of a quick-acting positive shut-off nozzle on the hose.
 - a. Furthermore, there shall be no washing of building exteriors, mobile home exteriors, recreational vehicle exteriors, sidewalks, patios, driveways, gutters or other exterior surfaces, unless permitted by the Public Works Director and done with the use of a quick-acting positive shut-off nozzle on the hose.
 - Vehicle washing is limited to one (1) washing per car, per week.

2. Outdoor water use in violation of the following schedules:

a. Summer (Limited to watering two (2) days per week):

- No outdoor water use will be allowed between 10:00 a.m. and 7:00 p.m.
- Dwellings or establishments with odd-numbered street addresses shall water only on Wednesday, Friday, and Sunday subject to the time restrictions set forth above.
- Dwellings or establishments with even-numbered street addresses shall water only on Tuesday, Thursday, and Saturday subject to the time restrictions set forth above.
- Landscape irrigation is prohibited at all times on Mondays
- Landscape irrigation is prohibited within (48) hours after a measurable rainfall event ends, regardless of the permitted aforementioned summer watering schedule.
- Drip or micro-spray irrigation systems are exempt from the restrictions.

b. Winter (Limited to watering one (1) day per week):

- No outdoor water use will be allowed between 10:00 a.m. and 4:00 p.m.
- Dwellings or establishments with odd-numbered street addresses shall water only on Wednesday and Sunday subject to the time restrictions set forth above.
- Dwellings or establishments with even-numbered street addresses shall water only on Tuesday and Saturday subject to the time restrictions set forth above.
- Landscape irrigation is prohibited at all times Monday, Thursday, and Friday.
- Landscape irrigation is prohibited within (48) hours after a measurable rainfall event ends, regardless of the permitted aforementioned summer watering schedule.
- Drip or micro-spray irrigation systems are exempt from the restrictions.

3. Violations. All fines are payable with the next water bill.

- a. First violation – Warning
- b. Second violation - \$35 fine
- c. Third violation - \$50 fine
- d. Fourth violation - \$100 fine
- e. Fifth violation and each violation thereafter - \$200 fine

Evaluation of Effectiveness of DMM

The City will collect the following information to determine the effectiveness of this DMM:

- 1. Number of customers cited for repeat water waste violations

Estimate of Current Conservation Savings

The City has no method to determine conservation savings associated with this DMM. However, the City has Tracking Information (number of citations issued), with 852 warning issued in 2015 and 124, 489, 49 violations issued for the years which data was available, 2015, 2016, and 2017, respectively.

9.1.2 METERING

All new and existing water service connections are metered and billed by volume of use in the City. The City completed a meter replacement program and increased the water accountability to 92% in 2006. In 2020, the City will be completed the replacement of all customer meters that will increase water accountability to nearly 100%. Therefore, the City does not need to retrofit any existing connections. The use of water meters allows for better tracking and monitoring of water conservation data.

Water rates were adopted by the City Council on October 13, 2015. Residential homes have a 1.5" or smaller water meter. The five-year monthly rates are as follows in Table 9-1.

**Table 9-2
2019 Effective Domestic Water Billing Rate**

Meter Size	Effective Date				
	Nov. 21, 2015	July 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019
1.5" and smaller	\$19.77	\$22.73	\$24.55	\$25.78	\$27.07
2"	\$31.63	\$36.37	\$39.29	\$41.24	\$43.31
3"	\$63.27	\$72.74	\$78.57	\$82.49	\$86.62
4" and above	\$98.85	\$113.65	\$122.77	\$128.89	\$135.34
Variable Charge (Water Usage per gallon)	\$0.000614	\$0.000706	\$0.000762	\$0.000800	\$0.000840
Drought Surcharge (per gallon) ¹	\$0.00	\$0.000092	\$0.000211	\$0.000377	\$0.000396

¹ Only charged during periods when the State of California has declared an Emergency Drought.

DMM Description

For consistency with California Water Code (Section 525b), this DMM refers to potable water systems. A water meter is defined as a device that measures the actual volume of water delivered to an account in conformance with the guidelines of the American Water Works Association.

Schedule and Steps for Implementation

The City will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program.

Implementation shall consist of at least the following actions:

1. Require meters for all new service connections.
2. Establish a program for retrofitting existing unmetered service connections when identified.
3. Read meters and bill customers by volume of use.
 - a. Establish and maintain billing intervals that are no greater than bi-monthly (every two months) for all customers.
 - b. For each metered connection, perform at least five actual meter readings (including remotely sensed) per twelve-month period.
4. Prepare a written plan, policy or program that includes:
 - a. A census of all meters, by size, type, year installed, customer class served and manufacturer's warranty accuracy when new;
 - b. A currently approved schedule of meter testing and repair, by size, type and customer class;
 - c. A currently approved schedule of meter replacement, by size, type, and customer class; and
5. Identifying intra- and inter-agency disincentives or barriers to retrofitting mixed use commercial accounts with dedicated landscape meters, and conducting a feasibility study(s) to assess the merits of a program to provide incentives to switch mixed use accounts to dedicated landscape meters.

Tracking and Documentation

This DMM allows the City to track use on a per account basis, and analyze savings for each sector and the City as a whole. Additionally, this data will allow the City to perform full-scale water audits. This section outlines the recommended minimum use data necessary for tracking sector, seasonal and annual water use and describes how each relates to the proposed DMMs.

1. Confirmation that all new service connections are metered and are being billed by

volume of use and provide:

- a. Number of metered accounts;
 - b. Number of metered accounts read;
 - c. Number of metered accounts billed by volume of use;
 - d. Frequency of billing (i.e., six or twelve times per year) by type of metered customer (e.g. single family residential, multiple family residential, commercial, industrial, and landscape irrigation); and
 - e. Number of estimated bills per year by type of metered customer (e.g., single family residential, multiple family residential, commercial, industrial, and landscape irrigation) vs. actual meter readings.
2. Estimated number of commercial/industrial/institutional (CII) accounts with mixed-use meters
 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period

Estimate of Current Conservation Savings

The City of Riverbank is now 100% metered and bills all customers by volume of use, no further reduction of demand is expected. Further reductions may be seen in conjunction with water audits.

9.1.3 CONSERVATION PRICING

DMM Description

This DMM promotes water conserving retail water rate structures. When creating a rate case, professional judgments are made to determine whether costs are accounted to a variable or fixed cost center by the staff of the agency. The final water rate case is an accumulation of all the decisions and judgments made by staff and supplemented by the financial projections leading an agency to establish its final water rate recommendation.

In a water, sewer or refuse collection rate increase case, the final rates as recommended by staff must go through ballot approval at a Proposition 218 hearing. Proposition 218 contains requirements for the imposition of a fee or charge for property related services. Procedures for fees and charges are contained in Section 6 of Article XIII D and must be implemented during a rate increase. Paragraph (b) describes the requirements for new, existing, or increased fees and charges, as:

1. Revenues from fees or charges shall not exceed the funds required to provide the service.
2. Revenues from fees or charges shall not be used for any other purpose.
3. The amount of the fee or charge imposed upon any parcel or person as an incident of

property ownership shall not exceed the proportional cost of the service attributable to the parcel.

4. No fee or charge may be imposed unless the service is actually used by or immediately available to the owner of the property in question.
5. No fee or charge shall be imposed for general governmental services, i.e., police, ambulance, library, where the service is available to the public at large in substantially the same manner as it is to the property owners.

This DMM is not intended to supplant this rate setting process, but rather to reinforce the need to establish a strong nexus between volume-related system costs and volumetric commodity rates. Conservation pricing requires volumetric rate(s). The goal of this DMM is to recover the maximum amount of water sales revenue from volumetric rates that is consistent with utility costs (which may include utility long-run marginal costs), financial stability, revenue sufficiency, and customer equity.

The City's water customers are billed based on their metered water use. Water fees and charges are established by Section 52.61 of the City of Riverbank Code of Ordinances. A summary of the rates is provided in Table 9-1.

Schedule and Steps for Implementation

The City will adjust rates periodically as deemed necessary.

9.1.4 PUBLIC EDUCATION AND OUTREACH

9.1.4.1 Public Information Program

A public information program is a powerful channel of communication between the public and the message the City delivers. The key goal to a public information program is to educate the public: on the necessity of conservation; the benefits of conservation; and actions needed to achieve water conservation goals. Secondary benefit is the ability to convey specific DMM information and if possible, conduct business through certain channels such as a processing a rebate application on the City website. There is a variety of medium available to choose from to keep the public informed; however, at a minimum, a conservation webpage should be made available to promote conservation and support DMM activities.

DMM Description

An informed public tends to be more responsive to City services and more understanding to the needs of rate adjustments when warranted. This DMM includes communication with the public through various means as described below to promote water conservation, involvement in the UWMP update process, and general awareness of water use and conservation. This program includes development of outreach materials for each targeted DMM effort, providing educational sessions for interested parties, and providing conservation displays and information via community events, bill stuffers and other forms of communication.

Schedule and Steps for Implementation

The City currently implements the following public information programs:

1. Bi-monthly City newsletters are provided with customers' bills
2. The City maintains an internet website that posts public information to promote water conservation practices
3. Annual consumer confidence reports are distributed to the City's water customers and contain water conservation information
4. The City Water Conservation Coordinator, or other assigned City staff attends public events, such as Beyond Earth Day

The City will continue to implement similar programs over the next five years. One area that may be considered is information regarding water softeners that during regeneration, discharge solids back into the sewer system. This practice can contribute to increases in total dissolved solids (salt) concentrations in wastewater which in turn may be regulated in the future by the Regional Water Quality Control Board (Regional Board).

Implementation shall consist of at least the following actions:

Tracking and Documentation

The City will set up a database to include the following:

1. Number of public speaking and media events relating to conservation during reporting period.
2. Number of paid or public service announcements relating to conservation produced or sponsored during reporting period.
3. Types of information relating to conservation provided to customers.



**Figure 9-1
Beyond Earth Day Outreach Event**

Annual budget for public information programs directly related to conservation. Currently the City spends approximately \$1,000 per year on coloring books, brochures, and water conservation information for distribution at this event and other venues, such as the Farmers' Market.

Evaluation of Effectiveness of DMM

As a customer calls, e-mails, or comes in to the City offices and inquiries about a water conservation program, the person receiving the inquiry should ask how the customer heard about the program. This information should be noted for use in evaluating the communication effectiveness of this DMM. This will allow the City the ability to evaluate which forms of communication are most prevalent.

Estimate of Current Conservation Savings

No specific method of evaluating the effectiveness of this DMM has been identified by the City.

9.1.4.2 School Education Programs

Education programs inform younger generations on the life cycle of water and benefits of conservation. Implementing an ongoing education campaign on the K-12 grade level using educational materials (which meet education standards) allows children to learn methods of conservation to apply at home and to reinforce behavioral changes within the household.

Additionally, learning about conservation leaves a long-lasting impression on the students with the potential of improving their conservation awareness as an adult.

DMM Description

The School Education Programs DMM consists of developing and presenting water conservation materials to K-12 grade classes in the City. This DMM would be coordinated with other related DMMs and would be implemented according to the steps described below.

Schedule and Steps for Implementation

The City has implemented school education programs in the past, providing educational videos and associated curriculum to local schools to teach children about the importance of water and water conservation practices, but due to budgetary considerations it intends to focus on broader public education initiatives (DMM G) and does not intend to implement this DMM.

Programs would include working with school districts and private schools in the water suppliers' service area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed. Educational materials shall meet the state education framework requirements and grade-appropriate materials shall be distributed.

Tracking and Documentation

At minimum, the City would report on the following:

1. Curriculum materials developed and/or provided by agency (including confirmation that materials meet state education framework requirements and are grade-level appropriate)
2. Number and type of materials developed and/or provided by the City
3. Number of students reached
4. Annual budget for school education program
5. Description of all other water supplier education programs

Evaluation of Effectiveness of DMM

There are no methods of measuring effectiveness for this DMM.

Estimate of Current Conservation Savings

No specific method of evaluating the effectiveness of this DMM has been identified by the City.

Cost Benefit Analysis

Details of the CBA are included in Appendix L and summarized as follows:

Table 9-3
Cost Benefit Analysis Summary for Current Measures

Cost Effectiveness Summary	
Total Annual Costs	\$7,900
Total Benefits	Not
Discount Rate Time	N/A
Horizon	5 years
Cost of Water (\$ per AF)	100
Water Savings (AFY)	N/A

9.1.5 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

The goals of modern water loss control methods include both an increase in water use efficiency in the utility operations and proper economic valuation of water losses to support water loss control activities. In May 2009 the American Water Works Association (AWWA) published the 3rd Edition M36 Manual Water Audits and Loss Control Programs. BMP 1.2 will incorporate these new water loss management procedures and apply them in California. Agencies are expected to use the AWWA Free Water Audit Software (“AWWA Software”) to complete their standard water audit and water balance.

The City currently evaluates consumption reports for extreme variations. If a variation is noted, the City checks the meter for leaks. If a leak is detected, the City notifies the consumer and the leak is repaired. The City will maintain water audit books on an annual basis to help estimate system losses.

DMM Description

The System Water Audit, Leak Detection, and Repair DMM will consist of the following with implementation as described below:

- System tracking of water production and use, and an assessment of water losses as a percentage of production

Schedule and Steps for Implementation

If the annual prescreening audit indicates that unaccounted water is greater than 10 percent, the City will complete a water audit of its distribution system using methodology consistent with that described in *Water Audit and Leak Detection Guidebook* by the AWWA.

Implementation shall consist of at least the following actions:

1. Annually (April) complete a prescreening system audit to determine the need for a full-scale system audit. The prescreening system audit shall be calculated as follows:
 - a. Determine total metered sales for previous year;
 - b. Determine other verifiable water uses from previous year, e.g., construction

water, hydrant flushing, fire suppression uses, etc.;

- c. Determine total annual production into the distribution system;
 - d. Divide metered sales plus other verifiable uses by total supply into the system. If this quantity is less than 0.9, a full-scale system audit is indicated.
2. When indicated by the above analysis, the City will perform a complete water audit of the distribution system using methodology consistent with that described in AWWA M36: Water Audit and Leak Detection.
 3. Advise customers whenever it appears possible that leaks exist on the customer's side of the meter.

Tracking and Documentation

To assess the progress of the DMM the following information should be gathered. This information will be summarized in the UWMP updates.

1. The completed AWWA Standard Water Audit and Water Balance worksheets.
2. City shall maintain in-house records of audit results, methodologies, and worksheets for each completed audit period.
3. City keeps records of each component analysis performed, and incorporates results into future annual standard water balances.
4. City, for the purpose of setting the Benchmark:
 - a. Keeps records of intervention(s) performed, including standardized reports on leak repairs, pressure reduction undertaken for loss reduction, infrastructure rehabilitation and renewal, volumes of water saved, and costs of intervention(s); and
 - b. Prepares a yearly summary of this information for use in tracking DMM effectiveness.

Method to Evaluate Effectiveness

The City will collect the following information to track the effectiveness of this DMM:

1. Prescreening audit results and supporting documentation
2. Maintain in-house records of audit results or the completed American Water Works Association (AWWA) Audit Worksheets for each completed audit period

Effectiveness of this DMM is verified by maintaining unaccounted water losses to less than 10% as indicated by the prescreened water audits.

Estimate of Current Conservation Savings

Estimate of water conservation savings will be calculated based on the reduction of unaccounted for water losses as data becomes available.

9.1.6 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

DMM Description

To actively manage the DMM measures outlined in this Section, a water conservation coordinator (WCC) and supporting staff must be identified. The WCC will be charged with overseeing and developing the strategies and procedures of all steps and procedures listed in each DMM. This person must be personable and maintain a friendly and professional image as a representative of the City as the WCC will be in direct contact with the public. Additionally, the WCC must be able to communicate effectively by relaying complex concepts to upper management and City Council as the administrator of the Water Conservation Program.

Schedule and Steps for Implementation

DMM implementation activities are to be distributed among a variety of City employees. The currently designated water conservation coordinator is:

Kim Mossman, PW Admin Assistant
6707 Third Street
Riverbank, CA 95367
(209) 863-7128

Implementation shall consist of at least the following actions:

1. Designation of a water conservation coordinator and support staff (if necessary), whose duties shall include the following:
 - a. Coordination and oversight of conservation programs and DMM implementation;
 - b. Compilation of data necessary for preparation of the DMM Implementation Status Report to be included in UWMP updates; and
 - c. Communication and promotion of water conservation issues to agency senior management; coordination of agency conservation programs with operations and planning staff; preparation of annual conservation budget; and preparation of the conservation elements of the agency's Urban Water Management Plan.

Evaluation of Effectiveness of DMM

Evaluation of effectiveness will consider the goals met under each DMM implementation and schedule and ultimately the overall volume of water savings produced by the active management of the program by the coordinator.

The duties of water conservation coordinator require approximately 80 hours per year. Other staff time to implement water conservation programs require approximately 100 hours per year.

Estimate of Current Conservation Savings

The City has no method to determine conservation savings associated with this DMM.

9.1.7 OTHER DEMAND MANAGEMENT MEASURES

In addition to the above DMMs, the City has evaluated other programs to improve water conservation.

9.1.7.1 Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers

Many residential customers unknowingly use water inefficiently and take for granted this limited resource. Additionally, many customers do not understand the amount of water wasted by overwatering their landscape. A water survey program is intended to educate City customers on efficient landscape water use, test fixtures for leaks, provide information on other services available to them (other DMMs) such as rebates and free water efficient fixtures and as such requires City staff and transportation costs as well as costs for rebates or water saving fixtures if offered.

DMM Description

The Water Survey Program for Single-Family Residential and Multi-Family Residential Customers consists of the following actions:

- Define the funding source and allocate appropriate funds for this DMM
- Assign Water Conservation staff
- Target high use customers and market water use surveys to single-family residential and multi-family residential customers through the following actions.
 - o On an annual basis, compile single-family and multi-family residential user account information and water use data. This information will be analyzed to prioritize the marketing efforts described below. High volume water use customers as identified as being the top five percent (5%) highest water consumers will be the focus for initial marketing efforts followed by the remaining 15 percent (15%) as determined by water use ranking priority to make up the target 20 percent (20%) marketing effort as outlined in this measure.
- Develop or identify marketing material to be used for initial contact, during surveys and follow-up to surveys.
 - o Compile DMM specific materials/equipment such as educational materials, tools for minor irrigation system repair, flow and measurement equipment, replacement sprinkler equipment and other applicable materials and equipment.
- Directly contact via letter or telephone, not less than 1% of single-family residential customers and 1% of multi-family residential customers each year with an offer to conduct a water survey.
 - o Priority in contact shall be given to those high-volume use customers identified above.

Telephone followed by letter contact shall be conducted for users identified above as high-volume use customers.

- o Letter correspondence and telephone contact shall include information on other DMM services available to the customer such as high efficient toilets, high efficient washing machines, and free water conserving retrofit devices.
- Conduct surveys of all positive respondents to survey offer and other interested customers becoming aware of the survey through DMM 7. Surveys shall include indoor and outdoor components, and at minimum shall have the following elements:

Indoor

- o Check for leaks, including toilets, faucets, and water meter;
- o Check showerhead flow rates, aerator flow rates, and offer to replace (see DMM B) or recommend replacement, as necessary;
- o Check toilet flushing rating and recommend installation of displacement device or direct customer to HET rebate program, as necessary; replace leaking toilet flapper, as necessary;
- o Check and document any other water use appliances that may exist in the residence such as dishwasher, evaporative cooler, spa and so on.

Outdoor

- o Check irrigation system for leaks, use of irrigation timers, and proper irrigation times;
- o Review or develop customer irrigation schedule.
- Provide customer with evaluation results and water saving recommendations; leave information packet with customer.
- For those customers who are reluctant to having staff conduct an onsite survey, offer a self-survey kit. The self-survey kit will include the City forms and a description to walk the customer through the water audit process. The form enclosed in the kit will allow the customer to record their fixture flow rates for comparison to currently available low water use fixtures and allow the customer to return the completed form for a free water conservation kit distributed under DMM B. The self-survey kit will include the following:
 - o Toilet tabs to detect toilet leaks,
 - o Shower flow rate detector bag,
 - o Self-Water Audit instructions and forms,
 - o Educational material such as water savings tips, the significance of the EPA Water Sense certification, and

- o Promotional material for incentives and rebates the City provides.
- Maintain survey information and track monthly customer use and information to ensure accuracy and for use in evaluating DMM effectiveness.

Schedule and Steps for Implementation

The City currently does offer educational materials to households as part of its education and outreach program but has no plans to implement a formal water survey program at this time as the costs would be a burden on current City finances and the costs far exceed the benefits expected. The required CBA summary table follows, with calculation details provided in Appendix L:

**Table 9-4
Cost Benefit Analysis Summary for Water Survey Programs**

Cost Effectiveness Summary	
Total Annual Costs	\$64,400
Total Annual Benefits	\$2,600
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ /AF)	100
Water Savings (AF/Y)	26.0

A summary of the non-economic factors affecting the Water Survey Program and taken into consideration in this Cost-Benefit analysis is provided in the following paragraphs.

Environmental

The environmental effects of implementing a Water Survey Program in the City would be minimal. As stated previously, the City uses groundwater wells as its potable water source. Surface waters would not be measurably affected by implementing or not implementing the program.

There would be an environmental benefit to implementing the program in the form of reduced electrical power consumption for the production, treatment and distribution of water.

Social

There is a societal benefit in implementing the Water Survey Program. A reduction in the amount of water produced and distributed means a reduction in the amount of money spent on its production. The publicly owned system would see a reduction in power required to pump, treat, and distribute the water.

Implementing the program would also convey to the water users the message that the City is working to conserve water. The extent to which the program would be socially beneficial is not quantifiable, however.

Health

There are no measurable health benefits to either implementing or not implementing the Water Survey Program.

Customer Impact

Water customers that participate in the Water Survey Program would be educated on sources of potential leaks in their system and will know how to prevent them or fix them. They may also be better informed of irrigation practices and landscaping options to reduce their water consumption. Participants may also talk with friends and neighbors about what they have learned, which may have an effect on how they manage water at their own homes.

Technological Factors

There are several technological advances in residential irrigation practices that are available to the average homeowner to reduce the amount of water used. Automatic sprinkling and drip irrigation systems can be equipped with timers. Soil moisture probes and rain sensors can be used to adjust irrigation schedules. Internet websites are devoted to appropriate landscaping plant choices given sun exposure, soil types, and climate. All of this information can be provided as part of a Water Survey Program. It is also available to anyone with internet access that is interested in conserving water, even without the Program.

Conclusion

While there are some non-economic benefits to implementing a Water Survey Program, the costs of the Program are too excessive to justify it at this time. At a minimum a City employee (assumed ½ time) and vehicle would have to be dedicated to properly running the program. There would also be advertising and material costs associated with the Program. The sum of these costs makes implementing the Program prohibitive given current City budget constraints.

9.1.7.2 Large Landscape Conservation Programs and Incentives

The City does not currently perform large landscape water use surveys or assign evapotranspiration water use budgets and a formal program and incentives are not feasible at this time. However, as the City grows and more parks are developed, the City will consider certifying staff to perform large landscape audits.

As required by the Water Conservation in Landscaping Act of 2006, the City has adopted DWR's model ordinance, Model Water Efficient Landscape Ordinance. Use of this model ordinance will help the City meet their urban water management goals by limiting the water use per acre for large landscape accounts.

Irrigation accounts for a large portion of urban water use in California. Irrigation water use varies dramatically depending on water pricing and availability, plant choice, geographic locations, seasonal conditions, and the level of commitment to sound water efficiency practices. The goal of this DMM is that irrigators, with assistance from the City, will achieve a higher level of water use efficiency consistent with the actual irrigation needs of the plant materials. Reaching this goal would reduce overall demands for water, reduce demands during the peak summer months, and still result in a healthy and vibrant landscape for the City.

DMM Description

This DMM consists of developing, tracking, and accounting for irrigation water use at these large landscape accounts through on site surveys with follow-up visits. Water conservation is achieved through this DMM by increasing irrigation efficiency at large landscape accounts and reducing water waste.

Schedule and Steps for Implementation

Implementation of large landscape conservation program shall consist of at least the following actions:

1. Promoting the use of the Model Water Efficient Landscape Ordinance
2. Maintain and distribute the list of suggested plants and efficient irrigation systems
3. Maintain and distribute City Standard Plans for landscape irrigation plans
4. Continue to work with large landscape irrigation users on water conservation measures

Tracking and Documentation

To assess the progress of the DMM the following information should be gathered. This information will be summarized in the UWMP updates.

1. Number of dedicated irrigation meter accounts.
2. Number of surveys offered.
3. Number of surveys accepted.
4. Estimated annual water savings by customers receiving surveys and implementing recommendations.

Evaluation of Effectiveness of DMM

As a means of evaluating the effectiveness of this measure, large landscape meter records will be reviewed on an annual basis for the peak irrigation month water use. A database will be developed showing peak month landscape irrigation water use for the major landscape irrigation connections and will indicate which have existing budgets and will indicate the last survey date.

Water Savings Assumptions

Assuming fully implementing large landscape BMPs will result in a 15%-20% reduction in demand for landscape irrigation by affected accounts. Most of savings will occur just by implementing the water efficient ordinance. Additional savings by site surveys and incentives are likely to be less than 25% of the total possible savings or 10 AF/yr, over a five year time horizon.

Cost Benefit Analysis

Costs to fully implement the program for City staff time, transportation, and incentive costs are estimated to be require about 10% of those incurred to implement DMM 9.1.7.1 (assumes 1/20

of a full time employee) and would be approximately \$6,400/year with a potential benefit of approximately \$200/yr as summarized in the table below:

Table 9-5
Cost Benefit Analysis Summary for Landscape Irrigation Tracking

Cost Effectiveness Summary	
Total Annual Costs	\$6,400
Total Annual Benefits	\$200
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ /AF)	100
Water Savings (AF/Y)	2.0

9.1.7.3 High Efficiency Washing Machine Rebate Program

Washing machines make up 21.7% of the total indoor residential water use (Mayer et al, 1999). Replacing conventional top load high volume washing machines with horizontal axis front loading washing machines have been found to conserve water by as much as 38% per load (Vickers, 2001). Although high efficiency washing machines save the consumer more money over the life of the appliance when compared to conventional washing machines, initial sticker price and unfamiliarity tend to be main barriers withholding consumer from purchasing High Efficiency Washing Machines (HEWMs). Because of the sticker price rebates must be substantial (i.e.; \$100) to be effective. Due to the high costs this program is not currently feasible at this time.

DMM Description

This DMM is based on providing a financial incentive for customers in the City's utility service area to switch to HEWMs. The incentive would allow customers to upgrade existing conventional washing machines to high efficient washing machines to benefit both the customer and utility through reduced water use.

Schedule and Steps for Implementation

PG&E currently offers rebates on energy efficient appliances to their customers. The City does not currently provide additional rebates for HEWMs but supports the use of high-efficiency washing machines and will support local, state, and federal legislation to improve efficiency standards for washing machines. The City will also advertise the PG&E rebate program to its customers through its website.

Tracking and Documentation

The City will track the installation of HEWMs to customers within their service territory through the PG&E rebate program.

Estimate of Current Conservation Savings

The City will develop a database to track the installation of high-efficiency washing machines based on the PG&E rebate program. With this information, the City will have the ability to track if there is a measurable decrease in metered water usage.

Cost Benefit Analysis

The CBA for this DMM is detailed in Appendix L and costs are limited to rebate costs only: administrative costs would be in addition to those presented.

Table 9-6
Cost Benefit Analysis Summary for Providing Financial Incentives to HEWMs

Cost Effectiveness Summary	
Total Annual Costs	\$26,500
Total Annual Benefits	\$688
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ /AF)	100
Water Savings (AF/Y)	6.9

9.1.7.4 High Efficiency Toilet Replacement

The Energy Policy Act of 1992 mandated that all toilets sold in California after January 1, 1994 must be ultra-low-flush toilets, which use a maximum of 1.6 gallons per flush (gpf). More recently, AB 715 made water conservation standards for certain types of toilets and urinals more stringent than the Energy Policy Act of 1992 standards. Specifically, after January 1, 2014 toilets cannot use more than 1.28 gpf and urinals cannot use more than 0.5 gpf (AB 715, 2007). These ultra-low-flush toilets (ULFT) save approximately 60% to 75% of water when compared to their high water use counterparts at 3.5 and 5.0 gpf. In this measure, older 3.5 and 5.0 (gpf) toilet fixtures in residences are replaced with 1.6 gpf fixtures. Implementation of this DMM is intended to accelerate the replacement of non-conserving toilets at a faster pace than “natural replacement”.

DMM Description

This DMM is based on implementing a financial incentive program for customers in the City’s utility service area for replacement of higher water use toilets with ULFTs. The incentive will allow customers to upgrade existing high water use toilets to high efficient toilets to benefit both the customer and utility through reduced water use.

Schedule and Steps for Implementation

Due to the City’s current budget constraints, a financial incentive for toilet replacement is not offered. The City will continue to consider offering a rebate for installation of ULFTs as budget allows. The City will, through its public education program, continue to encourage the installation of ULFTs.

Cost benefit Analysis

The details of the CBA are presented in Appendix L and presume this program will focus on the pre-1993 households and includes rebate costs of \$100 per household. Administrative costs are not included. The CBA is summarized in the following table:

Table 9-7
Cost Benefit Analysis Summary for Higher Efficiency Toilets

Cost Effectiveness Summary	
Total Annual Costs	\$12,500
Total Annual Benefits	\$917
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ /AF)	100
Water Savings (AF/Y)	9.2

9.1.7.5 Residential Plumbing Retrofit

This DMM replaces high water use fixtures with low-volume retrofit plumbing devices. These devices range from toilet water displacement bags to faucet aerators. The devices are typically installed during a water survey; however, are available to the public upon request.

The City adopted the 2013 California Green Building Standards Code, and the 2013 California Plumbing Code, which will conform to the legal requirements for maximum water usage for fixture retrofits and replacements for residential uses, including 1.28 gallon water closets and 0.5 gallon urinals. In addition, the City will conform to the requirements SB 407/Civil Code Sections 1101.1 - 1101.8 which require the eventual retrofit of residential (and commercial) non-compliant fixtures by 2019.

However, the City has no plans to implement a fixture retrofit incentive program (i.e.; offer rebates) to residences constructed before 1994, as the costs to fund and administer such a program is not cost effective for much the same reasons as a high efficiency toilet replacement program is not cost effective (Reference DMM 9.1.7.4). A general fixture retrofit program may provide somewhat more water savings than toilet replacements alone (i.e.; 15%, Reference American Water Works Association Research Foundation, Residential End Uses of Water, 1999, Table 5.4); however, even without associated additional rebate costs, the costs far exceed the value of water savings reasonably attainable.

The below table uses the same participation assumptions as stated in DMM 9.1.7.4 and assumes an additional 15% savings in water as a general fixture rebate program would include faucet and showerhead replacements in addition to low flow toilet rebates and incentives.

Table 9-8
Cost Benefit Analysis Summary for Residential Plumbing Retrofit

Cost Effectiveness Summary	
Total yearly Costs	\$12,500
Total Yearly Benefits	\$1,060
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ per AF)	100
Water Savings (AFY)	10.6

9.1.7.6 Conservation Programs for Commercial, Industrial, and Institutional Accounts

This DMM establishes conservation programs implemented on the Commercial, Industrial, and Institutional (CII) sectors.

DMM Description

Conservation programs should be established for CII accounts and will parallel residential measures in such that surveys (indoor/outdoor), and incentive programs may be made available for the CII sector and will be the focus of this measure. Some CII customers may maintain landscaped areas, which require a more exhaustive outdoor survey therefore; in those instances, the survey effort will be coordinated with DMM E Large Landscape Conservation Programs.

Schedule and Steps for Implementation

However, for the same rationale as presented in DMM A, the City does not intend to implement a staffed conservation program for commercial and industrial users for the foreseeable future because the cost of such a program cannot be justified by the potential water savings. Commercial and Industrial accounts account for approximately 6% of the total City water use and with about the 3 % of connections. This indicates there is no significant difference in the CBA from that presented in DMM A except for a proportionate reduction in cost of 3% and benefit of 6%, with the following adjustments: The cost of the program is approximately 5% of that presented in DMM A (which is probably low given the generally higher costs of commercial fixtures), and the potential water savings for those that participate is twice as great as assumed for DMM A (26% instead of 13%). The result summarized in the table below show that the program would not be cost effective.

Table 9-9
Cost Benefit Analysis Summary for Commercial Conservation Programs

Cost Effectiveness Summary	
Total yearly Costs	\$3,220
Total Yearly Benefits	\$200
Discount Rate	N/A
Time Horizon	5 years
Cost of Water (\$ per AF)	100
Water Savings (AFY)	2.0

Chapter 10

Plan Adoption, Submittal, and Implementation

This section addresses the CWC requirements for a public hearing, the adoption and submittal process, plan implementation, and UWMP amendment process.

10.1 INCLUSION OF ALL 2020 DATA

The City has included UWMP data relevant to the 2020 UWMP supply and demand accounting.

10.2 NOTICE OF PUBLIC HEARING

Public input is an essential part of the 2020 UWMP and WSCP update. Per the UWMP Act, the City has notified both cities and counties and the public of the preparation of the 2020 UWMP.

10.2.1 NOTICE TO CITIES AND COUNTIES

The City has provided a 60-day notice of preparation of its 2020 UWMP, and notice of the UWMP public hearing as required by CWC Section 10621 and 10642 to the City and Counties listed below in Table 10-1.

**Table 10-1 (DWR Table 10-1)
Notification to Cities and Counties**

City Name	60 Day Notice	Notice of Public Hearing
City of Riverbank	Yes	yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
San Joaquin County	Yes	Yes
Stanislaus County	Yes	Yes

10.2.2 NOTICE TO THE PUBLIC

As mentioned in Section 2.4.2, a public notice was prepared and published at least two weeks prior to the public hearing for both the UWMP and WSCP. The notice is attached in Appendix D.

10.3 PUBLIC HEARING AND ADOPTION

A public hearing was conducted to allow public input to the 2020 UWMP, including its WSCP. This allowed the public to provide input to the UWMP and WSCP and ask questions about the City's plans for ensuring a safe and reliable water supply before adoption of the UWMP and WSCP. This UWMP and WSCP were formally adopted separately by the City Council on

October 26, 2021. Copies of the signed resolutions of plan adoption are included as Appendix M.

10.4 PLAN SUBMITTAL

The updated 2020 UWMP, including the WSCP, and associated data was submitted electronically through WUEdata to DWR within 30 days as mentioned in Section 1. A CD or hardcopy of the adopted plan, including the adopted WSCP, was also submitted to the California State Library at:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
P.O. Box 942837 Sacramento, CA 94237-0001

A copy of the adopted plan and the Water Shortage Contingency Plan in electronic format will also be provided to the cities and counties listed in Table 10-1 within 30 days of adoption.

10.5 PUBLIC AVAILABILITY

A public copy of this UWMP and WSCP will be available at City Hall no later than 30 days after filing a copy with DWR. In addition, a copy will be posted on the city website for public viewing.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

If the adopted 2020 UWMP or WSCP is amended, the City will provide copies to DWR, the California State Library, and the cities and counties listed in Table 10-1 within 30 days of the adoption of the amendments. The UWMP and WSCP may be amended jointly or separately.

Appendix A

Legislative Requirements

**WATER CODE - WAT****DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]***(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)***PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42]** *(Part 2.55 added by Stats.2009, 7th Ex. Sess., Ch. 4, Sec. 1.)***CHAPTER 1. General Declarations and Policy [10608 - 10608.8]** *(Chapter 1 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)***10608.**

The Legislature finds and declares all of the following:

- (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
- (b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.
- (c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.
- (d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve stream flows, and reduce greenhouse gas emissions.
- (e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.
- (f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.
- (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
- (h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.
- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.4

It is the intent of the Legislature, by the enactment of this part, to do all of the following:

- (a) Require all water suppliers to increase the efficiency of use of this essential resource.
- (b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.
- (c) Measure increased efficiency of urban water use on a per capita basis.
- (d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.
- (e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.
- (f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.
- (g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.
- (h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.
- (i) Require implementation of specified efficient water management practices for agricultural water suppliers.
- (j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
- (k) Advance regional water resources management.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)



10608.8

(a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision

(a) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021.

Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)



DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(*Heading of Division 6 amended by Stats. 1957, Ch. 1932.*)

PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657] (*Part 2.6 added by Stats. 1983, Ch. 1009, Sec..*)

CHAPTER 1. General Declaration and Policy [10610 - 10610.4] (*Chapter 1 added by Stats. 1983, Ch. 1009, Alec. 1.*)

[10610](#) This part shall be known and may be cited as the “Urban Water Management Planning Act.”

(*Added by Stats. 1983, Ch. 1009, Sec. 1.*)

[10610.2.](#) (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

(*Amended by Stats. 201B, Ch. 14, Sec. 18. (SB 606) Effective January 1, 2019.*)

[10610.4](#) The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.



CHAPTER 2. Definitions [10611 - 10618] (Chapter 2 added by Stats. 1983, Ch. 1009, iec. 1.)

[10611.](#) Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10611.3](#) “Customer” means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

[10611.5](#) “Demand management” means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

[10612](#) “Drought risk assessment” means a method that examines water shortage risks based on the driest five- year historic sequence for the agency’s water supply, as described in subdivision (b) of Section 10635.

(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 2019.)

[10613.](#) “Efficient use” means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

(Added by Stats. 1983, Ch. 1009, Exec. 1.)

[10614.](#) “Person” means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10615.](#) “Plan” means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area’s characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

(Amended by Stats. 1995, Ch. 854, Sec. 4. Effective January 1, 1996.)

[10616.](#) “Public agency” means any board, commission, county, city and county, city, regional agency, district, or other public entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10616.5](#) “Recycled water” means the reclamation and reuse of wastewater for beneficial use.

(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996)

[10617.](#) “Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water



supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

(Amended by Stats. 1996, Ch. 1023, Sec. 428. Effective January 29, 1996.)

[10617.5](#) “Water shortage contingency plan” means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019)

[10618](#) “Water supply and demand assessment” means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

(Added by Stats. 2018, Ch. 14, Sec. 23 (SB 606). Effective January 1, 2019)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 1. General Provisions [10620 - 1 0621] (Article 1 added by Stats. 1 983, Ch. 1009, Sec. 1.)

- [10620.](#) (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d) (l) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.
- (2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.
- (3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

- [10621](#) (a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.
- (d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640)
- (e) Each urban water supplier shall update and submit its 2015 plan to the department by July1, 2016



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(f) Each urban water supplier shall update and submit its 2020 plan to the department by July 1,2021

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (*Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.*)

ARTICLE 2. Contents of Plans [10630 - 10634] (*Article 2 added by Stats. 1983, Ch. 1009, Sec. 1.*)

10630 It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 2019.)

10630.5 Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

10631 A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.



(A) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(B) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(C) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(d) (I) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(3) (A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

(4) (A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use



plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph

(A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) For the supplement required of urban retail water suppliers by paragraph (2) of subdivision (f) of Section 10621, a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to Chapter 9 (commencing with Section 10609) of Part 2.55.

(C) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (C) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.



(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

(Amended by Stats. 2018, Ch. 14, Sec. 28. (SB 606) Effective January 1, 2019.)

[10631.1](#) (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

[10631.2](#) (a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

- (1) An estimate of the amount of energy used to extract or divert water supplies.
- (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
- (3) An estimate of the amount of energy used to treat water supplies.
- (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
- (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
- (6) An estimate of the amount of energy used to place water into or withdraw from storage.
- (7) Any other energy-related information the urban water supplier deems appropriate.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. (SB 606a) Effective January 1, 2019.)

[10632](#) (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

- (1) The analysis of water supply reliability conducted pursuant to Section 10635.
- (2) The procedures used in conducting an annual water supply and demand assessment



that include, at a minimum, both of the following:

(A) The written decision making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

(3) (A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions. Locally appropriate demand reduction actions to adequately respond to shortages.

(B) Locally appropriate operational changes.

(C) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(D) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption



procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

(7) (A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

[10632.1](#) An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before June 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by June 1 of each year, whichever is later.

(Added by Stats. 2018, Ch. 14, Sec. 33. (SB 606) Effective January 1, 2019.)

[10632.2](#) An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision

(a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section



10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

[10632.3](#) It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

[10632.5](#) (a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664a Effective January 1, 2016.)

[10633](#) The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.



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(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

[10634](#) The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 2.5. Water Service Reliability [10635- 10635.] (Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)

[10635.](#) (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(e) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 3. Adoption and Implementation of Plans [1 0640 - 10645] Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

[10640.](#) (a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606a Effective January 1, 20J 9.g

[10641](#) An urban water supplier required to prepare a plan or a water shortage contingency plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606a Effective January 1, 20J 9.g

[10642.](#) Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606\$ Effective January 1, 70J 9.g

[10643](#) An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10644](#) (a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1)



shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

(c) (1)(A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

[10645.](#) (a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 2019.)



CHAPTER 4. Miscellaneous Provisions [1 0650 - 10657] (Chapter 4 added by :itats. 1 983, Ch. 1009, iec. 1.)

[10650](#) Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan or a water shortage contingency plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

[10651](#) In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) Effective January 1, 2019)

[10652](#) The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 6. Effective January 1, 1996.)

[10653](#) The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) Effective January 1, 2019)

[10654](#) An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.

(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) Effective January 1, 2019)

[10655](#) If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.



(Amended by Stats. 1983, Ch. 1009, Sec. 1)

[10656](#) An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) Effective January 1, 2019)

[10657](#) The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.

(Amended by Stats. 2018, Ch. 14, Sec. 47. (SB 606) Effective January 1, 2019)

Appendix B

DWR 2020 UWMP Tables

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
CA5010018	RIVERBANK, CITY OF	6853	3,932
TOTAL		6,853	3,932
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volume units are in acre-feet (AF).			

Submittal Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
☒	Individual UWMP	
	☐ Water Supplier is also a member of a RUWMP	
	☐ Water Supplier is also a member of a Regional Alliance	
☐	Regional Urban Water Management Plan (RUWMP)	
NOTES:		

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☒	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☒	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
<i>* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
<i>Add additional rows as needed</i>
NOTES: The City of Riverbank does not rely upon a wholesale agency for water supply.

Submittal Table 3-1 Retail: Population - Current and Projected

Population Served	2020	2025	2030	2035	2040	2045(opt)
	25,133	26,390	27,709	29,095	30,549	

NOTES: CA DOF population estimate for the year 2020 used. DOF straight-line percentage change for the City of Riverbank for the years 2010 to 2020 was 1.0%. Future projections are applied at this rate.

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable¹ Water - Actual

Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Single Family		Drinking Water	3,581
Multi-Family		Drinking Water	-
Commercial		Drinking Water	224
Industrial		Drinking Water	9
Institutional/Governmental		Drinking Water	117
Losses			493
TOTAL			4,425
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. ² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Residential end use is not categorized by Single Family or Multi-Family use, only residential use. All volumes are in AF.			

Submittal Table 4-2 Retail: Use for Potable and Non-Potable¹ Water - Projected

Use Type	Additional Description (as needed)	Projected Water Use ² Report To the Extent that Records are Available				
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		3,760	3,940	4,119	4,298	
Multi-Family		-	-	-	-	
Commercial		235	246	257	269	
Institutional/Governmental		9	10	10	11	
Industrial		123	129	135	141	
Losses		518	542	567	591	
TOTAL		4,646	4,867	5,088	5,309	0

¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

²

NOTES: Residential end use is not categorized by Single Family or Multi-Family use, only residential use. All volumes are in AF.

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	4,425	4,646	4,867	5,088	5,309	0
Recycled Water Demand ¹ <i>From Table 6-4</i>	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	4,425	4,646	4,867	5,088	5,309	0
¹ Recycled water demand fields will be blank until Table 6-4 is complete ² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier <i>may</i> deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.						
NOTES: All volumes are in AF.. The City of Riverbank does not have a recycled water project in development.						

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2020	492.97
01/2019	11.78
01/2018	182.41
01/2017	15.22
01/2016	190.59
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES: All volumes are in AF. A new meter system was implemented in the year 2020 explaining the significant	

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes
NOTES:	

**Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form**
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1996	2005	198	165
5 Year	2003	2007	147	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

**Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form**
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* (Adjusted if applicable)		
157	0	157	157	Yes

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type <i>Drop Down List</i> May use each category multiple times	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Modesto Ground Water Subbasin	3750	4067	4319	4266	4452
TOTAL		3,750	4,067	4,319	4,266	4,452
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: All volumes are in AF.						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system (optional)					
	Percentage of 2020 service area population covered by wastewater collection system (optional)					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? (optional) <i>Drop Down List</i>
Riverbank CS	Metered	1,568	City of Riverbank	Riverbank WWTP	Yes	No
Total Wastewater Collected from Service Area in 2020:		1,568				
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: All volumes are in AF.						

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☐ No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional) ²	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area? <i>Drop down list</i>	Treatment Level <i>Drop down list</i>	2020 volumes ¹				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Riverbank	Riverbank	Percolation	5C500106002	Percolation	No	Secondary,	1,568	1,568	0	0	0
Total							1,568	1,568	0	0	0

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

² If the Wastewater Discharge ID Number is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility>

NOTES: Units are in acre-feet (AF). Assumed volume entering the wastewater treatment plant is the volume discharged. The City treatment Plant is located north of Riverbank across the Stanislaus River and borders the north side of Jacob Myers Park.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☒ Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.											
Name of Supplier Producing (Treating) the Recycled Water:											
Name of Supplier Operating the Recycled Water Distribution System:											
Supplemental Water Added in 2020 (volume) <i>Include units</i>											
Source of 2020 Supplemental Water											
Beneficial Use Type <i>Insert additional rows if needed.</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units</i> ¹	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)	
Agricultural irrigation											
Landscape irrigation (exc golf courses)											
Golf course irrigation											
Commercial use											
Industrial use											
Geothermal and other energy production											
Seawater intrusion barrier											
Recreational impoundment											
Wetlands or wildlife habitat											
Groundwater recharge (IPR)											
Reservoir water augmentation (IPR)											
Direct potable reuse											
Other (Description Required)											
Total:					0	0	0	0	0	0	
2020 Internal Reuse											

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

☒	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE:		

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

☒	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
<i>Add additional rows as needed</i>			
Total			0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

☒	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Supplier Name</i>				
<i>Add additional rows as needed</i>						
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						

Submittal Table 6-8 Retail: Water Supplies — Actual

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
<i>Add additional rows as needed</i>				
Groundwater (not desalinated)		4,452	Drinking Water	
Total		4,452		0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.				
NOTES: All volumes are in AF.				

Submittal Table 6-9 Retail: Water Supplies — Projected

Water Supply		Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)		4,646		4,867		5,088		5,309		0	
Total		4,646	0	4,867	0	5,088	0	5,309	0	0	0

*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTES: Units are in acre-feet (AF).

Table O-1B: Recommended Energy Reporting - Total Utility Approach

Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/31/2020			
☐ Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		4452	0	4452
Energy Consumed (kWh)		1415700	0	1415700
Energy Intensity (kWh/vol. converted to MG)		975.9	0.0	975.9
Quantity of Self-Generated Renewable Energy 0 kWh				
Data Quality (<i>Estimate, Metered Data, Combination of Estimates and Metered Data</i>) <i>Combination of Estimates and Metered Data</i>				
Data Quality Narrative: From monthly billing data of Well #10, the combined volumetric average for the months of July and August of 2020 was used to project the rate energy required to produce a single Acre-Foot (AF) of water. This rate was then used to calculate the total energy consumed in well extration and diversion of water.				
Narrative: Wells typically deliver water to customer without treatment or entry into storage. Placement in storage is typically not utilized and mainly serves to regulate pressures within the distribution system.				

Table O-2: Recommended Energy Reporting - Wastewater & Recycled Water

Enter Start Date for Reporting Period 1/1/2020		Urban Water Supplier Operational Control			
End Date 12/31/2020					
		Water Management Process			
☐ Is upstream embedded in the values reported?		Collection / Conveyance	Treatment	Discharge / Distribution	Total
	Volume of Water Units Used	AF			
	Volume of Wastewater Entering Process (volume units selected above)	1568	1568	1568	4704
	Wastewater Energy Consumed (kWh)		405464		405464
	Wastewater Energy Intensity (kWh/volume)	0.0	793.6	0.0	264.5
	Volume of Recycled Water Entering Process (volume units selected above)				0
	Recycled Water Energy Consumed (kWh)				0
	Recycled Water Energy Intensity (kWh/volume converted to MG)	0.0	0.0	0.0	0.0

Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations

0 kWh

Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)

Combination of Estimates and Metered Data

Data Quality Narrative:

Billing data containing energy usage for the month of July was used to to extrapolate the energy used in the treatment and discharge process.

Narrative:

On average, the City of Riverbank collects, treats, and discharges 1.4 Mgal/day.

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)				
Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	Available Supplies if Year Type Repeats		
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☒	Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	% of Average Supply	
Average Year	2008		15944	100%
Single-Dry Year	1977		15944	100%
Consecutive Dry Years 1st Year	1929		15944	100%
Consecutive Dry Years 2nd Year	1930		15944	100%
Consecutive Dry Years 3rd Year	1931		15944	100%
Consecutive Dry Years 4th Year	1932		15944	100%
Consecutive Dry Years 5th Year	1933		15944	100%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: All volumes are in AF.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	4,646	4,867	5,088	5,309	0
Demand totals (autofill from Table 4-3)	4,646	4,867	5,088	5,309	0
Difference	0	0	0	0	0
NOTES: All volumes are in AF.					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	15,944	15,944	15,944	15,944	
Demand totals*	4,646	4,867	5,088	5,309	
Difference	11,298	11,077	10,856	10,635	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.					
NOTES: All volumes are in AF.					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	15,944	15,944	15,944	15,944	
	Demand totals	4,513	4,739	4,964	5,190	
	Difference	11,431	11,205	10,980	10,754	0
Second year	Supply totals	15,944	15,944	15,944	15,944	
	Demand totals	4,513	4,739	4,964	5,190	
	Difference	11,431	11,205	10,980	10,754	0
Third year	Supply totals	15,944	15,944	15,944	15,944	
	Demand totals	4,558	4,786	5,014	5,242	
	Difference	11,386	11,158	10,930	10,702	0
Fourth year	Supply totals	15,944	15,944	15,944	15,944	
	Demand totals	4,604	4,834	5,064	5,295	
	Difference	11,340	11,110	10,880	10,649	0
Fifth year	Supply totals	15,944	15,944	15,944	15,944	
	Demand totals	4,650	4,883	5,115	5,348	
	Difference	11,294	11,062	10,829	10,597	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: All volumes are in AF. As a conservative estimate, demand during a 5 year drought was assumed to be equal to values projected without water conservation measures in place.

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	4,513
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,431
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	312
Revised Surplus/(shortfall)	11,743
Resulting % Use Reduction from WSCP action	7%
2022	Total
Total Water Use	4,513
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,431
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	11,431
Resulting % Use Reduction from WSCP action	0%
2023	Total
Total Water Use	4,558
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,386
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	11,386
Resulting % Use Reduction from WSCP action	0%
2024	Total
Total Water Use	4,604
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,340
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	48
Revised Surplus/(shortfall)	11,388
Resulting % Use Reduction from WSCP action	1%
2025	Total
Total Water Use	4,650
Total Supplies	15,944
Surplus/Shortfall w/o WSCP Action	11,294
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	648
Revised Surplus/(shortfall)	11,942
Resulting % Use Reduction from WSCP action	14%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	• Customer repair of leaks, break, and malfunctions in a timely manner • Require automatic hose shut off valves
2	Up to 20%	• Prohibit use of potable water for washing hard surfaces (sidewalks or street cleaning) • Institution of leak and repair program
3	Up to 30%	• Prohibit vehicle washing except at facilities using recycled or recirculating water
4	Up to 40%	• Prohibit use of potable water for washing hard surfaces • Other landscape restrictions or prohibitions
5	Up to 50%	• Water use for public health and safety purposes only
6	>50%	• Water use for public health and safety purposes only. Customer rationing may be implemented.

NOTES:

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
<i>Add additional rows as needed</i>				
1	Improve Customer Billing	5%	AWE (2015)	No
1	Expand Public Information Campaign	2%	AWE (2015)	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Unknown		No
3	Increase Water Waste Patrols	Unknown		No
3	Landscape - Restrict or prohibit runoff from landscape irrigation	Unknown		Yes
4	Other	1%	Assume no growth in water use	Yes
5	Landscape - Prohibit all landscape irrigation	14%	Landscape types include: - Turf water - Median watering - Further reduction of irrigation to parks AWE (2015)	Yes
6	Other	Unknown	Water use limited to public water use to health and safety purposes	Yes

NOTES: Demand reduction action and water restrictions as seen in § 52.34 of city code. Demand reduction estimations were taken from the compiled best available estimates of water savings in the Alliance for Water Efficiency Outdoor Water Savings Research Initiative (AWE 2015). Estimated reductions were then applied to residential end uses of water within the City of Riverbank. A drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which

Submittal Table 8-3: Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
6	Stored Emergency Supply	6 AF	City of Riverbank has two water storage tanks totaling 2 million gallons of system storage
6	Other Actions (describe)	Unknown	Procurement of bottled water
6	Other Actions (describe)	Unknown	Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.
6-Apr	Other Purchases	Unknown	The City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.
NOTES: No Supply augmentation via groundwater extractions is planned at this time but the city will continue to evaluate needed supply expansion			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
City of Riverbank	Yes	yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
San Joaquin County	Yes	Yes
Stanislaus County	Yes	Yes
NOTES:		

Appendix C

DWR 2020 UWMP Checklist

	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Retail					
x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Section 1
x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1
x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	N/A
x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.2
x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.2
x	Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	N/A
x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.2
x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4.1
x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4.2
x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.4.1
x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.3
x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Section 4.4
x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.3
x	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.3
x	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5
x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.5.1
x	Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Section 5
x	Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5
x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
x	Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A
x	Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.5
x	Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.5 and Appendix F
x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 6.4 and 7.2
x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change.</i>	System Supplies	Section 6.9
x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	N/A
x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.6 and 6.7
x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.4
x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.4
x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.6
x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.6
x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.6
x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.6
x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.6
x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.6
x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.2
x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.7
x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.8
x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.8
x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.5
x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Supplies, Energy Intensity	Section 6.10
x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.2 and 7.3
x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.2 and 7.3

	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Retail					
x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.2 and 7.3
x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.5
x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.5
x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.5
x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.5
x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.4
x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Section 8
x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP.	Water Shortage Contingency Planning	Section 8.1 and Appendix I
x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.10 and Appendix I and Appendix I
x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 8.2 and Appendix I
x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 8.2 and Appendix I
x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.3 and Appendix I
x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Section 8.3 and Appendix I
x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.4 and Appendix I
x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4 and Appendix I
x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4 and Appendix I
x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.4 and Appendix I
x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 8.4 and Appendix I
x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.4.6 and Appendix I
x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 8.5 and Appendix I
x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Section 8.5 and 8.6 and Appendix I
x	Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Section 8.6 and Appendix I
x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7 and Appendix I
x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7 and Appendix I
x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.7 and Appendix I
x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8 and Appendix I
x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8 and Appendix I
x	Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought.	Water Shortage Contingency Planning	Section 8.8 and Appendix I
x	Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9 and Appendix I
x	Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 8.11 and Appendix I
x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Sections 8.12 and 10.4 and Appendix I
x	Section 8.12	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 8.12 and Appendix I
	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Section 9.1
x	Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Section 9.1
x	Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Chapter 10
x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2.1
x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5
x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2.2
x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.2
x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2
x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	Section 10.6
x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.7.2

Appendix D

Agency and Public Notices



City of Riverbank
Public Works Department
2901 High Street
Riverbank, CA 95367
(209) 869-7128 Ph.

NOTICE

July 30, 2021

Mr. Kris Balaji P.E., P.M.P.
Director of Public Works
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

SUBJECT: 2020 Urban Water Management Plan Update

The City of Riverbank (City) is currently in the process of updating its Urban Water Management Plan (UWMP) to 2020, as required by the California Water Code section 10610 et seq. The UWMP will evaluate the City's current water supply and uses and present a long-term plan to ensure supply reliability and quality. **NOTICE IS HEREBY GIVEN** that the City has planned to conduct a public hearing to review the draft UWMP. The hearing will be part of a regularly scheduled City Council meeting on **October 12, 2021 at 6:00 P.M.** in Riverbank City Hall, 6707 3rd Street, Suite B, Riverbank, CA 95367.

Following the public review, the City plans to conduct another public hearing to adopt the final 2020 UWMP document at the following City Council meeting on **October 26, 2021 at 6:00 P.M.**

We anticipate a draft of the 2020 UWMP to be available for public review beginning approximately September 28, 2021, on the City website, www.riverbank.org. A hard copy of the document will also be available for review at City Hall. Written comments on the draft 2020 UWMP may be submitted before or during the October 12 draft review hearing to the City Clerk's Office: 6707 3rd Street, Suite A, Riverbank, CA 95367.

If you have any questions or comments during the update process, please contact Michael Riddell at (209) 869-7128 or mriddell@riverbank.org.

Sincerely,

Michael Riddell
Director of Public Works



City of Riverbank
Public Works Department
2901 High Street
(209) 869-7128 Ph.

NOTICE

July 30, 2021

Mr. David Leamon P.E.
Director of Public Works
Stanislaus County
1716 Morgan Road
Modesto, CA 95358

SUBJECT: 2020 Urban Water Management Plan Update

The City of Riverbank (City) is currently in the process of updating its Urban Water Management Plan (UWMP) to 2020, as required by the California Water Code section 10610 et seq. The UWMP will evaluate the City's current water supply and uses and present a long-term plan to ensure supply reliability and quality. **NOTICE IS HEREBY GIVEN** that the City has planned to conduct a public hearing to review the draft UWMP. The hearing will be part of a regularly scheduled City Council meeting on **October 12, 2021 at 6:00 P.M.** in Riverbank City Hall, 6707 3rd Street, Suite B, Riverbank, CA 95367.

Following the public review, the City plans to conduct another public hearing to adopt the final 2020 UWMP document at the following City Council meeting on **October 26, 2021 at 6:00 P.M.**

We anticipate a draft of the 2020 UWMP to be available for public review beginning approximately September 28, 2021, on the City website, www.riverbank.org. A hard copy of the document will also be available for review at City Hall. Written comments on the draft 2020 UWMP may be submitted before or during the October 12 draft review hearing to the City Clerk's Office: 6707 3rd Street, Suite A, Riverbank, CA 95367.

If you have any questions or comments during the update process, please contact Michael Riddell at (209) 869-7128 or mriddell@riverbank.org.

Sincerely,

Michael Riddell
Director of Public Works

NOTICE OF PUBLIC HEARINGS
CITY OF RIVERBANK CITY COUNCIL
REVIEW OF THE DRAFT 2020 URBAN
WATER MANAGEMENT PLAN
AND DRAFT 2020 WATER SHORTAGE
CONTINGENCY PLAN

The City of Riverbank (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to 2020, as required by the California Water Code Section 10610 et seq. The UWMP will evaluate the City's current water supply and uses and present a long-term plan to ensure supply reliability and quality. The WSCP will detail how the City intends to act when there is an actual water shortage condition.

NOTICE IS HEREBY GIVEN that pursuant to the Governor's Executive Order N-15-21 and the amendment of the Brown Act by AB 361 in regards to public meeting requirements, the "reopening" orders, and the recent California Department of Public Health COVID orders (all of which are subject to change before the meeting date) the City Council of the City of Riverbank will conduct a hybrid Council meeting, and hold a public hearing on Tuesday, October 12, 2021 at 6:00 p.m. or soon thereafter as practical via the Zoom virtual platform and in-person attendance in the City Council Chambers at 6707 Third Street, Suite B, Riverbank, CA, to consider the following matter:
DRAFT 2020 URBAN WATER
MANAGEMENT PLAN

AND
DRAFT 2020 WATER SHORTAGE
CONTINGENCY PLAN

REPORT AVAILABILITY: Drafts of the 2020 UWMP and WSCP are anticipated to be available for public review beginning approximately September 28, 2021, on the City's website, www.riverbank.org and a hard copy of the documents will be available for review at the City Clerk's office, 6707 Third St., Suite A, Riverbank, during normal business hours. Public materials pertaining to the presentation of the subject matter to the City Council as part the agenda packet may be viewed at <http://www.riverbank.org/AgendaCenter> upon distribution to a majority of the City Council, (72 hours prior to the meeting).

COMMUNITY INPUT. The public is encouraged to participate in the review process of this public hearing to express their views and provide comments on the proposed plans for consideration by the City Council. The following submission of comments are accepted for the record.

Written Comments Prior to the Meeting. Written comments received via email to cityclerk@riverbank.org or by Mail Delivery Service to the City of Riverbank, Attn: City Clerk, 6707 Third St., Riverbank, 95367 no later than 4:00 p.m. on the day of the meeting will be distributed to the City Council for consideration and will be made part of the official record, but will not be read aloud during the meeting.

Oral Comments Via ZOOM or In-Person During the Meeting. Oral comments may be made at the time the Mayor officially opens the hearing for public

comment and in the order as called upon by the Mayor. Via Zoom: The public participation and comment procedures are provided on the last page of the agenda that is posted (72) hours prior to the meeting at <http://www.riverbank.org/AgendaCenter>. Via In-Person: Public attendees in the Council Chambers may approach the podium upon the Mayor's request to do so.

NOTICE OF A SECOND PUBLIC HEARING: Following the public review, the City plans to conduct another public hearing to consider a Resolution to adopt the final 2020 UWMP and a separate Resolution to adopt the final WSCP document at the City Council meeting on October 26, 2021 at 6:00 p.m., or soon thereafter as practical.

INTERPRETATION FOR NON-ENGLISH PERSONS: The City of Riverbank may have a substantial number of Spanish speaking persons that will need interpretation assistance during this public hearing; therefore, the City will provide assistance during this hearing as needed.

ADA COMPLIANCE: In accordance with ADA, every effort will be made to accommodate any person requiring special assistance to participate in the meeting. Contact the City Clerk at (209) 863-7198 or cityclerk@riverbank.org at least (48) hours prior to the meeting.

Questions regarding the proposed subject matter may be made to Public Works Director Michael Riddell at (209) 869-7128; mriddell@riverbank.org or email the City Clerk or call (209) 863-7198. Questions in regards to meeting procedures may be emailed to the City Clerk or by calling the Administration Dept. at (209) 863-7122 prior to 5:00 p.m. on the day of the meeting.

Published on this 29th day of September, and 6th day of October, 2021

/s/ Annabelle H. Aguilar, CMC, City Clerk,
City of Riverbank

Sept. 29 and Oct. 6 2021

RN #21-069

Appendix E

SB X7-7 Verification Form

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	5,044	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range ³	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ⁴	2007	

¹If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.

² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³The ending year must be between December 31, 2004 and December 31, 2010.

⁴The ending year must be between December 31, 2007 and December 31, 2010.

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
☒	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	2. Persons-per-Connection Method
☐	3. DWR Population Tool
☐	4. Other DWR recommends pre-review

SB X7-7 Table 3: Service Area Population

Year		Population
10 to 15 Year Baseline Population		
Year 1	1996	14,033
Year 2	1997	14,635
Year 3	1998	15,143
Year 4	1999	15,470
Year 5	2000	15,726
Year 6	2001	16,193
Year 7	2002	17,107
Year 8	2003	17,388
Year 9	2004	18,386
Year 10	2005	20,077
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	17,388
Year 2	2004	18,386
Year 3	2005	20,077
Year 4	2006	21,271
Year 5	2007	21,575
2015 Compliance Year Population		
2015		23,572

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>		Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	3,582			-		-	3,582
Year 2	1997	3,485			-		-	3,485
Year 3	1998	2,976			-		-	2,976
Year 4	1999	3,291			-		-	3,291
Year 5	2000	3,299			-		-	3,299
Year 6	2001	3,383			-		-	3,383
Year 7	2002	3,778			-		-	3,778
Year 8	2003	3,842			-		-	3,842
Year 9	2004	4,168			-		-	4,168
Year 10	2005	4,664			-		-	4,664
<i>Year 11</i>	0	-			-		-	-
<i>Year 12</i>	0	-			-		-	-
<i>Year 13</i>	0	-			-		-	-
<i>Year 14</i>	0	-			-		-	-
<i>Year 15</i>	0	-			-		-	-
10 - 15 year baseline average gross water use								3,647
5 Year Baseline - Gross Water Use								
Year 1	2003	3,842			-		-	3,842
Year 2	2004	4,168			-		-	4,168
Year 3	2005	4,664			-		-	4,664
Year 4	2006	6,350			-		-	6,350
Year 5	2007	5,187			-		-	5,187
5 year baseline average gross water use								4,842
2015 Compliance Year - Gross Water Use								
2015		3,878	-		-		-	3,878

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		Groundwater		
This water source is:				
	The supplier's own water source			
	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment <i>* Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	3,582		3,582
Year 2	1997	3,485		3,485
Year 3	1998	2,976		2,976
Year 4	1999	3,291		3,291
Year 5	2000	3,299		3,299
Year 6	2001	3,383		3,383
Year 7	2002	3,778		3,778
Year 8	2003	3,842		3,842
Year 9	2004	4,168		4,168
Year 10	2005	4,664		4,664
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	3,842		3,842
Year 2	2004	4,168		4,168
Year 3	2005	4,664		4,664
Year 4	2006	6,350		6,350
Year 5	2007	5,187		5,187
2015 Compliance Year - Water into Distribution System				
2015		3,878		3,878

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	14,033	3,582	228
Year 2	1997	14,635	3,485	213
Year 3	1998	15,143	2,976	175
Year 4	1999	15,470	3,291	190
Year 5	2000	15,726	3,299	187
Year 6	2001	16,193	3,383	187
Year 7	2002	17,107	3,778	197
Year 8	2003	17,388	3,842	197
Year 9	2004	18,386	4,168	202
Year 10	2005	20,077	4,664	207
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				198
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2003	17,388	3,842	197
Year 2	2004	18,386	4,168	202
Year 3	2005	20,077	4,664	207
Year 4	2006	21,271	6,350	267
Year 5	2007	21,575	5,187	215
5 Year Average Baseline GPCD				218
2015 Compliance Year GPCD				
2015		23,572	3,878	147

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	198
5 Year Baseline GPCD	218
2015 Compliance Year GPCD	147

SB X7-7 Table 7: 2020 Target Method <i>Select Only One</i>		
Target Method		Supporting Documentation
	Method 1	SB X7-7 Table 7A
	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
	Method 3	SB X7-7 Table 7-E
	Method 4	Method 4 Calculator

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
		North Coast	137	130
		North Lahontan	173	164
		Sacramento River	176	167
		San Francisco Bay	131	124
	100%	San Joaquin River	174	165
		Central Coast	123	117
		Tulare Lake	188	179
		South Lahontan	170	162
		South Coast	149	142
		Colorado River	211	200
Target <i>(If more than one region is selected, this value is calculated.)</i>				165

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
218	207	165	165

¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
165	198	182

SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
147	182	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	147	147	YES

Appendix F

SB X7-7 Compliance Form

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP**(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate

Method Used to Determine 2020 Population
(may check more than one)



**1. Department of Finance (DOF) or
American Community Survey (ACS)**



2. Persons-per-Connection Method



3. DWR Population Tool



4. Other
DWR recommends pre-review

NOTES:

SB X7-7 Table 3: 2020 Service Area Population**2020 Compliance Year Population**

2020

25,133

NOTES: Population is from the Department of
Finance

SB X7-7 Table 4: 2020 Gross Water Use

Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
	4,425	-	-	-	-	-	4,425

* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source		Groundwater		
This water source is (check one):				
☒	The supplier's own water source			
☐	A purchased or imported source			
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
	4,425		4,425	

¹ Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

2020 Gross Water <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm SB X7-7 Table 3</i>	2020 GPCD
4,425	25,133	157

NOTES:

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD ^{1, 2}	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹	Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>		
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
157	-	-	-	-	157	165	YES

¹ All values are reported in GPCD

² 2020 Confirmed Target GPCD is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:

Appendix G

City of Riverbank Well Data

City of Riverbank Well Construction Data

Well No.	8th St (Well No. 2)		Jackson (Well No. 3)		Pioneer (Well No. 4)		River Hghts (Well No. 5)		Whorton (Well No. 6)		Crossroads (Well No. 7)		Novi (Well No. 8)		Prospectors (Well No. 9)		Oakdale Rd (Well No. 10)		Chief Tucker Ave (Well No. 12)	
Date Constructed	1956		1965		1972		1978		1981		1990		2001		2004		2007		2010	
Boring Depth	375		420		436		503		608		537		265		600		845		560	
Completed Depth	240		420		436		385		560		NA		260		392		830		602	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
Well Seal	0	25	NA		0	92	0	50	0	65	0	216	0	200	0	148	0	145	0	180
Gravel pack		None		None	0	92	0	220	0	560		None	200	265	148	392	145	360	180	350
					92	436											520	845		
Open hole		135		0		None		165		None		None		None		None		None		None
Approx. Sand and Gravel thickness in open hole		NA		0		0		15		0		0		0		0				0
Well Screen		NA		NA	132	160	130	220	225	315	209	341	210	250	152	174	164	184	239	259
					175	250		225	315	345					293	307	210	230	299	319
					275	431			345	495					382	392	255	265	339	389
									495	555							300	330	409	419
																	595	605	489	499
																	740	760	529	549
																	810	820		
Total screen length		NA		NA		259		315		270		132		40		46		120		130
Approx. gravel and sand thickness @ screened		NA		NA		201		31		76		66		40		56				315
Well Capacity (GPM)		660		625		900		900		1000		1200		1200		1300		1500		1500
Depth to bowls		unk		unk		145		unk		unk		150		178		130				130
Well Specific Capacity Average(GPM/ft drawdown)		86		81		44	N/A	N/A		88		110		57		76		64		115

City of Riverbank Well Construction Data (cont.)

Well No.	8th St (Well No. 2)		Jackson (Well No. 3)		Pioneer (Well No. 4)		River Hghts (Well No. 5)		Whorton (Well No. 6)		Crossroads (Well No. 7)		Novi (Well No. 8)		Prospector (Well No. 9)		Oakdale Rd (Well No. 10)		Chief Tucker Ave (Well No. 12)	
Historic Max Static DTW (Date/DTW)	2015	96	2015	82	2015	85	2014/ 2015	84	2015	88	2015	80	2015	81	2015	110	2015	78	2015	102
Historic Min Static DTW (Date/DTW)	1968	52	1999	45.5	1998	60	1999	60	1981/ 2005	57	1999	56	2006	66	2010	56	2010	60	2014/ 2016	84
Estimated Drawdown (feet) at Max Production = (Capacity / Minimum Specific Capacity)		8		8		21		10		11		11		21		17		24		13
Estimated Pumping Level (feet bgs) at Max Production and Max Static DTW		104		90		106		94		99		91		102		127		102		115
Height of Max pumping level above pump bowls or the top of well screen (for wells without reported pump depth).		-60		35		57		40		149		68		62		41				10

Source: Dunn Environmental, 2007 and 2009; and Nolte Associates, Inc., 2008. N/A = Not available. Unk = unknown.

City of Riverbank Historical Groundwater Pumping by Month (ac-ft/month)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals, ac-ft/yr
1980	60	61	68	91	119	146	165	158	136	118	78	55	1,254
1984	67	66	88	131	178	215	222	219	193	99	66	67	1,611
1985	68	71	77	120	181	215	218	199	150	110	61	58	1,528
1986	64	61	71	107	178	230	242	212	160	86	86	71	1,568
1988	60	78	141	100	159	210	201	219	183	152	83	64	1,650
1989	70	70	96	130	198	219	215	220	98	120	95	70	1,601
1991	132	104	92	160	218	242	298	264	258	218	138	138	2,262
1992	126	126	126	196	282	285	298	328	295	255	169	117	2,602
1993	114	135	160	187	255	261	322	316	307	224	172	138	2,590
1995	124	133	153	161	247	350	375	382	334	287	194	149	2,889
1996	166	197	230	232	319	385	434	507	502	290	184	137	3,582
1997	122	129	241	299	378	393	442	415	380	318	210	158	3,485
1998	156	146	192	217	250	350	443	385	300	212	126	199	2,976
1999	156	146	170	234	353	432	488	460	377	344	249	208	3,618
2002	179	162	190	320	386	443	546	449	392	325	195	191	3,777
2003	164	157	227	236	357	463	572	437	468	372	188	201	3,842
2004	182	172	269	335	494	504	551	506	396	324	232	199	4,166
2005	206	177	214	289	461	510	643	718	483	419	312	232	4,664
2006	228	223	231	220	528	626	716	663	516	395	302	240	4,890
2007	240	215	311	438	536	618	720	640	479	382	349	270	5,187
2008	217	230	331	460	491	589	635	611	525	429	308	209	5,044

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals, ac-ft/yr
2009	198	201	264	303	541	560	681	529	537	370	344	212	4,740
2010	229	191	298	312	385	362	481	556	563	549	258	167	4,351
2011	234	226	244	324	525	484	523	611	466	30	285	268	4,220
2012	241	254	257	291	453	425	650	561	419	381	191	207	4,220
2013	113	211	314	398	381	517	542	371	490	376	231	150	4,094
2014	184	153	218	116	448	531	449	524	468	468	266	209	4,035
2015	204	192	284	259	366	442	480	473	382	353	238	206	3,878
2016	154	189	199	253	337	395	498	453	413	363	266	229	3,750
2017	220	170	202	188	389	466	584	422	493	403	274	240	4,052
2018	221	201	238	273	459	472	529	530	484	396	296	220	4,320
2019	176	197	222	305	404	497	534	561	465	376	323	207	4,266
2020	193	240	252	308	468	507	554	533	422	435	293	247	4,452

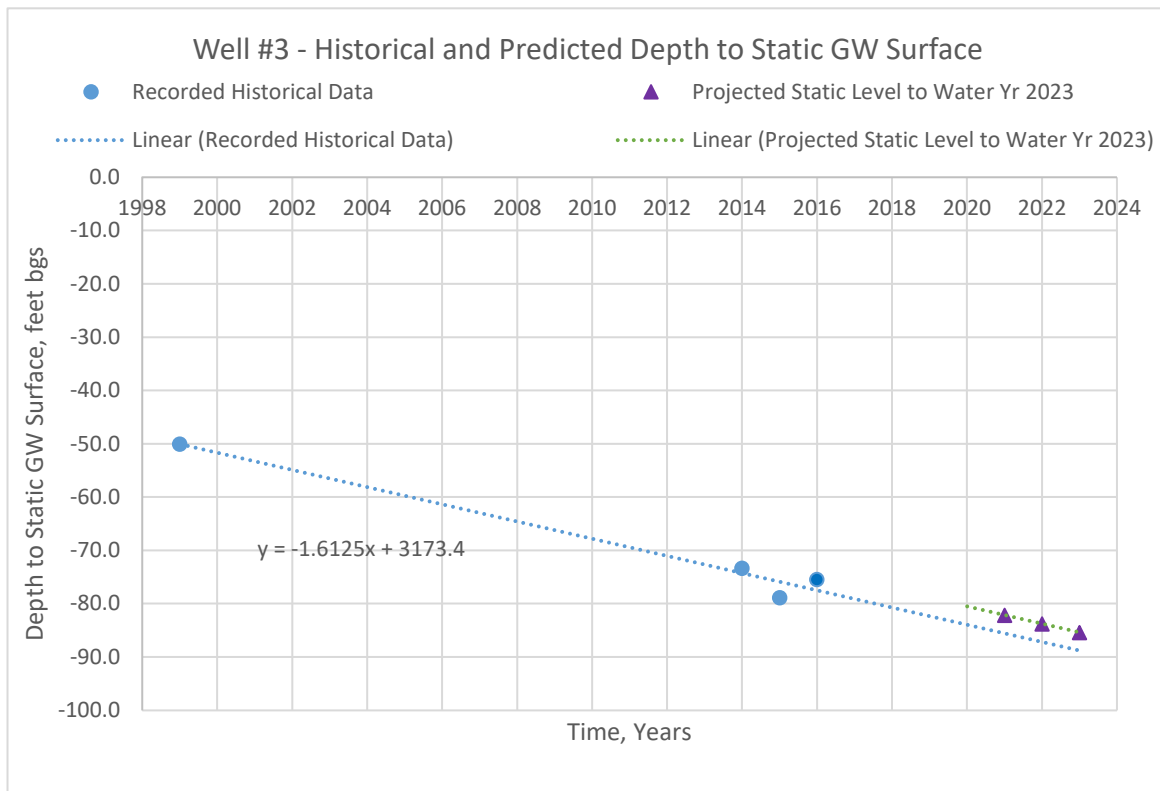
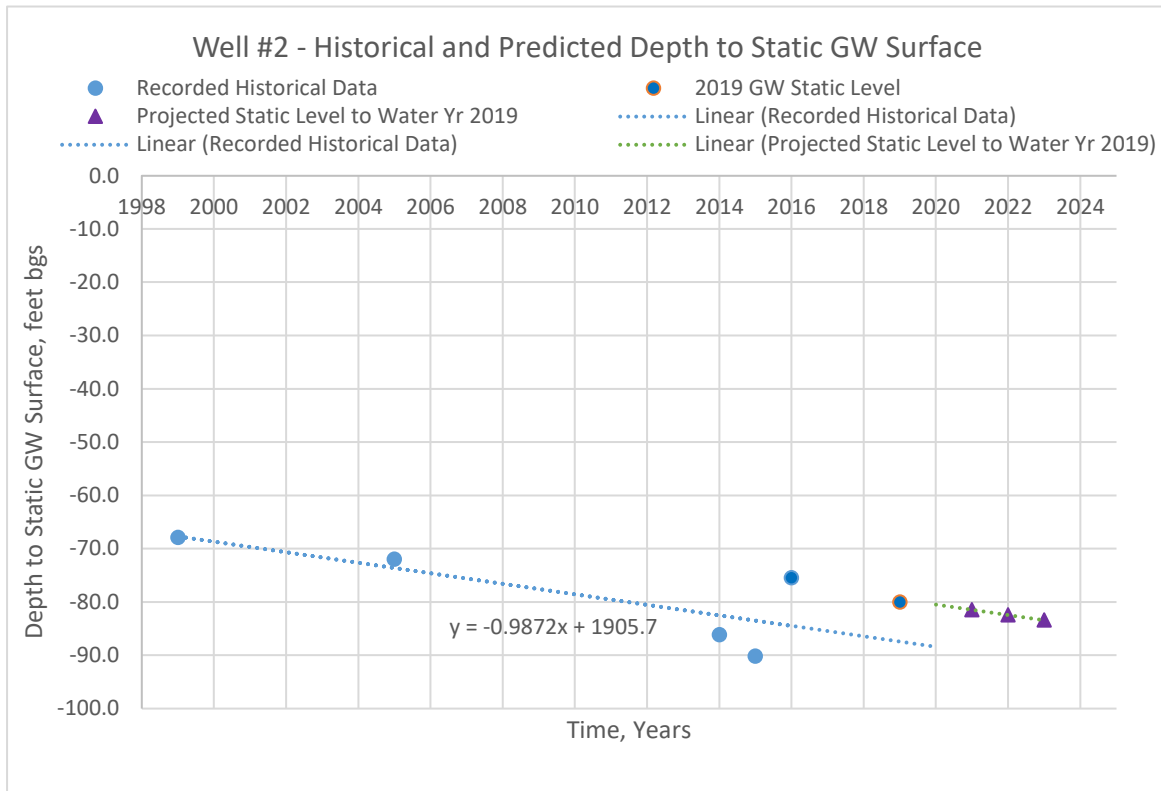
City of Riverbank Historical Production Data by Well (ac-ft/year)

Years	8th Street (Well 2)	Jackson (Well 3)	Pioneer (Well 4)	River Heights (Well 5)	Whorton (Well 6)	Crossroad s (Well 7)	Novi (Well 8)	Prospect or (Well 9)	Heartla nd (Well 10)	Chief Tucker (Well 12)	Totals, AFY	Ave. GPM
2002	444	50	508	171	1,393	305	906	-			3,777	2,341
2003	230	258	527	532	1,178	357	760	-			3,842	2,382
2004	438	161	1,184	103	1,169	366	744	-			4,166	2,583
2005	430	104	824	394	735	140	826	1,120			4,664	2,892
2006	505	97	895	352	321	184	622	1,914			4,890	3,032
2007	302	156	972	499	887	372	855	1,155			5,187	3,222
2008	498	110	718	626	959	409	337	832	533		5,044	3,127
2009	284	130	678	437	816	886	174	684	689		4,740	2,938
2010	157	233	302	338	479	247	926	117	1000	554	4,351	2,697
2011	271	46	831	128	262	763	924	182	449	1008	4,864	3,016
2012	433	310	32	85	358	170	35	506	717	157	2,803	1,738
2013	226	196	442	616	495	238	83	374	368	1054	4,092	2,537
2014	448	1,322	382	132	287	74	580	298	348	164	4,035	2,502
2015	237	1,296	240	191	270	328	211	213	729	163	3,878	2,404
2016	407	179	498	539	309	62	310	49	104	1,294	3,750	2,325
2017	295	37	453	316	158	76	636	373	161	1,549	4,052	2,512
2018	99	3	206	423	128	113	530	831	226	1,761	4,320	2,678
2019	23	321	74		505	117	500	934	432	1,361	4,266	2,645
2020	290	153	304		216	62	1,024	772	447	1,182	4,452	2,760

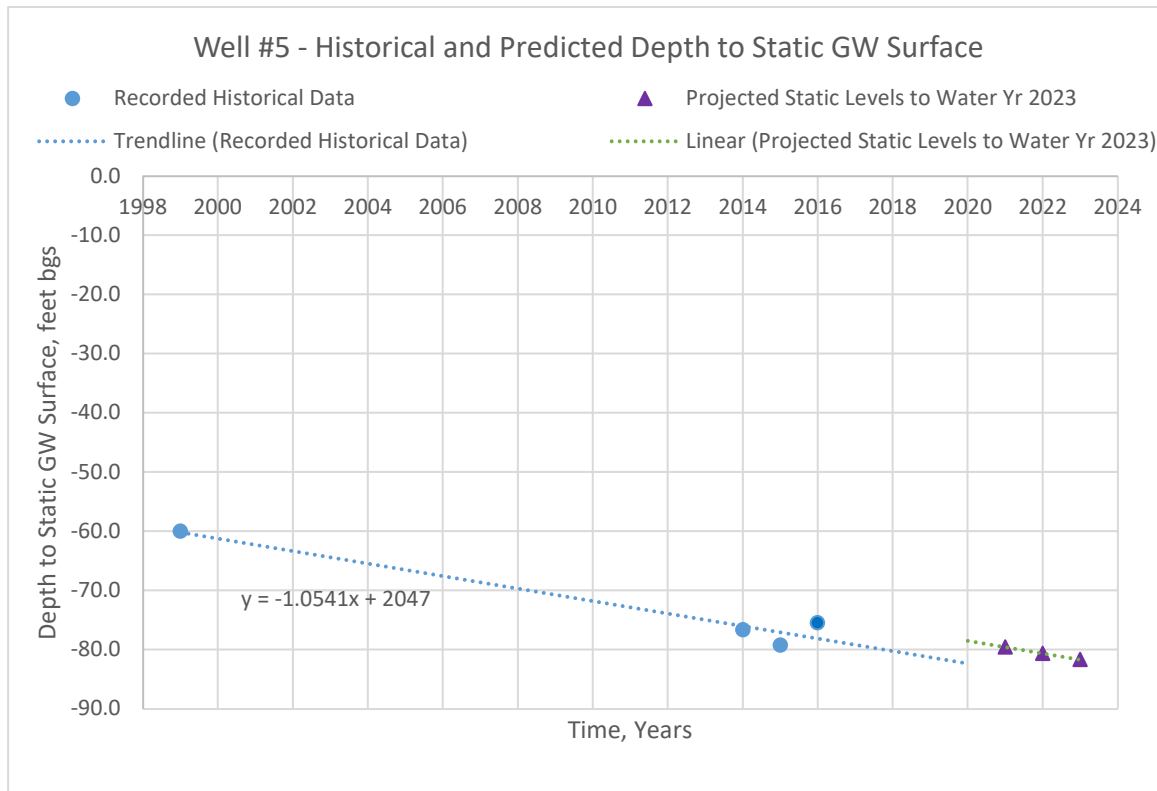
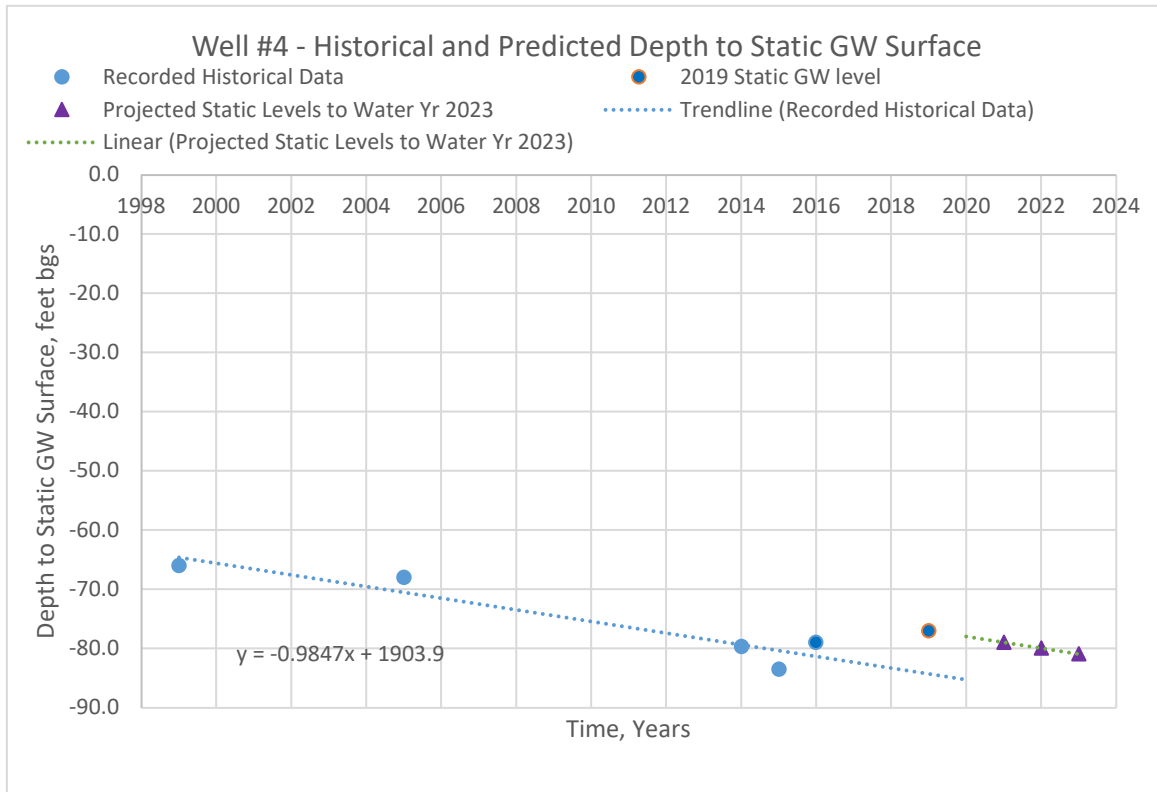
Appendix H

Historical and Projected Depths to Static Groundwater Surface

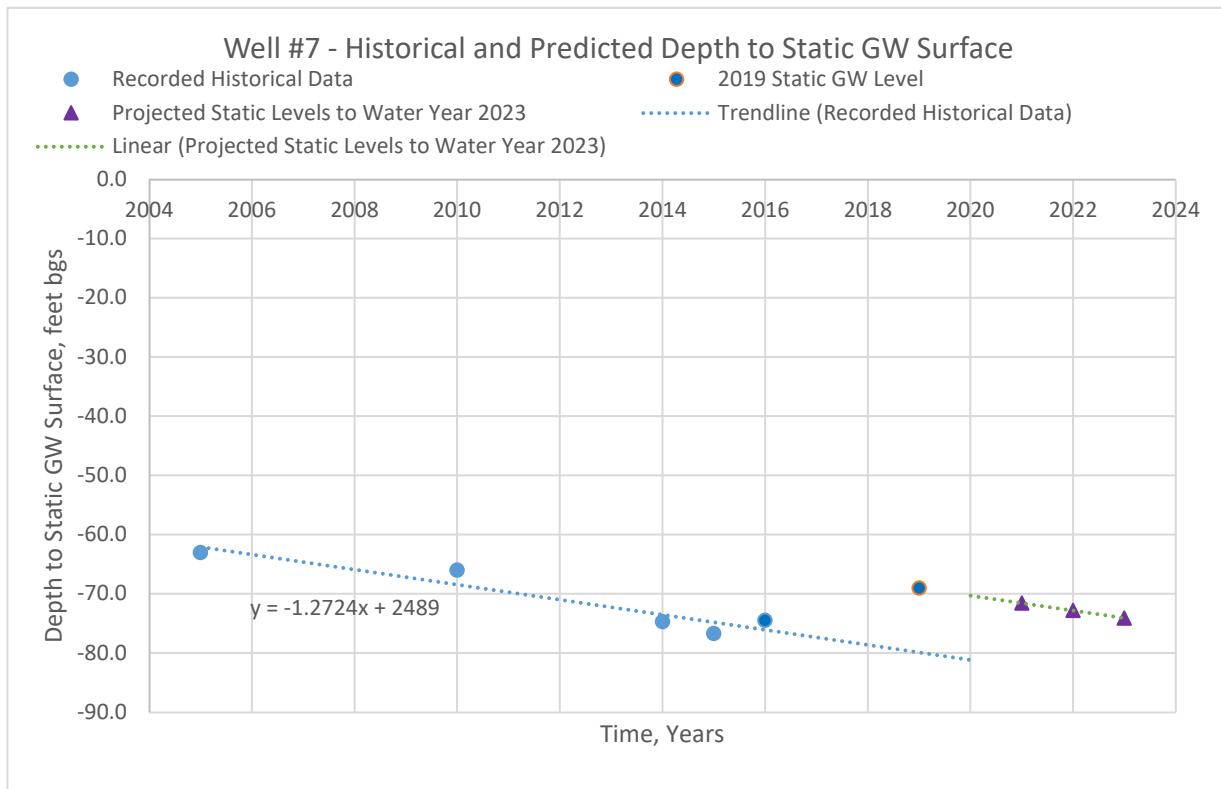
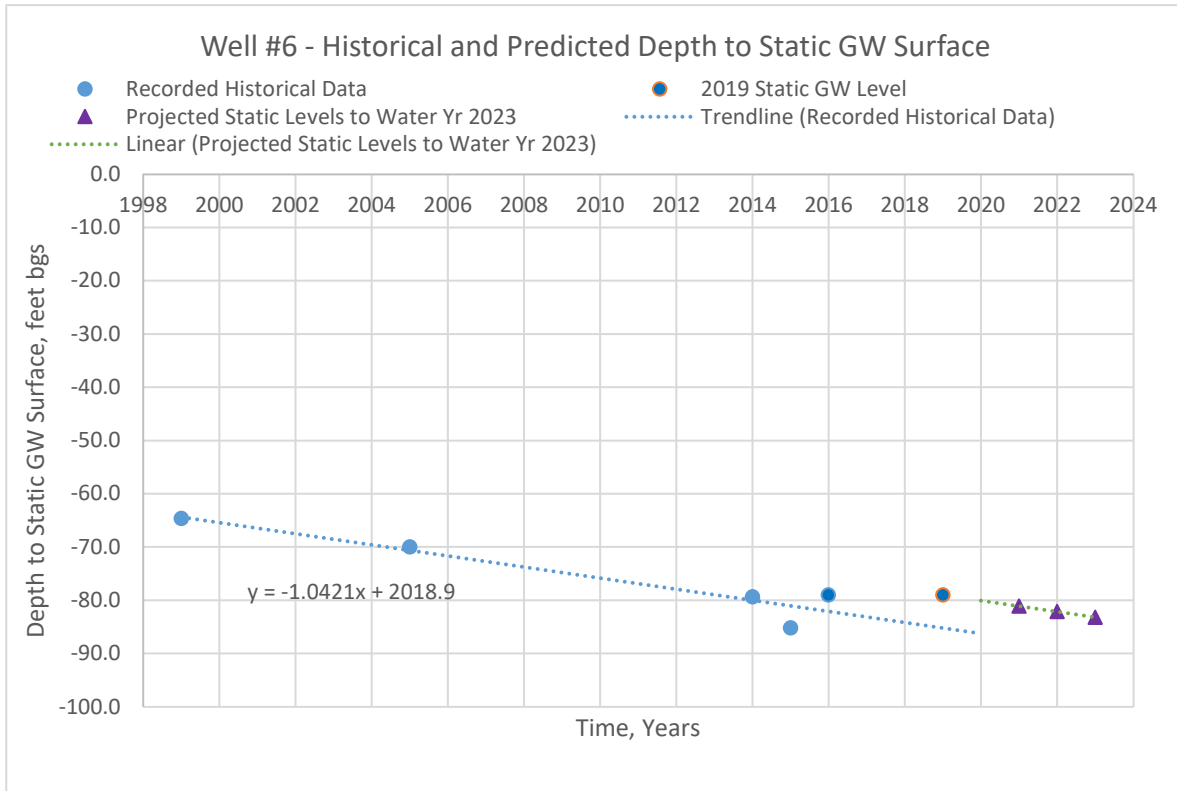
Historical and Projected Depths to Static GW Surface Figures



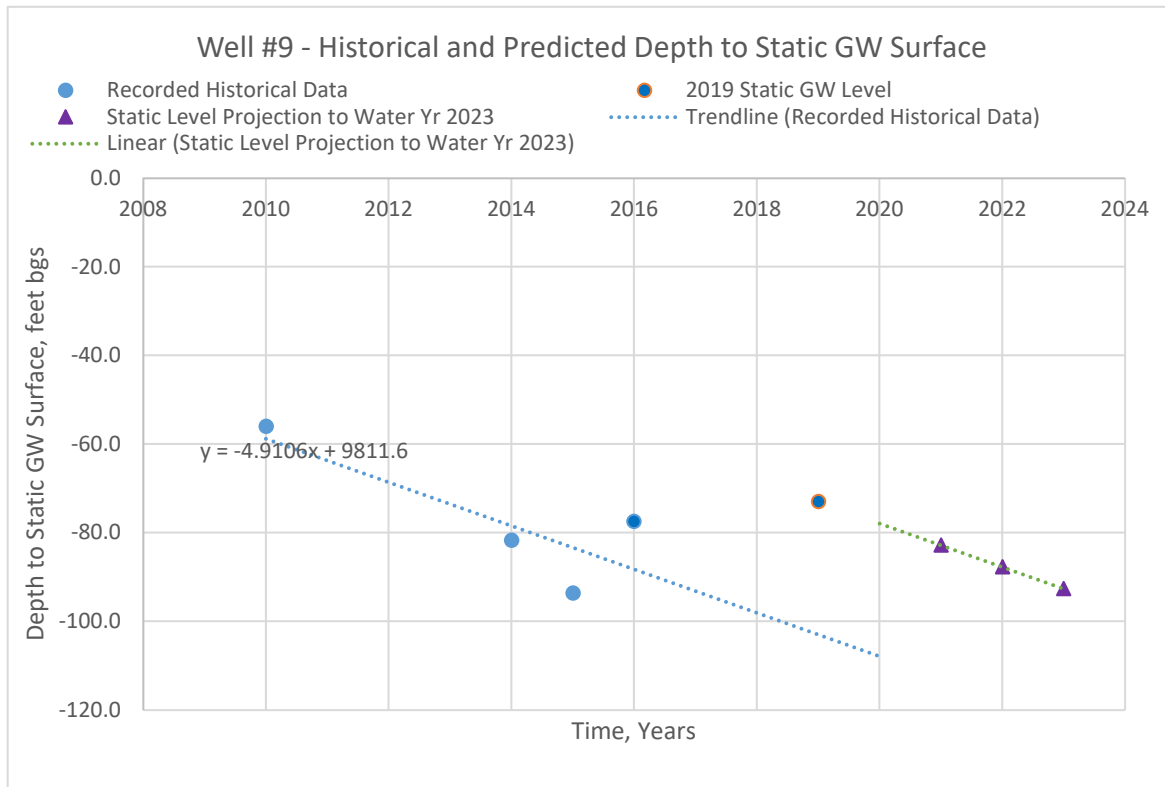
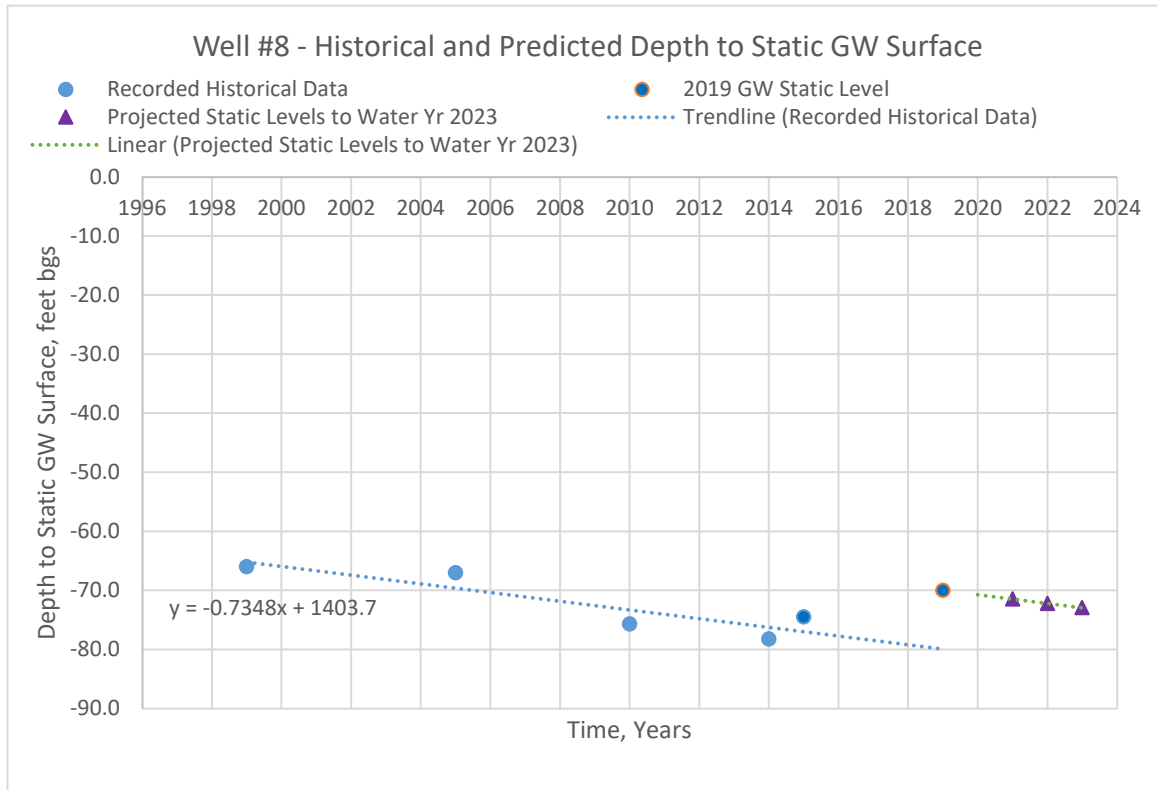
Historical and Projected Depths to Static GW Surface Figures



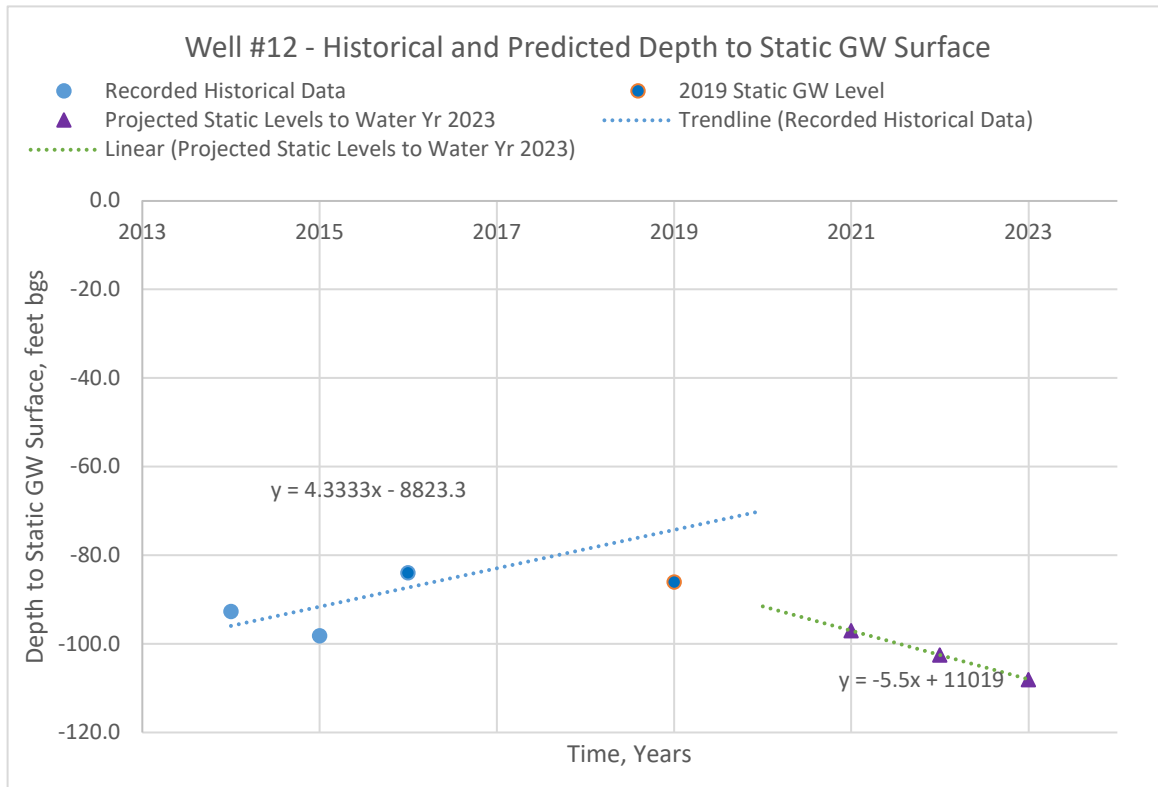
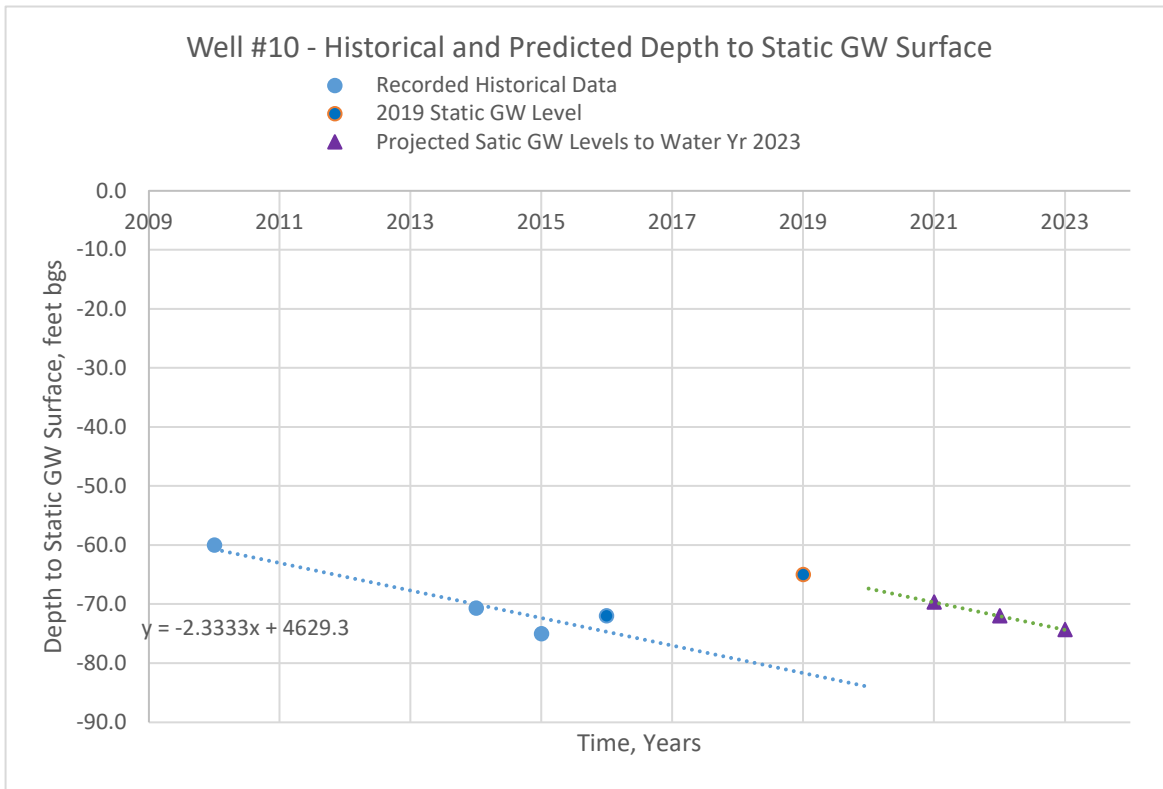
Historical and Projected Depths to Static GW Surface Figures



Historical and Projected Depths to Static GW Surface Figures



Historical and Projected Depths to Static GW Surface Figures



Appendix I

Water Shortage Contingency Plan



Water Shortage Contingency Plan



October 2021



Prepared for:
The City of Riverbank

Prepared by:
Kjeldsen, Sinnock & Neudeck, Inc.



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Water Shortage Contingency Plan

This section describes the City's water shortage contingency planning and structured steps to respond to a water shortage. A water shortage is triggered when the supply of available water is unable to meet the normally expected customer water use at any given point in time.

In accordance with the City of Riverbank's emergency response procedures, the City has developed a comprehensive Water Shortage Contingency Plan (WSCP) as contained in the 2020 Urban Water Management Plan (UWMP). The WSCP is consistent with the provisions of the City's emergency response procedures to implement during an interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. A sample resolution to declare a water shortage emergency is included in Appendix I of the 2020 UWMP.

The WSCP address the several types of water supply shortages that could potentially impact the City and its customers. The potential impacts experienced may result from:

- Long-term supply shortages due to years of consecutive dry-year conditions, contamination, etc.
- Short-term supply shortages that are the result of natural or man-made disasters, such as earthquakes, flood, fire, or other emergencies, that would place restrictions on production capacities.

The City's WSCP has been updated so that it is consistent with 2018 California State Legislature enacted Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman)). The 2018 water conservation legislation, set new requirements for WSCPs while establishing a new foundation for drought planning due to projected impacts of climate change. The City considers the WSCP as a dynamic tool that is adaptable to ensure that its shortage response actions are effective and will produce the desired results. As such, the WSCP refinement procedures and adoption requirements are provided in this plan to allow the City to modify the WSCP outside of the UWMP process.

1.1 WATER SUPPLY RELIABILITY ANALYSIS

Water supply and its reliability are evaluated in Chapter 6 and Chapter 7, respectively, in the 2020 UWMP. Analysis of the supply sources show that the City will have enough supply to meet increases in retailer water demand in both the short-term and long-term. The Water Supply Reliability Analysis includes both the water service reliability assessment and the DRA. Under a normal year, a single-dry year, and five consecutive dry year period conditions, a supplier must evaluate the long-term (2025-2040) water service reliability assessment. In the short-term (2021-2025), a supplier must evaluate the Drought Risk Assessment (DRA) to evaluate the effects of an impending five consecutive dry-year period.

The water source at Riverbank has been consistent in both source production levels and levels of water use. In the foreseeable future, there are no environmental or legal factors that are

expected to affect water supplies. Therefore, the City expects to meet demands under all water year scenarios while still promoting conservation. In the event of an unforeseen sudden emergency event, the City well production and/or water quality may be affected. Since the City relies exclusively on groundwater, a low probability, high impact issue—like the sudden presence of an unforeseen toxin—may require shuttering the main groundwater pumping system and activating the WSCP.

As stated in Section 7 of the 2020 UWMP, the City's water supply is very reliable through multiple dry years, and there is no expectation of a drop in water supply. Table 1 shows that the City anticipates for the water supply to meet the projected water demands at the very minimum. These demands are calculated as described in Section 4.1.

Table 1
Minimum Supply Next Five Years

	2021	2022	2023	2024	2025
Available Water Supply (AF)	4,469	4,513	4,557	4,601	4,646

1.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Per Water Code Section 10632 (a)(2) and after the adoption of the 2020 UWMP, an Annual Water Supply and Demand Assessment (Annual Assessment) report will be submitted to DWR starting in 2022. It is an evaluation of the short-term outlook supplies and demands to determine whether the potential for a supply shortage exists and whether to trigger a WSCP shortage level.

The WSCP will include the elements required for the Annual Assessment and outlines how the City will conduct its Annual Assessment. Specific procedures will include:

- Decision-Making Process
- Data and Methodologies
 - o Evaluation Criteria
 - o Watery Supply
 - o Current Year Unconstrained Customer Demand
 - o Current Year Available Supply
 - o Infrastructure Considerations
 - o Other Factors

The Annual Assessment will reflect circumstances specific to the City per Water Code Section 10632(a).

1.2.1. DECISION-MAKING PROCESS

The decision-making process below details how the City will determine its water supply reliability in the Annual Assessment with the Public Works Director or their designee being responsible for the preparation of the Annual Assessment and submittal of the prepared report to the Department of Water Resources (DWR) by July 1 of each year. The Annual Assessment report should report the projected shortage level, the triggered shortage response actions,

compliance and enforcement actions and the resulting communication actions that will be implemented to mitigate the anticipated water shortage impacts outlined in the Annual Assessment.

Using methodology described in Section 1.2.3 the City will determine water demands and water supply to evaluate the water supply reliability for the current year and subsequent dry year.

Steps determining the decision-making process are outline in Table 2 below:

Table 2
Decision-Making Process and Activities

Step	Activity	Responsible Party
1	Muster team and develop timeline	Public Works Department
2	Outline the water supply for the current year and a subsequent dry-year. Detail significant changes that may impact supply factors. Describe the City sources of water and quantities available.	Public Works Department
3	Outline the water demands for the current year and subsequent dry-year. Detail significant changes that may impact demand factors. Describe the City type and projected quantity of City specific water end uses.	Public Works Department
4	Use methodology presented in Section 1.2.2 to evaluate the water supply, water demands, and ultimately water supply reliability for the current year and subsequent dry-year.	Public Works Department
5	Determine if water shortage emergency exists and which, if any, protocols to enact. If necessary, present determinations to City Council.	Public Works Department
6	Make determinations and recommendations based on previous analysis presented to declare a water shortage emergency and authorize a response.	City Council
7	Implement WSCP if emergency is declared and evaluate further for advancement to subsequent level or withdrawal to previous level	Public Works Department

1.2.2. KEY DATA INPUTS

Evaluation criteria will require key data inputs that reflect the water supply reliability condition for the current year and one dry-year. The criteria listed below can be used in any combination to make a determination and declare the severity of a supply shortage:

- Groundwater supply projections based on:
 - o Monthly precipitation data
 - o Monthly static and pumping groundwater elevations to the extent recorded
 - o Construction details of operating municipal wells including pump settings, and screened intervals
 - o Well specific capacity and well pumping rates
 - o Pump curves, if available for operational municipal groundwater well pumps
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Groundwater demand projections:
 - o Monthly and annual total groundwater production data
 - o Projected future pumping groundwater levels
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Infrastructure capabilities and constraints imposed by a crisis
 - o Production data
 - o Staff input from the Public Works Division

1.2.3. ASSESSMENT METHODOLOGY

City staff will perform the assessment methodology to complete and submit the Annual Assessment to DWR. Evaluation of the Section 1.2.2 key inputs will be used to determine the agency's water supply reliability for the current year and subsequent single-dry year. Supply and demand assessments will be used to determine the reliability of the City's water supply. If the water supply is deemed insufficient to meet the expected demand supplied by the City in the current year and/or a subsequent dry year, a determination of the water shortage level will be made, and the City will implement a prepared response outlined in this WSCP.

1.3 SIX STANDARD WATER SHORTAGE STAGES

The 2018 Water Conservation Legislation mandates that water suppliers plan for six standard water shortage levels that correspond to six ranges of up to 10%, 20%, 30%, 40%, 50%, and greater than 50% shortages from the normal reliability conditions. However, WCS 10632(a)(3)(B) allows for already existing water shortage levels to be used provided that there is a crosswalk detailing the differences between the two. Table 3 of this WSCP details existing water shortage contingency plan levels with shortage response actions that the City would take when a shortage level is triggered.

Table 3
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
1	15%	Other - Require automatic shut of hoses		Yes
1		Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
2	25%	Other - Prohibit use of potable water for washing hard surfaces	Sidewalk/Street Cleaning	Yes
2	25%	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
4	50%	Landscape - Other landscape restriction or prohibition		Yes
4	50%	Other - Prohibit use of potable water for washing hard surfaces		Yes
4	50%	Landscape - Limit landscape irrigation to specific times		Yes
4	50%	Landscape - Limit landscape irrigation to specific days		Yes
4	50%	Other	No new service connections	Yes

Table 3 (Continued)
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Levels		Other	Use prohibitions; additional water conservation enforcement; voluntary rationing, mandatory rationing; reduction of water pressure in water lines where feasible; flow restrictions; installation of water kits, plumbing fixture replacements; restriction on building permits; and installation of pool covers	YES
All Levels		Other	Expansion of leak and repair programs	YES

Figure 1 details the already existing WSCP shortage levels authorized by WCS 10632(a)(3)(B) and presents a crosswalk that translates the City's water shortage levels to those mandated by statute.

2015 UWMP Stage	Supply Condition/Shortage			2020 WSCP Level	Shortage Level
Action Stage	Percent Supply Reduction	Water Supply Condition			
1 - Minimal	15%	- Below average rainfall in the previous 12-24 months 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 15% - Extended warm weather patterns typical of summer	→	1	Up to 10%
2 - Moderate	25%	- Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 25% - Extended warm weather patterns typical of summer	→	2	Up to 20%
3 - Severe	35%	- Below average rainfall in the previous 36-48 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 35% - Extended warm weather patterns typical of summer	→	3	Up to 30%
4 - Critical	50%	- Below average rainfall in the previous 48-60 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 50% - Extended warm weather patterns typical of summer	↘	4	Up to 40%
			↘	5	Up to 50%
			↘	6	>50%

Figure 1
Water Shortage Contingency Plan Levels Crosswalk

1.4 SHORTAGE RESPONSE ACTIONS

Shortage response actions in accordance with California Water Code 10632(a)(4) and 10632.5(a) are described in this section and may be implemented or considered to the water shortage level. The City's response actions are dependent on the type of event triggering the water shortage level. Other factors considered in response will be the time of year, available water sources, and the condition of the water system infrastructure. A dynamic approach will be taken that considers a combination of supply augmentation, demand reduction, and any relevant operation changes to ensure that actions taken are effective in meeting the water use goals determined by the water shortage emergency.

Both the City's production wells and customer meters are fully metered and can provide daily readings to assess the effectiveness of the City's actions. Shortage action responses are discussed in this section.

1.4.1. DEMAND REDUCTION

Reduction in water use may be necessary during a water shortage. The plans to City will meet some of the emergency water shortage reliability challenges via demand reductions. Table 3 details these demand reductions actions and volume of reduction estimated to occur.

**Table 4 (2020 UWMP DWR Table 8-2)
Demand Reduction Actions**

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
<i>Add additional rows as needed</i>				
1	Improve Customer Billing	5%	AWE (2015)	No
1	Expand Public Information Campaign	2%	AWE (2015)	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Unknown		No
3	Increase Water Waste Patrols	Unknown		No
3	Landscape - Restrict or prohibit runoff from landscape irrigation	Unknown		Yes
4	Other	1%	Assume no growth in water use	Yes
5	Landscape - Prohibit all landscape irrigation	14%	Landscape types include: - Turf water - Median watering - Further reduction of irrigation to parks AWE (2015)	Yes
6	Other	Unknown	Water use limited to public water use to health and safety purposes	Yes
NOTES: Demand reduction action and water restrictions as seen in § 52.34 of city code. Demand reduction estimations were taken from the compiled best available estimates of water savings in the Alliance for Water Efficiency Outdoor Water Savings Research Initiative (AWE 2015). Estimated reductions were then applied to residential end uses of water within the City of Riverbank. A drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.				

1.4.2. SUPPLY AUGMENTATION

The City's current (2020) and projected water supplies are provided in Chapter 6 of the 2020 UWMP. As mentioned previously, the City relies exclusively on groundwater for their water supply. The City does not anticipate using a wholesale supply source to meet future needs. The projected water supplies are based on the total water use defined in Chapter 4 of the 2020 UWMP.

The City has no future groundwater extraction projects planned at this time but has identified recommended phasing of capital facilities in its water supply master plan. The 2016 Supply Reliability Certification analysis and 2021 Risk Assessment Summary Report suggests that existing water supplies are more than adequate to satisfy existing system demands. Future water supplies will be brought on as necessary to satisfy specific development needs as discussed below. Therefore, Table 5 or DWR Table 8-3 detailing supply augmentation and other actions details low-probability, high-impact events for supply augmentation. A future evaluation and adoption of the WSCP may conclude that expansion of groundwater extractions may be necessary to augment supply.

**Table 5 (2020 UWMP DWR Table 8-3)
Supply Augmentation and Other Actions**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
6	Stored Emergency Supply	6	City of Riverbank has two water storage tanks totaling 2 million gallons of system storage
6	Other Actions (describe)	Unknown	Procurement of bottled water
6	Other Actions (describe)	Unknown	Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.
4-6	Other Purchases	Unknown	The City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

In a low-probability, high-impact event, the City of Riverbank has two water storage tanks totaling 2 million gallons of system storage. Each of the storage tanks is equipped with a booster pumping station with backup power. These tanks will supply water for essential needs in the case of short-term emergencies. The City has chlorination pumps at each well site that may be put into operation when needed. Seven of the City's wells have diesel engine electric generators with enough fuel to run 12 to 24 hours without refueling.

The City can contact bottled water companies in cases of emergencies. Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.

To meet future long-term water demand beyond 2020, the City will continue working on the possibility of bringing in surface water to supplement groundwater. Recycled water opportunities will also be studied further. To offset future potential water shortages due to a drought or disaster, the City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

1.4.3. OPERATIONAL CHANGES

The City may modify its operational actions in the short-term or long-term to effectively respond to any water shortage condition. During a water shortage emergency, the city may reduce pressure in the water distribution system to minimize system losses while still maintaining adequate fire flows. In addition, the city may increase its response to the repair of system leaks and losses in the water distribution system.

1.4.4. ADDITIONAL MANDATORY RESTRICTIONS

Water Use Regulations of Chapter 52 of city water code detail elements of water use restrictions. Specifically, §52.33 and §52.34 detail prohibited acts and restricted water use provisions. For example, the washing of commercial and noncommercial privately owned automobiles, trucks, trailers, motor homes, boats, buses, and other types of vehicles is restricted to the use of a hand-held bucket and quick rinses using a hose with a quick-acting positive shut-off nozzle.

1.4.5. EMERGENCY RESPONSE PLAN

Section 1.4.2 details response actions to augment supplies in a low-probability, high impact event. A sample resolution to declare a water shortage emergency is included in Appendix J.

Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Below is an example of actions the City would undertake if a catastrophe were imminent or declared.

1. Determine extent of water shortage
2. Activate the water shortage response team

3. Monitor existing storage
4. Obtain additional water supplies
5. Develop alternative water supplies
6. Determine where immediate funding will come from
7. Contact and coordinate with other agencies
8. Put employees and contractors on-call
9. Communicate with the public

1.4.6. SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

Disasters can strike any time and cause loss of life; damage buildings and infrastructure; and have devastating consequences for a community's economic, social, and environmental well-being. Per Water Code Section 10632.5, the City has included a seismic risk assessment and mitigation plan Refer to the Stanislaus County Local Hazard Mitigation Plan (Appendix O of 2020 UWMP) Section 5 for the Seismic Risk Assessment and Section 6 for Mitigation Plan procedures.

1.5 COMMUNICATION PROTOCOLS

The City must inform their customers, the general public and interested parties, and local, regional, and state agencies. With any emergency, clear, timely, and effective communication is vital. In accordance with California Water Code 10632(a)(5), this section describes the communication protocols the City will use to inform customers, the public and other regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.

When a water shortage level is enacted or changed the public shall be notified via a notice published in the local newspaper and the City's website. If the water shortage is severe, the City may consider alternative modes of communications like local radio advertisements, door hangers, or mailed notifications among other options.

1.6 COMPLIANCE AND ENFORCEMENT

Any customer violating the regulations and restrictions on water use set forth in the City's no waste ordinance shall receive a warning for the first such violation. Upon a second violation, the customer shall receive a fine of \$35. A third violation triggers the levy of a \$50 fine. A fourth violation triggers a \$100 fine, and fifth and subsequent violations trigger a \$200 fine each.

1.7 LEGAL AUTHORITIES

Per city code §52.34, it is unlawful for any customer or person to fail to comply with any of the provisions set forth or by City Council resolution. The Enforcement Officer or designee may issue an administrative citation for failure to comply. T Enforcement Officer is defined in City code as the City Manager, Department Director, Public Safety Officer, or any designated city

personnel or other designated person that the City Manager or City Council has authorized and charged with the responsibility for the enforcement of any provision of this chapter.

At the discretion of the Enforcement Officer with the approval of the City Manager, an issued administrative citation for noncompliance of this section may be reduced to a formal written warning and the related citation fines waived or the citation may be cancelled after review of the findings. All results of a citation issued shall be entered into the record. Any further violation of the water conservation regulations provided in this section or adopted pursuant to this section shall result in the imposition of an administrative citation and its related penalties as set forth herein.

In accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies, the City shall declare a water shortage emergency when emergency conditions are met and shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

1.8 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

Water rates need to be set up to enable water suppliers to cover the costs in pumping, storing, treating, and delivering water. Revenues need to be collected to build reserves for future water system repairs, maintenance, and replacement. Water shortages increase costs to the water supplier by increasing expenses for public educational campaigns, stricter conservation efforts, and facility development. Likewise, water shortages impact the operations cash flow as water use falls. Other costs for repairs, maintenance, and replacement are fixed. Refer to the City 2015 Water Rate Study for an analysis of rates during a drought scenario. Water shortage pricing is not considered feasible due to Proposition 218 requirements.

1.9 MONITORING AND REPORTING

Monitoring and Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance is enhanced through the City's advanced metering infrastructure (AMI) of customer connections and metering on production wells. Per City code related to outdoor water use (§ 52.34(C)), a drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.

1.10 WSCP REFINEMENT PROCEDURES

The City's WSCP is an adaptable document and subject to any needed changes to ensure that the City's water shortage response and mitigation plan are effective. A continual adaptation process is necessary to respond to hazards posed by water shortages.

If certain procedural refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the Director of Public works will consider the actions or refinements to evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

1.11 SPECIAL WATER FEATURE DISTINCTION

A distinguished special water feature would include a decorative fountain or pond, separately from pools or spas. At the time of this plan, City water use regulations make no distinction for the special water features.

1.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The WSCP will be adopted concurrently with the UWMP, by separate resolution. Before the adoption, a notice of preparation was sent to San Joaquin County and Stanislaus County. In addition, a notification of the public was completed and a public hearing took place.

Within 30 days, a copy of both the WSCP and UWMP will be available at the City office and a copy will also be provided to the San Joaquin County and Stanislaus County. An electronic copy of the WSCP will be submitted to DWR within 30 days of the adoption and made available on the City website.

Appendix J

Sample Resolution to Declare a Water Shortage Emergency

RESOLUTION NO.

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK
DECLARING AN EMERGENCY AND AN IMMEDIATE NEED TO CURTAIL ALL
NON-ESSENTIAL WATER USE**

WHEREAS, on [DATE/TIME], there was an event [to be specified] resulting sudden and unexpected impact to the community water system that has [or will] limit the ability of the City to obtain and distribute the customary amount of water to [all/some] of our citizens; and

WHEREAS, City staff's attempts to mitigate the effect of [specified event] have been unsuccessful, and City staff advises that there is an immediate need to limit all non-essential water use to mitigate the loss or impairment of public health, safety, property, and essential public services.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank finds:

1. The above-referenced recitals are true and correct and incorporated herein by reference.

2. That the public interest and necessity demand the immediate curtailment of non-essential water usage including but not limited to: [specify, ie street washing, landscape/yard irrigation, fountain or water feature use, vehicle washing, pool use...]

3. That the City Manager or his designee is authorized to expend an amount not to exceed \$to facilitate notification of the affected citizens and

enforcement and monitoring compliance with this resolution.

4. Violation of this ordinance is considered a waste of water as specified by City Code 52.33.

5. That the City Council shall review the emergency action at its next regular meeting scheduled for _ to determine whether the emergency situation has

been eliminated and whether there is a need to take further action as a result of the emergency.

PASSED AND ADOPTED on this _ day of _ , 20_ by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Mayor

Attest:

City Clerk

Appendix K

City of Riverbank Water Ordinances

CHAPTER 52: WATER

Section

General Provisions

- 52.01 Definitions
- 52.02 City to own and operate water system
- 52.03 Installation at owner's expense
- 52.04 Application for service
- 52.05 When city will or will not furnish water
- 52.06 Equipment property of city; maintenance of lines
- 52.07 Easements on private property
- 52.08 Unauthorized turn-on
- 52.09 Damage to system
- 52.10 Tampering with fire hydrants
- 52.11 Multiple users
- 52.12 Maintenance of fixtures and boilers; new plumbing
- 52.13 Standby fire protection service
- 52.14 Wells
- 52.15 New subdivisions
- 52.16 Falsifying information
- 52.17 Pre-metered water usage

Water Use Regulations

- 52.30 Responsibility of users
- 52.31 Use of water by other than supplied person
- 52.32 Irrigating
- 52.33 Prohibited acts
- 52.34 Restricted water use
- 52.35 Backflow and cross-connection control

Meters

- 52.45 Use of meters required
- 52.46 Installation of meters

52.47 Damaging or interfering with meters

52.48 Meter failures; testing

52.49 Change of meter location or meter size

Rates and Charges

52.60 Water Fund

52.61 Fees and charges established by ordinance

52.62 When charges due

52.63 Water charges as a lien

52.64 Payment of bills

52.65 Deposits

52.66 Disconnection for late payment

Administration

52.75 Management of system

52.76 Access to be provided to city

52.77 Right of entry

52.78 Right to shut off water mains

52.79 Termination of service

52.80 Correction of violation

52.81 Violation an infraction

Cross-reference:

Systems Development Fees, see § 150.30 through 150.36

GENERAL PROVISIONS

§ 52.01 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply:

APPLICANT. An individual or agency applying for utility service.

COMMERCIAL SERVICE. Provision of water to premises where the customer is engaged in trade.

CROSS-CONNECTION. When used herein, all applicable sections of the City Code shall apply.

CUSTOMER, CONSUMER. An individual or agency of record receiving utility service from the utility.

DEVELOPER. A person or corporation requesting water service from the city regardless of the number of services.

DEVELOPMENT. The improving of developed and/or undeveloped land to more fully use the available land and/or structures. A development may be a subdivision.

DOMESTIC SERVICE. Provisions of water for household residential purposes, including water for sprinkling lawns, gardens and shrubbery, watering livestock, washing vehicles and other similar and customary purposes.

DROUGHT. A drought or water shortage as defined in the Urban Water Management Plan or as otherwise designated by federal, state, or local government.

EMPLOYEE. Any person designated by the City Manager or the Director of Public Works to perform work and labor for the utility department, excluding contractors and their employees.

ENFORCEMENT OFFICER. The City Manager, Department Director, Public Safety Officer, or any designated city personnel or other designated person that the City Manager or City Council has authorized and charged with the responsibility for the enforcement of any provision of this chapter.

FIRE PROTECTION SERVICE. Provision of water to premises for automatic fire protection.

FLAT RATE. A fixed periodic charge for an unmetered service.

FLAT RATE SERVICE. Provision of water in unmeasured quantities.

IDLER. That piece of pipe used to conduct water in place of a meter in flat rate service.

INDUSTRIAL SERVICE. Provision of water to a customer for use in manufacturing, processing activities, or other uses as described in the Zoning Ordinance.

IRRIGATION SERVICE. Provision of water for commercial, agricultural, floricultural or horticultural use.

MAINS. Distribution pipelines located in streets, highways, public ways, or public utility easements which are used to serve the general public.

METER. The device used to measure water consumption, such as, water meter.

METER RATE SERVICE. Provision of water in measured quantities.

MUNICIPAL or PUBLIC USE. Provision of water to a municipality or other public body.

PRE-METERED WATER USAGE. Use of city water prior to city water meters being installed by the property owner.

RENTABLE UNIT. A rentable unit is any building or portion thereof that can be used as a completely independent unit.

SERVICE CONNECTIONS. The pipe, valves, and other facilities by which means the utility conducts water from its distribution mains to and through the meter; or, to the curb-stop or shut-off valve on an unmetered service connection.

SENIOR CITIZEN. All persons who have reached the age of 65 years and classed as "head of household" and who earn not over \$7,000 annually.

SUBDIVIDER. A person, firm, corporation, partnership, or association who proposes to divide, divides, or causes to be divided real property into a subdivision for himself or for others, except that employees and consultants of such persons or entities acting in such capacity are not "subdividers".

SUBDIVISION. The division, by any subdivider, of any unit or units of improved or unimproved land, or any portion thereof, shown on the latest equalized county assessment roll as a parcel or as contiguous parcels.

TEMPORARY SERVICE. A service for circuses, bazaars, fairs, construction work, irrigation of vacant property, and similar uses, that because of their nature will not be used steadily or permanently.

UTILITY. The public utility or publicly owned utility named herein.

UTILITY SERVICE. Includes water and/or sewer and/or refuse service.

WATER WASTING. The use of water in such a manner that excess water is used and not effectively utilized for the lawfully intended purpose. Water wasting includes, but is not limited to the following:

- (1) Watering lawns or gardens such that excess water leaves property or area being watered.
- (2) Washing vehicles, equipment or boats in driveways or streets using open hose.
- (3) Having leaky faucets or plumbing fixtures on premises.

(`67 Code, § 4-6-1) (Am. Ord. 2000-09, passed 12-11-00; Am. Ord. 2016-004, passed 3-8-16)

§ 52.02 CITY TO OWN AND OPERATE WATER SYSTEM.

The city shall own and operate a water system serving designated areas within and without the corporate limits of the city and may purchase existing systems or construct new works as may be necessary to supply to the people within the areas an adequate and safe domestic water supply. The City Council shall designate the area within and without the corporate limits of the city which shall receive water service from the city water system. The city shall endeavor to supply safe, potable, continuous and sufficient water at proper pressure to all consumers at all times.

(`67 Code, § 4-6-2)

§ 52.03 INSTALLATION AT OWNER'S EXPENSE.

All on-site and off-site water lines, connections, valves, plumbing and accessory water facilities shall be constructed and installed at the owner's expense, and shall be to city standards and approved by the city prior to water service turn-on.

(`67 Code, § 4-6-6)

§ 52.04 APPLICATION FOR SERVICE.

(A) All applications for water service shall be made on the forms furnished by the city. Every customer obtaining water service shall sign an application. In addition to any other information required, such application shall show a true and accurate description of the area served, purpose for which water shall be used, and the applicant's interest in the property served.

(B) Owners of property will be held responsible for water used on their premises, although payments will be accepted from tenants. In case tenants do not pay, the service may be disconnected and shall not be restored until the delinquent water charges, including the cost of water delivered as well as the cost of reconnection services, have been paid.

(`67 Code, § 4-6-7)

§ 52.05 WHEN CITY WILL OR WILL NOT FURNISH WATER.

(A) When laterals are in place or within a reasonable distance from a particular parcel, the city will furnish water service from such line to the back of the curblin if the pipeline is located in the street or to the back of the sidewalk if a sidewalk is in place (except when there is a parkway between the curb and sidewalk) or to the property line if the pipeline is located in an easement, or alley.

(`67 Code, § 4-6-8)

(B) Water will not be furnished where there are defective or leaking faucets, closets, or other fixtures, or where there are water closets or urinals without self-closing valves, or tanks without self-acting float valves, and when such may be discovered the supply may be shut off.

(`67 Code, § 4-6-9)

§ 52.06 EQUIPMENT PROPERTY OF CITY; MAINTENANCE OF LINES.

(A) All pipelines and appurtenant facilities constructed in or under city streets, easements, or alleys shall become the property of the city upon completion of the installation, and upon final inspection and acceptance of the lines by the Director of Public Works.

(`67 Code, § 4-6-16)

(B) The city will maintain all mains, laterals, and appurtenances within the city right-of-way, on city property or easements. It shall be the responsibility of all water users to maintain the water service line from, but not including the water meter, to the outlets of the line, inclusive of city easements.

(`67 Code, § 4-6-18)

§ 52.07 EASEMENTS ON PRIVATE PROPERTY.

When a line is to be constructed across private property to serve one or more parcels of land, a utility easement shall be granted to the city and the easement line, size and installation approved by the Director of Public Works.

(`67 Code, § 4-6-17)

§ 52.08 UNAUTHORIZED TURN-ON.

No person or water user shall turn on or reconnect a water meter or water connection that has been turned off or disconnected by the city.

(`67 Code, § 4-6-20) Penalty, see § 10.99

§ 52.09 DAMAGE TO SYSTEM.

Any person, including a public utility, who damages any city water line or fire hydrant, shall immediately report the location and extent of damage to the city. The city shall thereupon repair the damage and charge the cost of such repair to the person or utility who caused the damage.

(`67 Code, § 4-6-22)

§ 52.10 TAMPERING WITH FIRE HYDRANTS.

It is unlawful for any person to operate, alter, change, remove, disconnect, connect with, or interfere in any manner with any fire hydrant owned or used by the city without first obtaining written permission from the Chief of the Fire Department or his designated officer in charge.

(`67 Code, § 4-6-29) Penalty, see § 10.99

§ 52.11 MULTIPLE USERS.

If more than one consumer is served from one service connection, the owner of the property or his agent shall be required to sign for and guarantee payment for water service thereat, and the owner shall be liable for all water served through such connection.

(`67 Code, § 4-6-23)

§ 52.12 MAINTENANCE OF FIXTURES AND BOILERS; NEW PLUMBING.

(A) The city shall not be liable for any damage to the property of the consumer or others caused by broken, damaged, or leaky fixtures upon the premises of the consumer. The city may charge for all water supplied the consumer through a meter, even though the water is wasted because of broken, damaged, leaky or open fixtures. The city shall in no case be liable for damages occasioned by water running from open fixtures in or on premises to which it has turned on the water. All consumers having an arrangement for hot water shall have a tank from which to feed the boiler. The city shall not be responsible for the safety of boilers on the premises of any consumer.

(`67 Code, § 4-6-24)

(B) When old plumbing is being repaired or remodeled, or new plumbing is being installed, the owner shall install a stopcock or valve on the pipe between the property line and the first fixture on his premises. Unless such stopcock or valve is installed, the city shall not be required to turn on the water or to install a service connection.

(`67 Code, § 4-6-25)

(C) No plumber or other person will be allowed to make any alteration to any conduit, pipe, or other fixture connecting with the city mains, or to connect pipes when they have been disconnected, or to turn water off or on at the premises without the permission from the city.

(`67 Code, § 4-6-26)

§ 52.13 STANDBY FIRE PROTECTION SERVICE.

Whenever fire protection water service on a standby basis is furnished to a customer, a charge of \$2 per month per each inch of standby service shall be made and billed bi-monthly while such service is being furnished. Check valves are required and shall be tested and certified for correct operation annually at owner's expense.

(`67 Code, § 4-6-32)

§ 52.14 WELLS.

(A) No person may drill, dig, install or operate a water well within the city for any purpose without the consent of the City Council.

(`67 Code, § 4-6-34) (Ord. 83-1, passed 3-28-83)

(B) No person owning or operating an existing well within the city may furnish water for sale or gift.

(C) If a request is received to connect the city water system from an owner having a well on his property, that well shall be properly abandoned in accordance with city standards, or an approved backflow prevention device shall be installed before the connection can be made.

(`67 Code, § 4-6-35) (Ord. 83-1, passed 3-28-83) Penalty, see § 10.99

§ 52.15 NEW SUBDIVISIONS.

Any new subdivision or development which will receive water service from the city water system shall, at the subdivider's expense, install and construct the necessary main lines, laterals, meter boxes, service connections, and fire hydrants in accordance with city specifications. The subdivider or developer shall convey ownership thereof to the city and pay to the city connection fees for each lot or parcel to be served in the subdivision or development. The mains shall extend to the farthest limits of the subdivision or development as approved by the City Engineer. Water mains shall be looped unless otherwise approved by the City Engineer.

(`67 Code, § 4-6-37) (Ord. 83-1, passed 3-28-83)

§ 52.16 FALSIFYING INFORMATION.

No person shall knowingly make any false statement, representation, record, report, plan or other document filed with, or to be filed with or taken by, the city.

(`67 Code, § 4-6-44) Penalty, see § 10.99

§ 52.17 PRE-METERED WATER USAGE.

(A) Any land owner using pre-metered water as defined in § 52.01 shall be required to pay a fee equal to the minimum monthly rate for metered water as established from time to time by the City Council. The pre-metered water usage fee shall be paid at the time of the issuance of a building permit. The minimum fee collected shall be a two month billing cycle of the established minimum metered rate. The pre-metered rate shall continue until the land owner installs an approved water meter. Failure to cause the installation of a water meter may result in disconnection of water service.

(B) The City Council finds that this section is enacted in order to off-set the loss of water revenue and to establish city criteria in the regulation of pre-metered water usage.

(Ord. 2000-09, passed 12-11-00)

WATER USE REGULATIONS

§ 52.30 RESPONSIBILITY OF USERS.

It shall be the responsibility of all water users to prevent contamination of or damage to water meters or water systems by reason of their operation of the water outlets and water equipment, and if required by the city, the water users shall install, at their expense, check valves, surge tanks, backflow prevention devices, or other devices as prescribed by the Director of Public works in order to avoid damage to or contamination of the meters or systems. Check valves and back flow prevention devices must be tested when installed and annually thereafter at customer's expense.

(`67 Code, § 4-6-5)

§ 52.31 USE OF WATER BY OTHER THAN SUPPLIED PERSON.

No water user using water supplied by the city, shall supply any other person with such water or allow any other person the use of such water from the water user's water connection or permit a further connection to be made to the water user's connection on his or any other premises unless authorized by the city.

(`67 Code, § 4-6-21) Penalty, see § 10.99

§ 52.32 IRRIGATING.

No water shall be used for irrigation purposes by means of an open hose without a quick-acting positive shut-off nozzle on the hose, nor shall such use of water be wasted or used except as allowed by the Riverbank Municipal Code.

(Ord. 2016-004, passed 3-8-16) Penalty, see § 10.99

§ 52.33 PROHIBITED ACTS.

(A) No person shall make connection with the system without first obtaining a permit from the city.

(B) No unauthorized person shall turn on or off or otherwise interfere with any water line or appurtenant facility.

(C) No person shall waste water.

(D) No person shall install or maintain any pipe, faucet, hose bib, fixture or appliance connected to the water system in such condition or state of disrepair that water may be or is lost or wasted.

(E) No person shall supply city water to anyone without city authorization. The city shall have the right, upon five days' written notice to cease, to disconnect the water service for the person supplying the water.

(F) No person shall construct a bypass around any meter or service.

('67 Code, § 4-6-36) (Ord. 83-1, passed 3-28-83) Penalty, see § 10.99

§ 52.34 RESTRICTED WATER USE.

In addition to all other provisions and requirements of this chapter, the following additional rules and regulations for the use of water are hereby established. These provisions shall apply to all persons using water in the city regardless of whether any person using water shall have a contract for water service with the city.

(A) *Vehicle washing.* The washing of commercial and noncommercial privately owned automobiles, trucks, trailers, motor homes, boats, buses, and other types of vehicles is restricted to the use of a hand-held bucket and quick rinses using a hose with a quick-acting positive shut-off nozzle.

(B) *Washing exterior surfaces.* There shall be no washing of building exteriors, mobile home exteriors, sidewalks, patios, driveways, gutters or other exterior surfaces, unless permitted by the Public Works Director, or Superintendent, or his/her designee, and done with the use of a quick-acting positive shut-off nozzle on the hose.

(C) *Outdoor water use.* A drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.

(D) *Violations.* It shall be unlawful for any customer or person to fail to comply with any of the provisions set forth by this section or by City Council resolution. The Enforcement Officer or designee may issue an administrative citation for failure to comply.

(E) *Penalties.* Failure to comply with any provision, requirement, rules or regulations under this chapter shall be unlawful and punishable as an infraction.

(1) In addition to the stated penalties, the city may pursue any available civil remedies and criminal penalties together with any and all costs incurred by the city as a result of violation of this section or any City Council resolution adopted pursuant to this section.

(2) At the discretion of the Enforcement Officer with the approval of the City Manager, an issued administrative citation for noncompliance of this section may be reduced to a formal written warning and the related citation fines waived or the citation may be cancelled after review of the findings. All results of a citation issued shall be entered into the record. Any further violation of the water conservation regulations provided in this section or adopted pursuant to this section shall result in the imposition of an administrative citation and its related penalties as set forth herein.

(3) Penalties for noncompliance with water conservation regulations provided in this section or adopted pursuant to this section shall be as follows and may be amended from time to time by City Council resolution:

- (a) The fine for the first violation is \$100.
- (b) The fine for the second violation is \$200.
- (c) The fine for the third violation is \$300.
- (d) The fine for the fourth violation is \$400.
- (e) The fine for the fifth violation and each subsequent violation thereafter is \$500.

(F) *Payment of fines.* Fines shall be placed on the customer's water bill and paid in accordance with § 52.64 of this chapter.

(G) *Citation appeal hearing.* Any customer or person receiving an administrative citation for noncompliance of this section may request an appeal hearing pursuant to the administrative remedies provided in Chapter 99 of the Riverbank Municipal Code. Any customer or person seeking an appeal hearing of an issued administrative citation for noncompliance of this section shall file an appeals request form within 15 days of the citation. Failure to timely file a request form shall waive the right to appeal the violation. At the end of the 15 day period, all fines incurred for noncompliance with this section shall be placed on the customer's water bill for payment.

(Ord. 2016-004, passed 3-8-16)

§ 52.35 BACKFLOW AND CROSS-CONNECTION CONTROL.

(A) *Public water supply protection required.* In accordance with the requirements of 17 Cal. Code of Regs. §§ 7583 through 7622 and Cal. Health & Safety Code §§ 116800 *et seq.*, no water service connection to any premises shall be installed or maintained by the city unless the public water supply is protected as required by state regulations and the requirements stated below. This section supplements and does not supersede local plumbing regulations, codes or ordinances or state Department of Public Health Regulations relating to water supply.

(B) *Where protection is required.* In general, backflow prevention devices shall be installed on the service connection to any premises having:

- (1) Any service connection having an auxiliary water supply, or internal systems containing water of deteriorating quality.
- (2) Any service connection to any sewage treatment plant, sewage pumping station, or any premises which handle or transport sewage;
- (3) Any service connection where any substance is handled under pressure in such fashion as to permit entry into the water system;
- (4) Any service connection where material dangerous to health or toxic substance that might possibly be introduced into the water system;
- (5) Any premises which is served by more than one meter connection.
- (6) Any service where lawn or garden sprinkling systems are present shall have a backflow prevention device installed on the lawn or garden sprinkler supply line.
- (7) The type of protection required for each type of premises shall be as stipulated in the city standards.

(C) *Private wells prohibited.* No person may drill, dig, install or operate a water well within the city for any purpose without the consent of the city.

(D) *Existing wells.* No person owning or operating an existing well within the city may furnish water for sale or gift to any other premises. If request is received to connect to the city water system, from

an owner having a well on his property, that well shall be properly abandoned in accordance with state and city standards, or an approved reduced pressure principle backflow prevention device shall be installed before the connection can be made.

(E) *Responsibility for installation, inspection and maintenance.* Backflow prevention devices required herein shall be installed in accordance with city standards at the expense of the customer.

(1) All backflow preventers shall be inspected, tested, and maintained by a certified backflow prevention device tester, on a regular basis and a report of such activity shall be submitted to the city on forms provided by the city.

(2) In general, the backflow prevention device shall be inspected and tested at time of installation and thereafter according to the following schedule:

<i>Type of Device</i>	<i>Frequency of Test</i>
Air Gap	Annually
Reduced Pressure Principle	Annually
Double Check Valve	Annually

(3) All inspections, testing, maintenance and reporting shall be done at the expense of the customer.

(F) *Discontinuance of service.* The city may shut off service to any premises and may physically disconnect the customer's piping from the city's water distribution system if a backflow prevention device required by this section is not installed, tested, and maintained as required, or if any defect is found in an installed backflow prevention device, or if it is found that a backflow prevention device has been removed or bypassed, or if unprotected cross-connection exist on the premises; and service will not be restored until such conditions or defects are corrected.

(`67 Code, § 4-6-47) (Ord. 85-03, passed 6-24-85)

METERS

§ 52.45 USE OF METERS REQUIRED.

The quantity of water furnished by the city to all water users shall be determined and ascertained by a meter.

(`67 Code, § 4-6-10)

§ 52.46 INSTALLATION OF METERS.

All water meters shall be installed adjacent to and on the property owner's side of the curblin if installed along a street, and on the property line if installed in an alley.

(`67 Code, § 4-6-11)

§ 52.47 DAMAGING OR INTERFERING WITH METERS.

(A) Water meters and meter boxes are the property of the city and it shall be unlawful to damage or interfere with them or to place dirt, trash, or other obstructions on or over the meter boxes.

(`67 Code, § 4-6-12)

(B) If a meter or appurtenances are damaged by the carelessness or negligence of the owner or occupant of the premises, the Public Works Department will repair the meter and the cost of such repairs shall be charged against the owner of the property, and if not paid within 30 days, shall become a lien against said property.

(`67 Code, § 4-6-15)

§ 52.48 METER FAILURES; TESTING.

(A) In the event any meter fails to operate properly or to correctly register the water used, the charge for the period during which the meter fails to operate properly or fails to register water, shall be based upon the average daily consumption for the same period of the prior year by the same user. If such a reading is not available, the city shall estimate the amount of such consumption from all information available and the consumer shall be charged on the basis of such estimate for water consumed.

(`67 Code, § 4-6-13)

(B) When any water consumer makes a complaint that the bill for any particular period is excessive, the Public Works Department will, upon request, have such meter re-read and the service inspected for leaks. Should such consumer then desire that the meter be tested, he will be required to make a deposit of \$10 to cover the cost of making such test. The meter will then be changed or tested. Should the meter be found to register over 3% more water than actually passes through it, another meter will be substituted therefor, and the fee of \$10 shall be refunded to the person making the request. If the meter is found to register not over 3% the \$10 deposit shall be forfeited to the city and the water bill paid as rendered.

(`67 Code, § 4-6-14)

§ 52.49 CHANGE OF METER LOCATION OR METER SIZE.

Any person desiring to change the location or size of a service that has already been installed shall make an application to the city, and, upon payment in advance of the cost as determined by the city, the city may cause said change to be made. No such change will be made unless such change is determined to be feasible and can be done at a reasonable cost.

(`67 Code, § 4-6-19)

RATES AND CHARGES

§ 52.60 WATER FUND.

(A) The Director of Finance shall collect all monies that shall become due to the city for water services, connection fees, payments for extensions, and all other costs, charges, penalties, and fees as provided herein and shall pay them into the city treasury and account for them in the same manner as the Director of Finance pays into the city treasury and accounts for all other sums received in his official capacity.

(B) All monies so collected shall be placed in a special fund to be known as the Water Fund and such money shall thereafter be expended for the administration, engineering, operation, maintenance and expansion, including the purchase of land and/or easements, of the city water system.

(`67 Code, § 4-6-4)

§ 52.61 FEES AND CHARGES ESTABLISHED BY ORDINANCE.

Unless otherwise provided in this chapter, the amounts of all charges provided for herein, including but not limited to, water rates, connection fees, deposits, turn-on charges, penalties, and reconnection

fees, shall be established from time to time by ordinance of the City Council. The failure to pay any fee or charge pursuant to this chapter shall constitute a violation of this code and shall be subject to fines and penalties set forth in the city code.

(`67 Code, § 4-6-38) (Am. Ord. 2016-004, passed 3-8-16)

(A) *Water service charges.* The bimonthly rates for water service are as follows:

(1) The minimum bimonthly charge to all water users, by water meter size for up to 1,000 cubic feet of water, is established as follows:

	October 1, 2015	July 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019
1.5" & below	\$39.54	\$45.46	\$49.10	\$51.56	\$54.14
2"	\$63.26	\$72.74	\$78.58	\$82.48	\$86.62
3"	\$126.54	\$145.48	\$157.14	\$164.98	\$173.24
4" & above	\$197.70	\$227.30	\$245.54	\$257.78	\$270.68

(2) Quantity rates for all water users exceeding the 1,000 cubic foot minimum charge for the particular meter size shall be:

	October 1, 2015	July 1, 2016	July 1, 2017	July 1, 2018	July 1, 2019
Base	\$0.46	\$0.53	\$0.57	\$0.60	\$0.63
Drought Surcharge *	- -	\$0.07*	\$0.16*	\$0.28*	\$0.30*
Total Variable Charge*	\$0.46	\$0.60	\$0.73	\$0.88	\$0.92

All rates expressed in the table are on a per 100 cubic feet basis

* Drought surcharges will be applied only during billing periods in which conservation mandates are in effect due to ongoing drought conditions, as required by the state or under the city's Urban Water Management Plan.

(B) *Connection fees.* Connection fees for water service for properties in the city shall be as follows:

- (1) Connection fees in subdivisions shall be determined at the time of recording the final map.
- (2) Connection fees for parcels not in subdivisions (infill) shall be as follows:

	Rate
Residential - with no existing stubout	\$1,700.00
Residential - with existing stubout	\$800.00
Commercial/Industrial - with no existing stubout	\$1,700.00
Commercial/Industrial - with existing stubout	\$800.00

(C) *Inspection fee.* A \$75 water meter inspection fee will be required per inspection.

(D) *Well destruction permit.* Any property owner seeking to abandon their well must first obtain a well destruction permit from the City of Riverbank Public Works Department. The fee for the permit shall be \$75.

(Ord. 83-1, passed 3-28-83; Am. Ord. 2005-005, passed 4-25-05; Am. Ord. 2005-008, passed 5-9-05; Am. Ord. 2005-012, passed 7-11-05; Am. Ord. 2006-010, passed 7-10-06; Am. Ord. 2007-003, passed 7-9-07; Am. Ord. 2008-007, passed 7-14-08; Am. Ord. 2010-001, passed 6-28-10; Am. Ord. 2015-015, passed 10-13-15)

§ 52.62 WHEN CHARGES DUE.

All water charges, fees and deposits shall be paid at the time service is requested. No building, plumbing or electrical permit shall be issued until said water charges, fees and deposits are paid.

(`67 Code, § 4-6-39) (Ord. 83-1, passed 3-28-83)

§ 52.63 WATER CHARGES AS A LIEN.

Each charge levied by or pursuant to this chapter or any resolution adopted pursuant to this chapter, is hereby made a lien upon the property which received the benefit of the service or facility for which the charge was made, and any steps authorized by law may be taken by the city to enforce payment of such lien.

(`67 Code, § 4-6-40) (Ord. 83-1, passed 3-28-83)

§ 52.64 PAYMENT OF BILLS.

(A) Water bills shall be rendered on a bimonthly basis and are due and payable on the first day of the month following the billing period, and shall be delinquent on the last day of the month if not paid by that date.

(B) Any bill which is not paid on or before the delinquent date shall be subject to a 10% penalty. If the bill is not paid within ten days after it becomes delinquent, the water service may be discontinued and an additional charge for the subsequent turn-on shall be paid by the consumer.

(C) When a service is discontinued due to nonpayment of bills, service shall not be resumed until all charges and penalties are paid pursuant to the procedures set forth in § 52.66 herein. All charges and penalties which are not paid shall become a lien on the property. Termination of service shall not be effective to a residential dwelling for nonpayment while an investigation of a customer dispute or complaint is pending or in progress by the city. Termination of water service shall not be effected on any Saturday, Sunday, legal holiday, or at any time during which the business offices of the city are not open to the public.

(`67 Code, § 4-6-41) (Ord. 83-1, passed 3-28-83; Am. Ord. 93-06, passed 11-22-93; Am. Ord. 2005-012, passed 7-11-05)

§ 52.65 DEPOSITS.

(A) A deposit of \$60 will be required for all new consumers as a guarantee for the payment of future bills.

(B) If a consumer who has made a cash deposit fails to pay a bill for metered service, the Water Department may apply the deposit insofar as necessary to liquidate the bill and may require that the deposit be restored to its original amount before the next bill is due.

(C) After a cash deposit to guarantee payment for metered or measured service has stood unimpaired for 12 months, such deposit shall be applied to the depositor's current account balance.

Upon closing any account, the balance of any deposit remaining, after the closing bill for service has been paid, shall be returned promptly to the depositor.

(`67 Code, § 4-6-42) (Ord. 83-1, passed 3-28-83; Am. Ord. 2000-04, passed 4-10-00; Am. Ord. 2005-005, passed 4-25-05)

§ 52.66 DISCONNECTION FOR LATE PAYMENT.

(A) It is the policy of the city to discontinue utility service to customers by reason of nonpayment of bills only after notice and a meaningful opportunity to be heard on disputed bills. The city's form for application for utility service and all bills shall contain, in addition to the title, address, room number, and telephone number of the official in charge of billing, clearly visible and easily readable provisions to the effect:

(1) That all bills are due and payable on or before the date set forth on the bill; and

(2) That if any bill is not paid by or before that date, a second bill will be mailed containing a cutoff notice that if the bill is not paid within ten days of the mailing of the second bill, service will be discontinued for nonpayment; and

(3) That any customer disputing the correctness of his bill shall have a right to a hearing at which time he may be represented in person and by counsel or any other person of his choosing and may present orally or in writing his complaint and contentions to the city official in charge of utility billing. This official shall be authorized to order that the customer's service not be discontinued and shall have the authority to make a final determination of the customer's complaint.

(B) Requests for delays or waiver of payment will not be entertained; only questions of proper and correct billing will be considered. In the absence of payment of the bill rendered or resort to the hearing procedure provided herein, service will be discontinued at the time specified, but in no event until the charges have been due and unpaid for at least 30 days.

(C) When it becomes necessary for the city to discontinue utility service to a customer for nonpayment of bills, service will be reinstated only after all bills for service then due have been paid, along with a turn-on charge, the amount of which shall be set by ordinance of the City Council.

ADMINISTRATION

§ 52.75 MANAGEMENT OF SYSTEM.

The management, control and care of the city water system shall be vested in the City Manager under the direction of the City Council.

(`67 Code, § 4-6-3)

§ 52.76 ACCESS TO BE PROVIDED TO CITY.

Access to service connections, turn-off valves and meters must be provided for the city at all times.

(`67 Code, § 4-6-28)

§ 52.77 RIGHT OF ENTRY.

Any authorized agent of the city shall have the right at all times during reasonable hours to enter any premises being supplied with water for the purpose of examining the condition of water pipes, water closets, and other plumbing, and in case a leak is found, to shut off the water until the leak is repaired by the consumer.

(`67 Code, § 4-6-30)

§ 52.78 RIGHT TO SHUT OFF WATER MAINS.

The city shall have the right at any time to shut off, ration, or apportion water by reason of an emergency, shortage or water supply, or for making repairs, modifications, changes or other work in city water service facilities.

(`67 Code, § 4-6-31)

§ 52.79 TERMINATION OF SERVICE.

Whenever the Water Department receives a written request from any property owner to terminate or discontinue water service to any property for the reason that the property is unoccupied and does not require such service, the Water Department shall terminate water and sewer services as of the date such notice is received, and shall make no further charges for water or sewer services until the owner requests resumption of service. Until such request is received, all such charges as provided shall be due and payable.

(`67 Code, § 4-6-33)

§ 52.80 CORRECTION OF VIOLATION.

In order to enforce the provisions of this chapter, the city may correct any violation of this chapter. The cost of such correction, including attorney's fees, may be added to any water service charge payable by the person occupying the property upon which the violation occurred, and the city shall have such remedies for the collection of such costs as it has for the collection of water service charges.

(`67 Code, § 4-6-43)

§ 52.81 VIOLATION AN INFRACTION.

Any person violating the provisions of this chapter is guilty of an infraction.

(`67 Code, § 4-6-46) (Ord. 83-1, passed 3-28-83)

Appendix L

DMM Cost Benefit Analysis Data

City of Riverbank
2010 Urban Water Management Plan

Demand Management Measure Cost-Benefit Analysis

DMM A - Water Survey Programs for Single-Family and Multi-Family Residential Customers

Unit Cost of Water 325 \$/MG^(a)
 100 \$/AF

Cost

Employee	\$	50.00	per hour ^(b)
(Salary and Benefits)	\$	52,000	per year (half time)
Vehicle Cost	\$	6,000	per year ^(c)
(capital depreciation, insurance, fuel, etc.)			
Materials	\$	6,000	per year ^(d)
(faucets aerators, shower heads, etc.)			
Advertisement	\$	400	per year
(flyers, web page development, etc.)			

Sub-Total of Annual Cost of Program	\$ 64,400
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Benefit

Single-Family Residence

Number of Single Family Residences	6,614	Units ^(e)
Number of Persons/Residence	3.5	Persons ^(f)
Per Capita Daily Water Consumption	200	gallons ^(g)
Estimated Water Savings per Residence	13	% ^(h)
Estimated Water Savings per Residence	33,200	gallons

	<u>Predicted Participation</u>	<u>Water Savings</u>
year 1 ⁽ⁱ⁾	8 %	17,567,000 gallons
year 2	7 %	15,371,000 gallons
year 3	3 %	6,588,000 gallons
year 4	1 %	2,196,000 gallons
year 5	1 %	2,196,000 gallons

Sub-Total of Predicted Water Savings	43,918,000 gallons
(Water Savings expected over the 5-year horizon window)	130 acre*feet

Sub-Total of Cost Savings (5-year Horizon)	\$ 13,000
Average Annual Cost Savings	<u>\$ 2,600</u>

Total Predicted (5 year) Water Savings	<u><u>130 acre*feet</u></u>
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Total of Cost Savings (5-year Horizon)	\$ 13,000
Average Annual Cost Savings	\$ 2,600

Annual Program Budget (Deficit)	\$ (61,800)
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Footnotes to DMM A Calculations Worksheet

- a. Unit Cost of Water: \$325/Million Gallons
- b. City Employee Compensation: \$50/hour
Based on an estimated \$37/hour + 33% of hourly wage for fringe benefits
- c. Annual Vehicle Cost: \$ 6,000 per year
Presumes 10,000 miles per year
- d. Materials Cost: \$ 6,000 per year
Annual budget set aside for purchasing and providing faucet aerators and low-flow shower heads to program participants.

Cost of facet aerator: \$ 10
Cost of shower head: \$ 15

(total no. of houses over time
No. of participating houses: 1200 horizon)
Time horizon 5 years

Annual materials cost: \$ 6,000
- e. Single-family Residences: 6614
- f. Number of Persons per residence: 3.5
- g. Water Consumption: 200 gallons per capita per day
- h. Estimated Water Savings: 13% per residence
Assumed typical value based off data provided in City of San Diego's Residential Water Survey Program. Water savings for single-family residences are expected to be larger than multi-family residences due to the large portion of water use dedicated to exterior irrigation.
- i. Program Time Horizon: 5 years
A 5-year time horizon is considered in this study, which coincides with the period between UWMP updates. It is assumed that the maximum program participation during this 5-year period is 20%. All calculations of program costs and water savings are based on a 20% participation rate.

DMM F - High Efficiency Washing Machine Rebate Program

Washing machine cash rebate: \$ 100

Program participation

Time horizon 5 years

Total water saved: 6143 gpd
2,242,000 gallons per year
6.9 AF per year

Annual cost savings:	\$ 688
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Cost

Time horizon 5 years

Predicted Participation		Rebate (Individual)		Rebate (Annual)		Other Costs (Disposal fees, advertisement, administrative, etc.)	
Year 1	260 res.	\$	100	\$	26,000	\$	500
Year 2	260 res.	\$	100	\$	26,000	\$	500
Year 3	260 res.	\$	100	\$	26,000	\$	500
Year 4	260 res.	\$	100	\$	26,000	\$	500
Year 5	260 res.	\$	100	\$	26,000	\$	500

Expected annual cost: **\$ 26,500**

Footnotes

a. Unit Cost of Water

b. Average Water Use Amercian Water Works Association Research Foundation,
Residential End Uses of Water , 1999, pp 104 -7

c. High-efficiency machine use Based on an average per load reduction in water use of 40%

Demand Management Measure Cost-Benefit Analysis

DMM H - School Education Programs

Unit Cost of Water 325 \$/MG^(a)
100 \$/AF

Program Participation

School	Enrollment
Elementary	1618
Middle	556
High	537
Total	2711

Cost

Brochure creation	\$	2,500
Reproduction/distribution	\$	2 per pamphlet
	\$	5,400 total distribution

Total Annual Cost **\$ 7,900**

Benefit

There is no quantifiable benefit to the program

Footnotes

a. Unit Cost of Water

Demand Management Measure Cost-Benefit Analysis

DMM N - Residential Ultra-Low-Flush Toilet Replacement Program

Unit Cost of Water	325 \$/MG ^(a)
	100 \$/AF

Ultra-Low-Flush Toilet Rebate	\$	100
-------------------------------	----	-----

Number of eligible residences	3000
Number of persons per residence	3.5
Average number of flushes per person	5 per day ^(b)
Volumer per flush, standard toilet	5.5 gallons
Volumer per flush, ULF toilet	1.6 gallons
Water savings	3.9 gallons per flush

Program participation

Time horizon 5 years

Predicted Participation		Water Use (Normal)	Water Use (High Efficiency)	Water Saved
Year 1	120 res.	11550 gpd	3360 gpd	8190 gpd
Year 2	120 res.	11550 gpd	3360 gpd	8190 gpd
Year 3	120 res.	11550 gpd	3360 gpd	8190 gpd
Year 4	120 res.	11550 gpd	3360 gpd	8190 gpd
Year 5	120 res.	11550 gpd	3360 gpd	8190 gpd

Total water saved: 8190 gpd
2,989,000 gallons per year
9.2 AF per year

Annual cost savings:	\$ 917
-----------------------------	---------------

Cost

Time horizon 5 years

		Rebate		Rebate	Other Costs	
Predicted Participation		(Individual)		(Annual)	(Disposal fees, advertisement, administrative, etc.)	
Year 1	120 res.	\$	100	\$ 12,000	\$	500
Year 2	120 res.	\$	100	\$ 12,000	\$	500
Year 3	120 res.	\$	100	\$ 12,000	\$	500
Year 4	120 res.	\$	100	\$ 12,000	\$	500
Year 5	120 res.	\$	100	\$ 12,000	\$	500

Expected annual cost: **\$ 12,500**

Footnotes

a. Unit Cost of Water

b. Average Water Use Amercian Water Works Association Research
Foundation, *Residential End Uses of Water* , 1999, pp
96 -7

Appendix M

Resolution to Adopt the UWMP and WSCP

TO BE PROVIDED

Appendix N

American Water Works Association (AWWA) Water Auditing Worksheet



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association

Water Audit Report for: **City of Riverbank (CA5010018)**
Reporting Year: **2020** 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources: 9 1,450.577 MG/Yr
Water imported: n/a 0.000 MG/Yr
Water exported: n/a 0.000 MG/Yr

WATER SUPPLIED: 1,460.015 MG/Yr

Master Meter and Supply Error Adjustments

Pcnt: 9 Value: -9.438 MG/Yr
MG/Yr
MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered: 5 1,281.131 MG/Yr
Billed unmetered: n/a 0.000 MG/Yr
Unbilled metered: n/a 0.000 MG/Yr
Unbilled unmetered: 18.250 MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 1,299.381 MG/Yr

Click here:
for help using option

Pcnt: 1.25% Value: MG/Yr

Use buttons to select
percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

160.634 MG/Yr

Apparent Losses

Unauthorized consumption: 3.650 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 3 12.941 MG/Yr
Systematic data handling errors: 3.203 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 19.794 MG/Yr

Pcnt: 0.25% Value: MG/Yr

1.00% MG/Yr
0.25% MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **140.840 MG/Yr**

WATER LOSSES: 160.634 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 178.884 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 5 68.0 miles
Number of active AND inactive service connections: 9 6,853
Service connection density: 101 conn./mile main

Are customer meters typically located at the curbstop or property line?

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 60.0 psi

COST DATA

Total annual cost of operating water system: 10 \$2,215,730 \$/Year
Customer retail unit cost (applied to Apparent Losses): 10 \$2.40 \$/1000 gallons (US)
Variable production cost (applied to Real Losses): 5 \$295.54 \$/Million gallons ☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 72 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Customer metering inaccuracies

2: Billed metered

3: Variable production cost (applied to Real Losses)



AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0

American Water Works Association.

Water Audit Report for: **City of Riverbank (CA5010018)**Reporting Year: **2020** **1/2020 - 12/2020******* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 72 out of 100 *****

System Attributes:

Apparent Losses:	19.794	MG/Yr
+ Real Losses:	140.840	MG/Yr
= Water Losses:	160.634	MG/Yr

Unavoidable Annual Real Losses (UARL): **30.57** MG/YrAnnual cost of Apparent Losses: **\$47,505**Annual cost of Real Losses: **\$41,624** Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:

Non-revenue water as percent by volume of Water Supplied: **12.3%**Non-revenue water as percent by cost of operating system: **4.3%** Real Losses valued at Variable Production Cost

Operational Efficiency:

Apparent Losses per service connection per day: **7.91** gallons/connection/dayReal Losses per service connection per day: **56.31** gallons/connection/dayReal Losses per length of main per day*: **N/A**Real Losses per service connection per day per psi pressure: **0.94** gallons/connection/day/psiFrom Above, Real Losses = Current Annual Real Losses (CARL): **140.84** million gallons/year**?** Infrastructure Leakage Index (ILI) [CARL/UARL]: **4.61**

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

Appendix O

Stanislaus County Local Hazard Mitigation Plan

Stanislaus County, California



Local Hazard Mitigation Plan

Updated 2017



BOARD OF SUPERVISORS

Vito Chiesa, Chairman

Kristin Olsen

Terry Withrow

Dick Monteith

Jim DeMartini

Submitted by
Chief Executive Officer
Stan Risen

Stanislaus County
Office of Emergency Services
Local Hazard Mitigation Plan
July 2017

For more information please contact:

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Assistant Director of Emergency Services
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SECTION ONE

Introduction

SECTION ONE - INTRODUCTION

PURPOSE

In the State of California and around the world, natural disasters occur frequently. The time and money needed to recover from these events can strain or deplete local resources. The purpose of hazard mitigation planning is to identify policies, actions, and strategies that will help to reduce risk and prevent future losses. Hazard mitigation is best realized when community leaders, businesses, citizens, and other stakeholders join together to undertake a process of learning about hazards that can affect their area and use this knowledge to prioritize needs and develop a strategy for reducing damage. Hazard mitigation is most effective when it is based on a comprehensive long-term plan that is developed prior to a disaster occurring.

HAZARD MITIGATION PLANNING

The Federal Emergency Management Agency (FEMA) has determined that there is a critical link between Hazard Mitigation Planning and sustainability. This means if Stanislaus County has the foresight to plan ahead to reduce the impacts of hazards, we will be better able to prevent injury, loss of life and damage to our homes, businesses, and neighborhoods. The County can use the threat of disaster as a catalyst to act and develop a plan so we can recover more quickly following a disaster.

Stanislaus County has committed itself to reducing long-term risk to our citizens and damage to property from the effects of natural hazards. By planning, preparing, and adopting a Hazard Mitigation Plan, the County is taking a proactive approach to reduce or eliminate the impacts of hazards before they occur.

FEMA defines Hazard Mitigation as any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The County's plan will serve as a tool for learning from disasters that have already occurred, so we can deal with them more effectively and efficiently with less expenditure than in the past.

Direct benefits include:

- Reduced loss of life;
- Reduced loss of property and essential services;
- Reduced economic hardship;
- Reduced reconstruction costs;
- Increased cooperation and communication within the community through the planning process; and
- Expedited post-disaster funding.

Indirect benefits include:

- Disaster resilience;
- Environmental quality;
- Economic vitality; and
- Improved quality of life.

PLANNING REQUIREMENTS

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act ("the Stafford Act"), enacted by Section 104 of the Disaster Mitigation Act of 2000 ("DMA 2000"), provides revitalized approaches to mitigation planning. Section 322 continues the requirement for a State mitigation plan as a condition of disaster assistance, and establishes a new requirement for local mitigation plans. In order to apply for Federal aid for technical assistance and post-disaster funding, local jurisdictions must comply with DMA 2000 and its implementing regulations (44 CFR Part 201.6).

Under the 2008 44 CFR update, requirements have changed governing mitigation planning provisions for local mitigation plans published under 44 CFR §201.6. Local mitigation plans now qualify communities for the Federal mitigation grant programs including:

DISASTER FUNDED GRANTS:

- Hazard Mitigation Grant Program (HMGP)
- Hazard Mitigation Assistance Grants:
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Severe Repetitive Loss (SRL)
- Repetitive Flood Claim (RFC)

PLAN UPDATE

The Stanislaus County Local Hazard Mitigation Plan identifies risks posed by disasters, and identifies ways to minimize damage from those disasters. The plan is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination.

The Stanislaus County plan, initially approved by FEMA on January 12, 2006, and updated and approved by FEMA on July 20, 2011, must be updated every five years. This Plan Update will demonstrate the County's commitment to reducing risk and will serve as a guide for decision makers as they commit resources to minimize the effects of natural hazards. By proactively mitigating the possible effects of a disaster and/or emergency, the County continues to work toward the goal of reducing risk to human life and property and ensuring the priorities of a safe and healthy community.

Federal emergency management agencies only provide disaster relief funds to local governments that have shown positive steps to prevent loss and damage from disasters by adopting a Hazard Mitigation Plan. Planning now, ensures that the County will be covered later, in the event that disaster strikes.

Each section of the County's Local Hazard Mitigation Plan was reviewed and revised as appropriate to reflect changes in development, updated property values, and progress in local mitigation efforts. It will be resubmitted for approval to the California Governor's Office of Emergency Services (Cal OES) and FEMA. If FEMA determines the plan is "approvable pending adoption," the County will then proceed with the adoption process by the Board of Supervisors as required in the prerequisites. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The plan, upon adoption, shall include documentation of adoption in the form of a Board Resolution and Board Agenda item and minutes.

PLAN COMPONENTS

The basic elements involved in our Hazard Mitigation Plan include:

Prerequisite - This section addresses the formal adoption of the plan by each governing body to demonstrate the commitment of the community and elected officials to the County's goal of becoming disaster-resistant.

Community Profile - This section provides the history and background of the County, including population trends and the demographic and economic conditions that have shaped the area.

Planning Process - This section identifies the planning process, the Planning Team members, the meetings held as part of the planning process, documents the outreach efforts, and the review and incorporation of existing plans, reports, and other appropriate information.

Risk Assessment - This section describes the process through which the Planning Team and our local partners identified, screened, and selected the hazards to be profiled. The hazard analysis includes the description, location, extent, and probability of future events for each hazard.

Mitigation Plan/Strategy - The mitigation strategy section provides a plan for reducing the potential losses identified in the vulnerability analysis. Mitigation goals and potential actions to minimize the risks and losses associated with each hazard will be described along with a strategy for implementation.

SECTION ONE

Plan Maintenance - This section describes the method and schedule for monitoring, evaluating and updating the plan to ensure that the LHMP remains an active and applicable document.

SUMMARY

This plan is designed to identify specific actions to reduce loss of life and property from the following five hazards: earthquake, landslide, dam failure, flood, and wildfire. It is not intended to establish procedures to respond to disasters or replace an existing Emergency Operations Plan. The goal of hazard mitigation is to decrease the need for response as opposed to outlining a plan for responding to a disaster.

Natural disasters cannot be prevented from occurring. However, it is the intent of this LHMP to steadily lessen the impacts associated with future hazard events.

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SECTION TWO

Prerequisites

SECTION TWO - PREREQUISITES

STANISLAUS COUNTY BOARD OF SUPERVISORS



ADOPTION BY LOCAL GOVERNING BODY

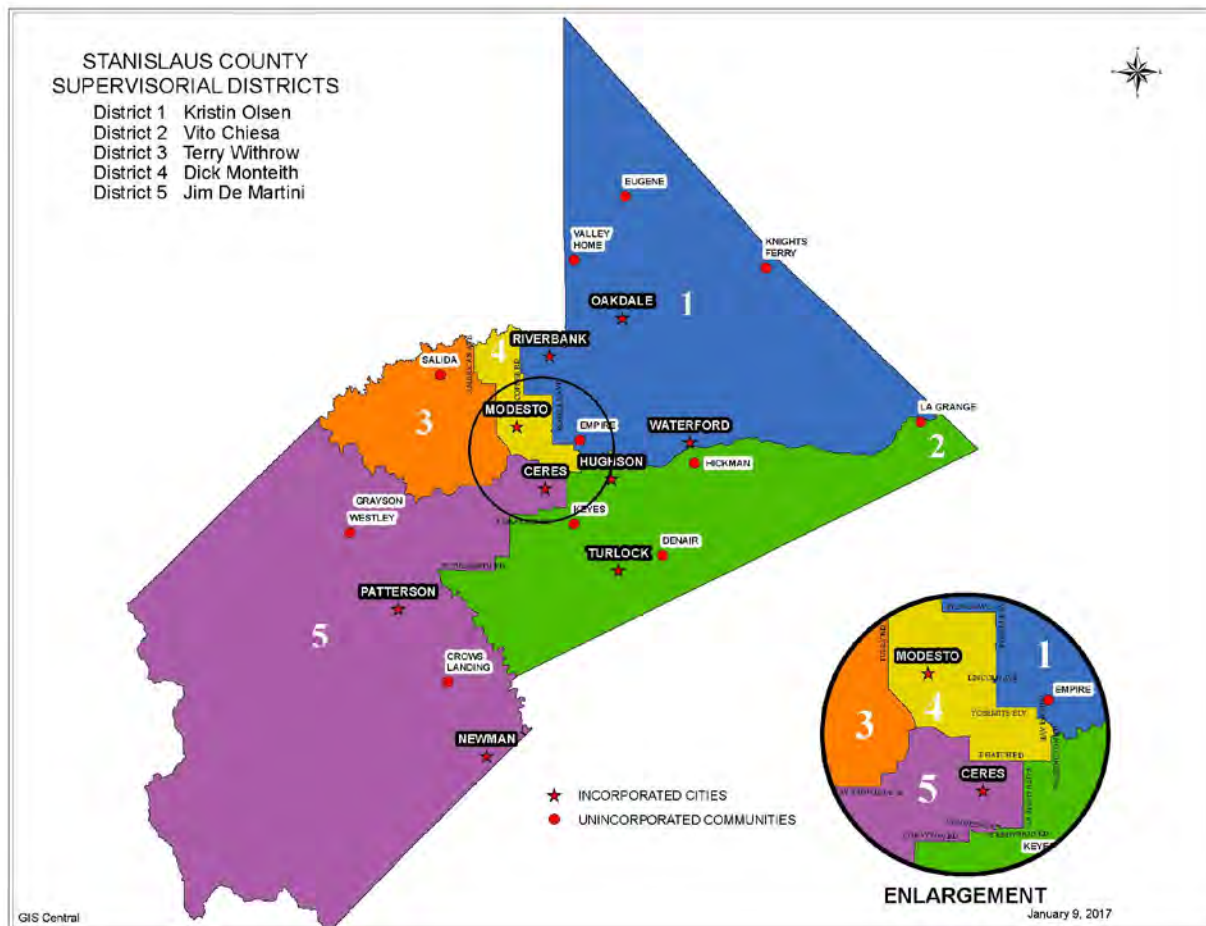
The Federal Emergency Management Agency's (FEMA) 44 Code of Regulations (CFR) Part 201.6(c) (5) requires that the Local Hazard Mitigation Plan is formally adopted by the governing body of the jurisdiction requesting approval of the plan. The Plan shall include documentation of plan adoption, usually in the form of a resolution.

"Approval Pending Adoption" is a recommended and potentially time-saving process by which the County submits the final draft of the LHMP to the California Governor's Office of Emergency Services (Cal OES), and the Federal Emergency Management Agency (FEMA) for a review *prior* to formal jurisdictional adoption. If the County's plan meets all the plan requirements, the plan will then be returned with an approvable pending adoption status. When the approval pending adoption plan is adopted by the jurisdiction, and FEMA has received the documentation of adoption, it will then be formally approved through a signed FEMA approval letter.

The County intends to follow this recommended process and, as such, will wait to receive an "Approval Pending Adoption" before taking the plan to the Board of Supervisors for adoption.

If the plan is not adopted, the County is not eligible to apply for and/or receive project grants under the following hazard mitigation assistance programs:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Severe Repetitive Loss (SRL)
- Repetitive Flood Claim (RFC)



PLAN UPDATE

The County is required to review and revise its plan, and resubmit it for approval within five (5) years in order to continue to be eligible for mitigation project grant funding. The County understands that a plan update is not an annex to the previously approved plan, but stands on its own as a complete and current plan, that has been reviewed and updated in all aspects.

PLAN EXPIRATION DATE

The County's most recent plan update was approved on July 20, 2011, and expired on July 20, 2016.

PLAN ADOPTION

Adoption of the LHMP by the Stanislaus County Board of Supervisors on _____ Resolution Number _____ demonstrates the County's commitment to fulfilling the mitigation goals and objectives as outlined in the plan. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities.



SECTION THREE

Community Profile

SECTION THREE - COMMUNITY PROFILE

GENERAL INFORMATION

Stanislaus County is located in the heart of California's Central Valley, (see Figure -1) within 90 minutes of the San Francisco Bay Area, the Silicon Valley, Sacramento, the Sierra Nevada Mountains, including Yosemite National Park, and California's Central Coast. It is also within a five-hour drive of Los Angeles. Two of California's major north-south routes (Interstate 5 and Highway 99) intersect the area making the County one of the dominant logistics center locations on the west coast.

It is bordered on the north by San Joaquin County, the east by Mariposa, Tuolumne, and Calaveras Counties, the south by Merced County, and the west by Alameda and Santa Clara Counties. Established in 1854, Stanislaus County's total land area is 1,494 square miles. The County seat is the City of Modesto, located near the center of the County.



The mild Mediterranean climate makes Stanislaus County one of the best agricultural areas in the world, positioning it as a global center for agribusiness. The County averages approximately twelve inches of rainfall each year and experiences a full spectrum of the seasons. Temperatures range from an average low of 38 degrees Fahrenheit in the winter, to an average high of 85 degrees Fahrenheit during the spring and fall, and to average highs in the 90's during the summer months.

SECTION THREE

Temperature Averages and Average Rainfall for Stanislaus County (Source U.S. Climate Data)

Average High/Low Temperature	Average Rainfall
January 55°/40° F (13°/4.5° C)	January 2.6 inches
August 94°/62° F (34.2°/16.8° C)	August .05 inches
Annual 76°/52.2° F (24.4°/10.6° C)	Annual 13.2 inches

RIVERS

There are four major rivers in Stanislaus County. Three, the Stanislaus, Calaveras, and Tuolumne Rivers, run east to west, with the Calaveras River crossing just the tip of the northeast County border. The fourth, the San Joaquin River, runs southeast to northwest. Dry Creek also runs east to west, and then merges with the Tuolumne River in Modesto. There are no flow control systems on Dry Creek. Rainfall and runoff in the eastern portion of the County directly affect this creek. The County also has three major reservoirs; Modesto, Woodward, and Turlock.

TRANSPORTATION

According to the California Department of Transportation, in 2014 Stanislaus County had 181 miles of State Highways, 2,940 miles of public roads, and 382 bridges. There were 265,347 registered automobiles, 11,958 registered motorcycles, and 102,349 registered trucks. Bus inventory was 73. The County had 317,718 licensed drivers and 79.6% commuted by car alone.

HIGHWAYS/ROADS/BRIDGES

State Highways 99, 108/120, 33, 132, and Interstate 5 are major transportation routes through the County. Highways 99, 33 and I-5 run north – south and Highways 108/120 and 132 run east – west. These major highway/freeway routes would be highly utilized by both County residents and tourists as possible evacuation routes.

Public roadways and bridges within Stanislaus County are owned and maintained by the California Department of Transportation, Stanislaus County Public Works Department and the nine city Public Works Departments. A high potential exists for road closures due to flooding or earthquakes. Parts of the County may become isolated for a period of time when these conditions exist. While most secondary roads are paved, there are still a number of unpaved public roads within the County.

AIRPORTS

One joint County/City of Modesto operated airport is located in Stanislaus County. The Modesto City-County-Harry Sham Field Airport's runways are 5904' and 3464' respectively. The airport operates 24 hours daily, although the tower is closed at night. It is capable of multiple engine propeller aircraft or jet aircraft, as large as a 737-400. There are an additional four airports in Stanislaus County; Oakdale Municipal Airport (2400 foot east-west runway), Turlock Municipal Airport (2985 foot north-south runway), Patterson Airport (2500 foot north-south runway) and the Crows Landing Naval Air Station. Both the Patterson Airport and the Crows Landing Naval Air Station are not functional Airports. In Patterson, the runway and tarmac are leased by a private company and a landing area is used for medical helicopters.

RAILROADS

The Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) Railroads are the freight lines serving Stanislaus County. Both have tracks running north – south in the County. Amtrak passenger service is provided on the BNSF track with a passenger station located in eastern Modesto. Sierra Railroad serves between Tuolumne County and the City of Oakdale in Stanislaus County. Also, the Modesto and Empire Traction Company (M&ET), a short line freight railroad, provides interconnection services between UP and BNSF Railroads, as well as serving the industrial hub of the County. M&ET operates 5 miles of yard main track and 39 miles of spurs and sidetracks.

SECTION THREE

MEDICAL FACILITIES

Stanislaus County is home to Doctors Medical Center, Emanuel Medical Center, Memorial Medical Center, Kaiser-Permanente Hospital, Oak Valley Hospital, and Stanislaus Surgical Hospital. All but the Stanislaus Surgical Hospital provide Basic Emergency Services. Only Doctor's Medical Center and Memorial Hospital provide Level II Trauma Services.

The County also has approximately 20 licensed Nursing and Rehabilitation Care Centers that can coordinate with hospitals to alleviate surge during an incident. In addition, Stanislaus County Health Services Agencies has medical offices in Ceres, Hughson, Modesto, and Turlock, and provides a variety of medical services throughout the County.

Hospital	Number of Licensed Beds	ER Services	Trauma Services
Doctor's Medical Center, Modesto	394	Basic Emergency	Level II
Emanuel Medical Center, Turlock	209	Basic Emergency	None
Kaiser Hospital, Modesto	140	Basic Emergency	None
Memorial Hospital, Modesto	423	Basic Emergency	Level II
Oak Valley Hospital, Oakdale	35	Basic Emergency	None
Stanislaus Surgical Hospital, Modesto	23	None	None

Source: California Office of Statewide Health Planning and Development Healthcare Atlas

ARTS, ENTERTAINMENT AND RECREATION

Stanislaus County offers a variety of arts, entertainment and recreation opportunities. The County is home to a vibrant arts community with the world class Gallo Center for the Arts, a symphony orchestra, and abundant visual and performing arts. Notable places of interest include the McHenry Mansion, McHenry Museum, the State Theater in Modesto, the Carnegie Arts Center in Turlock, and the Assyrian Cultural Center in Ceres.

For sports enthusiasts, John Thurman Field, located in the City of Modesto, is home to the Modesto Nuts, a minor league Class A baseball team that serves as a farm team of the Colorado Rockies.

Stanislaus County maintains five regional parks, twelve neighborhood parks, ten community parks, two Off-Highway Vehicle parks, five fishing access points along rivers and lakes, and one swimming pool. Day use and camping is available at Frank Raines Regional Park, and camping, boating and other recreational activities are available at the Modesto Reservoir Regional Park and Woodward Reservoir Regional Park.

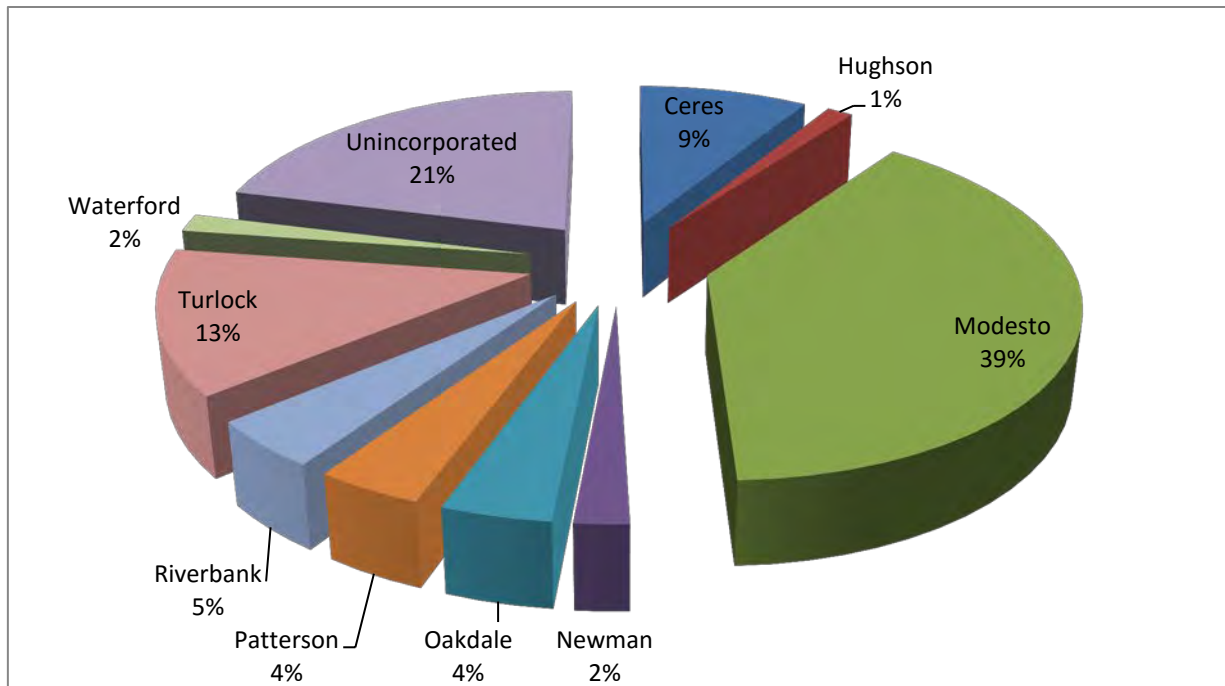
COUNTY POPULATION

Stanislaus County has nine municipalities: the Cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, and Waterford. Additionally, there are thirteen unincorporated communities within the County and substantial areas of State and Federally controlled lands such as parks, wildlife areas and other public lands. Modesto has the largest population within the County. The

SECTION THREE

United States Office of Management and Budget has designated Stanislaus County as the Modesto, CA Metropolitan Statistical Area. The United States Census Bureau ranked the Modesto, CA Metropolitan Statistical Area as the 103rd most populous metropolitan statistical area of the United States as of July 2012.

Stanislaus County Estimated Population 2015



Source: California Department of Finance and US Census

Estimated Population Increase 2010 – 2015

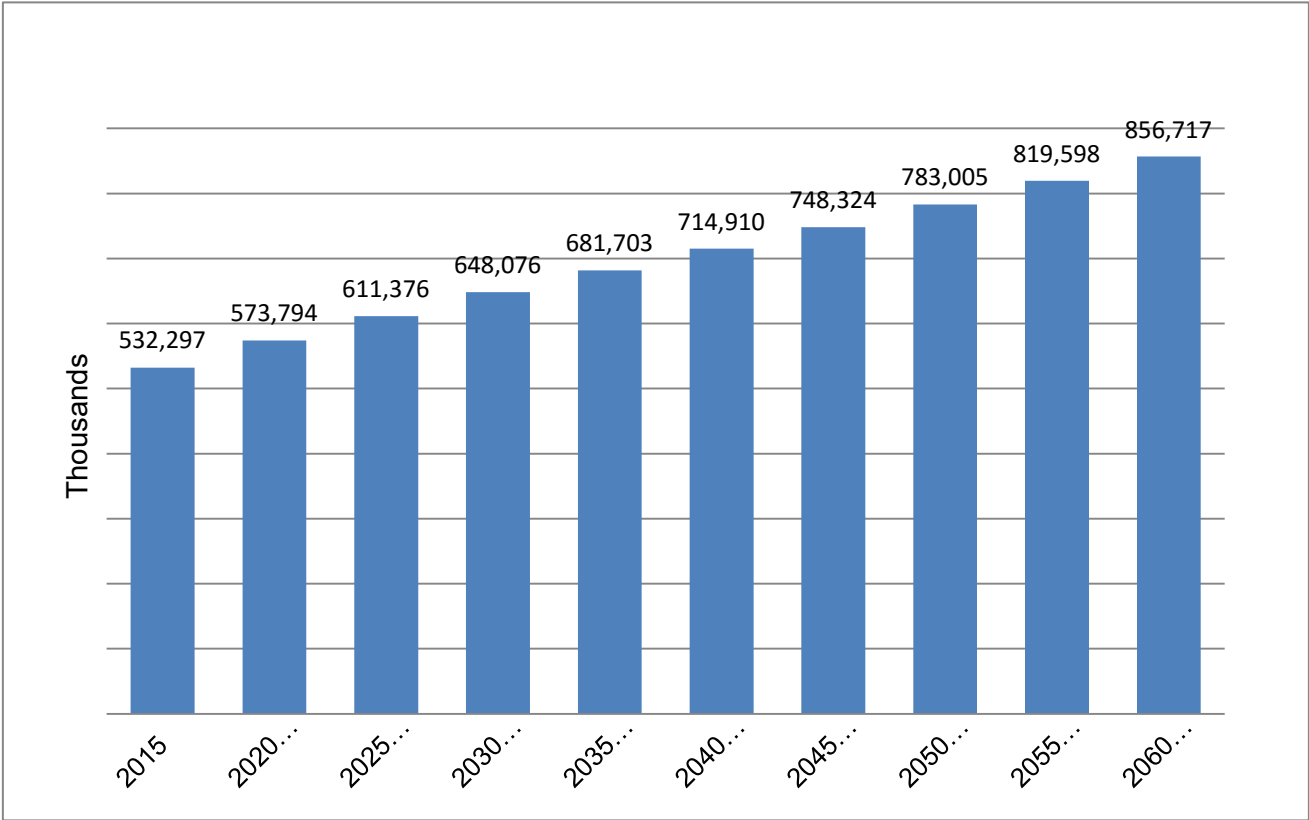
County/City	2010 Census	2015 Estimate Pop.	% Increase
Stanislaus	514,453	532,297	3.5%
Ceres	45,417	46,989	3.5%
Hughson	6,640	7,222	8.7%
Modesto	201,165	209,185	3.9%
Newman	10,224	10,753	5.1%
Oakdale	20,675	21,773	5.3%
Patterson	20,413	21,094	3.3%
Riverbank	22,678	23,485	3.5%
Turlock	68,549	71,043	3.6%
Waterford	8,456	8,686	2.7%
Unincorporated	110,236	112,066	1.6%

Source: California Department of Finance and US Census

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According to the State of California Department of Finance Demographic Research Unit, as of January 2015, the estimated total population for Stanislaus County was 532,297. The State of California Department of Finance projects the population for Stanislaus County in 2060 to be 856,717. This represents a 61% increase in population.

Stanislaus County
Projected Population Growth



Source: California Department of Finance

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Stanislaus County Population Characteristics – 2010-2015 U.S. Census

Population	Number	Percent
Total Population	538,388	100%
Sex and Age		
Male	266,503	49.5%
Female	271,885	50.5%
Median Age (years)	32.9	
18 and under	146,979	27.3%
65 years and older	65,144	12.1%
Disabled	69,078	13.4%
Total Households	168,090	
Persons per household	3.07	
Median household income	\$49,573	
Persons in poverty, percent	93,115	18.1%
Language other than English spoken at home	208,352	40.5%
Education		
High School graduate or higher, percent	397,156	77.2%
Bachelor's degree or higher	84,369	16.4%
Stanislaus County School Enrollment (K-12)	106,126	19.7%

The median resident age for Stanislaus County residents is 32.9. Approximately 11.7% of the population is over the age of 65. The disability status of the civilian non-institutionalized population is 13.4%. Of the 13.4%, 4.2% are under 18 years, 11.1% are 18-64 years, and 47.6% are 65 years and older.

For the total population five years and older, 59.5% speak English only in the home and 40.5% speak a language other than English.

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2014 American Community Survey – Race and Hispanic/Latino

Estimated Population	531,997	100%
Hispanic or Latino	234,452	44.1%
White	234,649	44.1%
Black	12,171	2.3%
American Indian and Alaska Native	3,130	.6%
Asian	28,694	5.4%
Native Hawaiian and Other Pacific Islander	3,416	.6%
Some Other Race	1,479	.3%
Two or more races	14,006	2.6%

The 2014 American Community Survey provide by the California Department of Finance shows that the total population of Stanislaus County is comprised of 44.1% Hispanic or Latino, 44.1% White, 2.3 % Black, .6% American Indian and Alaska Native, .6% Native Hawaiian and Other Pacific Islander, .3% some other race, and .6% two or more races.

Household Income

The estimated median household income for Stanislaus County for 2014 was \$49,573 compared to \$61,933 for the State of California.

EDUCATION

An estimated 77.2% of Stanislaus County residents over 25 are high school graduates or above, with 16.4% having a Bachelor's degree or higher.

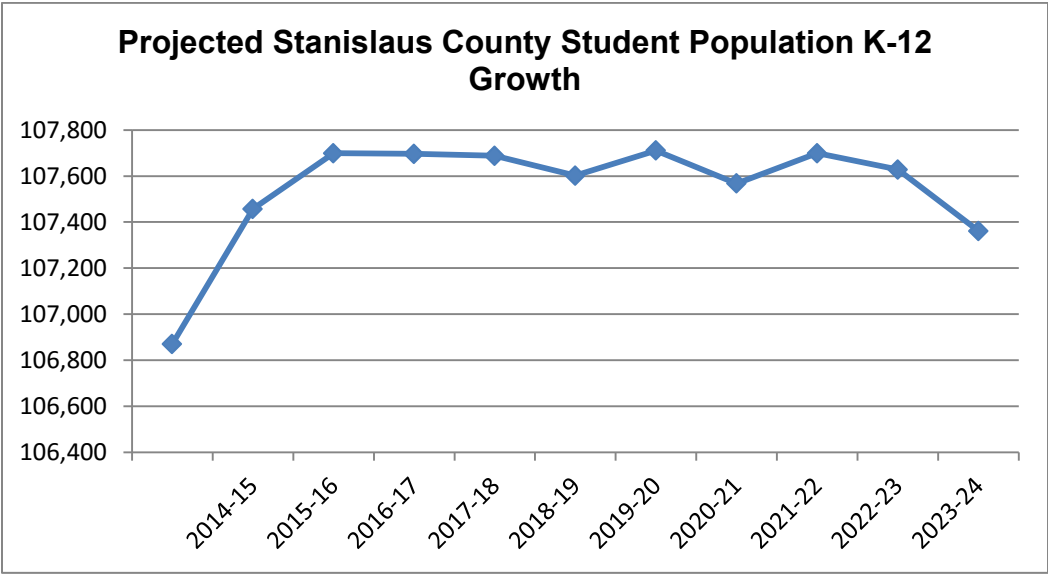
Post-Secondary Education

California State University, Stanislaus - Stanislaus County is home to California State University, Stanislaus (CSUS). The 228-acre campus located in the City of Turlock, along with the Stockton Center, serves a diverse student body of more than 9,000.

Modesto Junior College - Modesto Junior College offers two main campuses on the east and west side of Highway 99. The east campus comprises 58.3 acres, and the west campus comprises 167.1 acres which includes six large scale agricultural units. The college has a current enrollment of 19,262 students, including more than 8,000 students in the Community Education Program.

Stanislaus Public School Enrollment

The California Department of Finance and Stanislaus County Office of Education (SCOE) lists 106,126 students enrolled in K-12, or 20% of the County population, for the 2014/2015 School Year. Projections through 2024/2025 show that number increasing by less than 1000 students. SCOE is a partner agency with the Stanislaus Operational Area Council and participates in quarterly meetings.

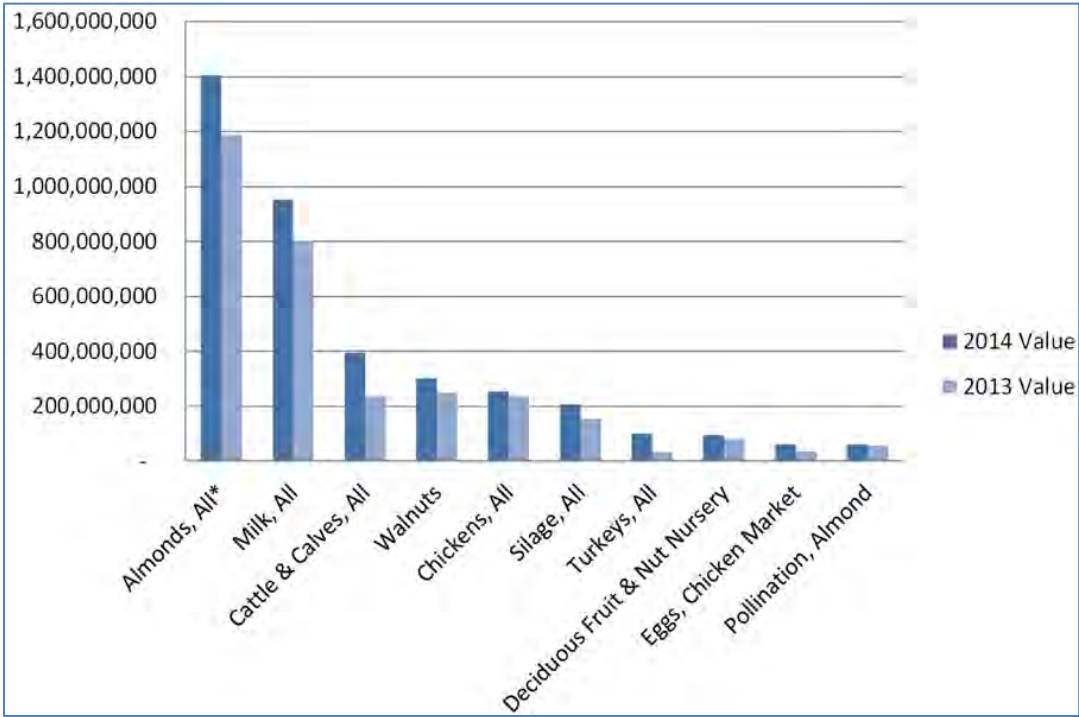


Source: Stanislaus County Office of Education and California Department of Finance

ECONOMY

Stanislaus County’s productive soils, long growing seasons, and extensive transportation network combine to make a successful farm and business region.

Agriculture is the County’s core industry with the value of agricultural commodities produced in 2014 valued at \$4,397,286,000. This represents at 20% increase from the 2013 gross production value and is primarily attributed to a significant raise in the value of almond meats, cattle and calves, milk production, turkeys, silage, and walnuts. However, 13,000 fewer acres were harvested than in 2013 due to forced fallowing brought on by a fourth year of drought conditions. Most of the acres fallowed were vegetable and silage crops on the west side of the County.



Source: Stanislaus County Agricultural Crop Report 2014.

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The Stanislaus Business Alliance, a local organization, oversees both economic development and workforce training activities in Stanislaus County. They maintain current statistics and other reports relevant to conducting business in the County. According to the Alliance, manufacturing continues to be an important employer in Stanislaus County. The top ten major manufacturing employers in 2016 are listed in the following chart.

Major Manufacturing Employers – 2016

Employer	Description	Employees*
E & J Gallo	Winery	3,300
Seneca Foods	Fruit Products	2,275
Del Monte Foods	Fruit Products	2,200
Stanislaus Food Products	Tomato Products	1,850
Foster Farms	Poultry Processor	1,500
ConAgra	Tomato & Bean Products	1,050
Bronco Wine	Winery	834
Silgan Containers	Metal Food Containers	750
Frito-Lay	Snack Food Products	684
Racor	Filtration Products	444

**Reflects peak seasonal levels where applicable. Source: Stanislaus Business Alliance*

The top ten private employers in Stanislaus County in the non-manufacturing field for 2016 are listed in the following chart.

Major Non-Manufacturing Private Employers – 2016

Employer	Description	Employees*
Memorial Medical Center	Healthcare	2,600
Doctors Medical Center	Healthcare	2,467
Save Mart Supermarkets	Retail Supermarket	1,661
Duarte Nursery	Plant Nursery	1,500
Emanuel Medical Center	Healthcare	1,250
Sutter Gould Medical Foundation	Healthcare	1,200
MedAmerica Billing Services	Medical Billing	900
Kaiser Permanente	Healthcare	800
Amazon	Fulfillment	750
Oak Valley Hospital District	Healthcare	750

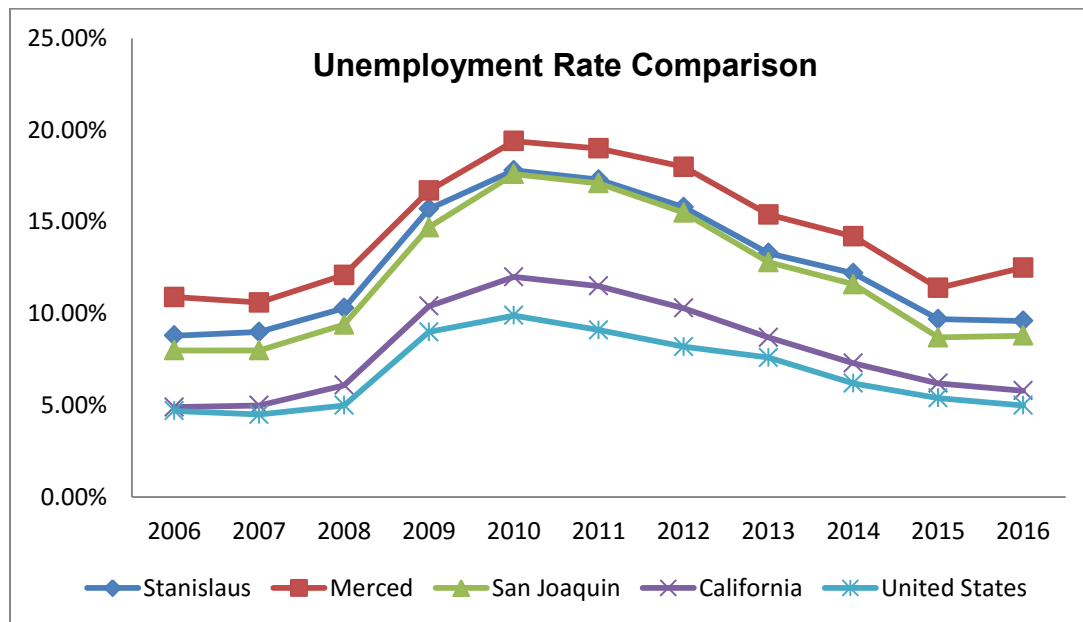
**Reflects peak seasonal levels where applicable. Source: Stanislaus Economic Development and Workforce Alliance*

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According to the California Employment Development Department, the unemployment rate in Stanislaus County was 9.6 percent in March 2016, up from a revised 9.3 percent in February 2015, and below the year-ago estimate of 10.7 percent for the nation during the same period.

UNEMPLOYMENT RATE COMPARISON

The County's unemployment rate rose to 17.8% in 2010, the highest figure recorded in 10 years, up from 15.7% in 2009, and a low of 8.8% in 2006, according to the California Employment Development Department and the United States Department of Labor. Since 2010, unemployment rates have dropped to 9.6% in 2016. This number is still significantly higher than the State percentage of 5.8% and the United States average of 5%. Unemployment rates can affect the number of commuters who must travel outside the County for work.



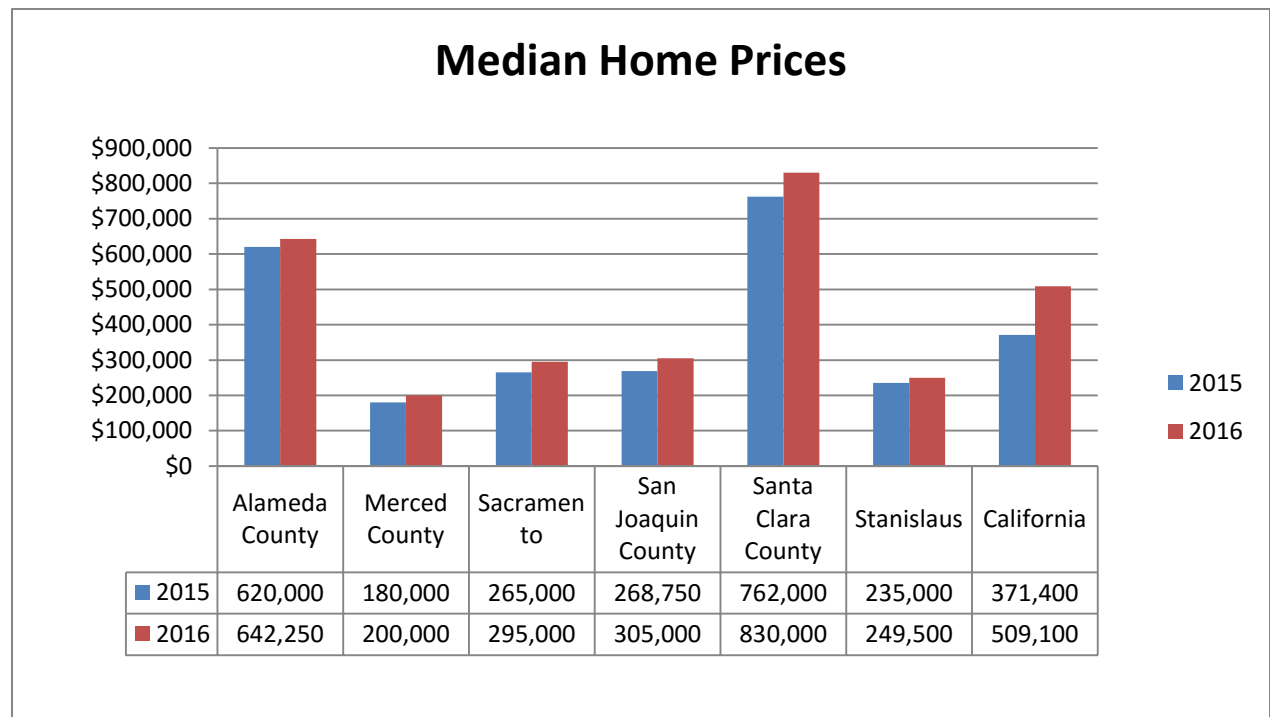
Source: California Employment Development Department, United State Department of Labor

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HOUSING

Home values in California experienced a dramatic decrease during the Great Recession from 2007 to 2009. The median home price in Stanislaus County peaked at \$256,000 in December 2005 and fell to \$129,000 by March 2012. In 2015, median home values in Stanislaus County had reached \$235,000, and by 2016, they had increased by 6.2% to \$249,500. Although median home prices in Stanislaus County have increased, the County still lags behind four of the five comparison counties and the State. Santa Clara County had the largest increase with an 8.9% increase in median home values between 2015 and 2016.

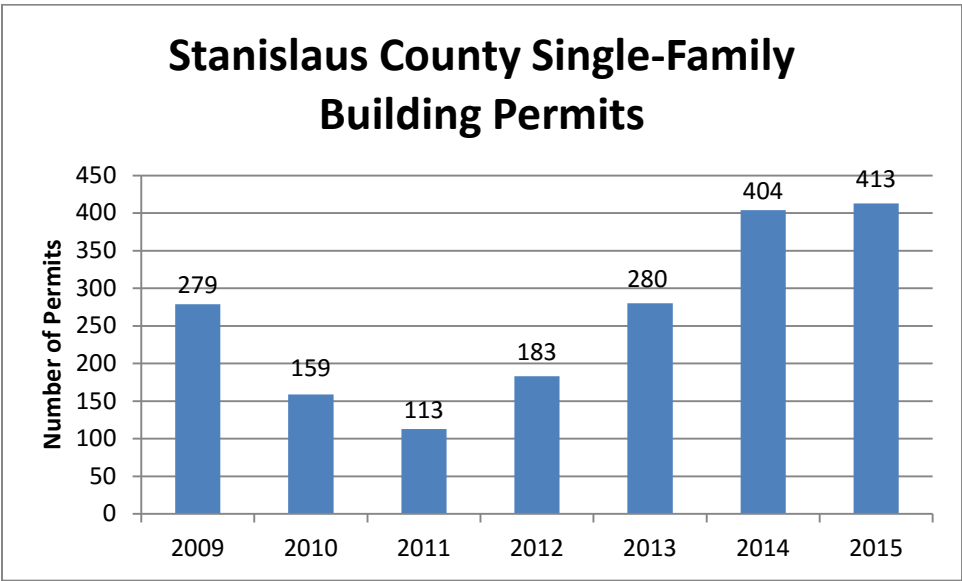
Within the unincorporated area of Stanislaus County there has been no significant development since the previous plan was adopted in 2011. The exception to this is the planned community on the western side of the County called Diablo Grande. Limited building has resumed within this area. Other building within the County has occurred within the cities.



Source: Corelogic.com

SINGLE-FAMILY BUILDING PERMITS

Stanislaus County tracks issued single-family residential construction permits as a way of monitoring the home construction, building materials and construction employment sector. After reaching a low of 113 in 2011, issued permits have experienced a steady increase to 413 permits issued in 2015.

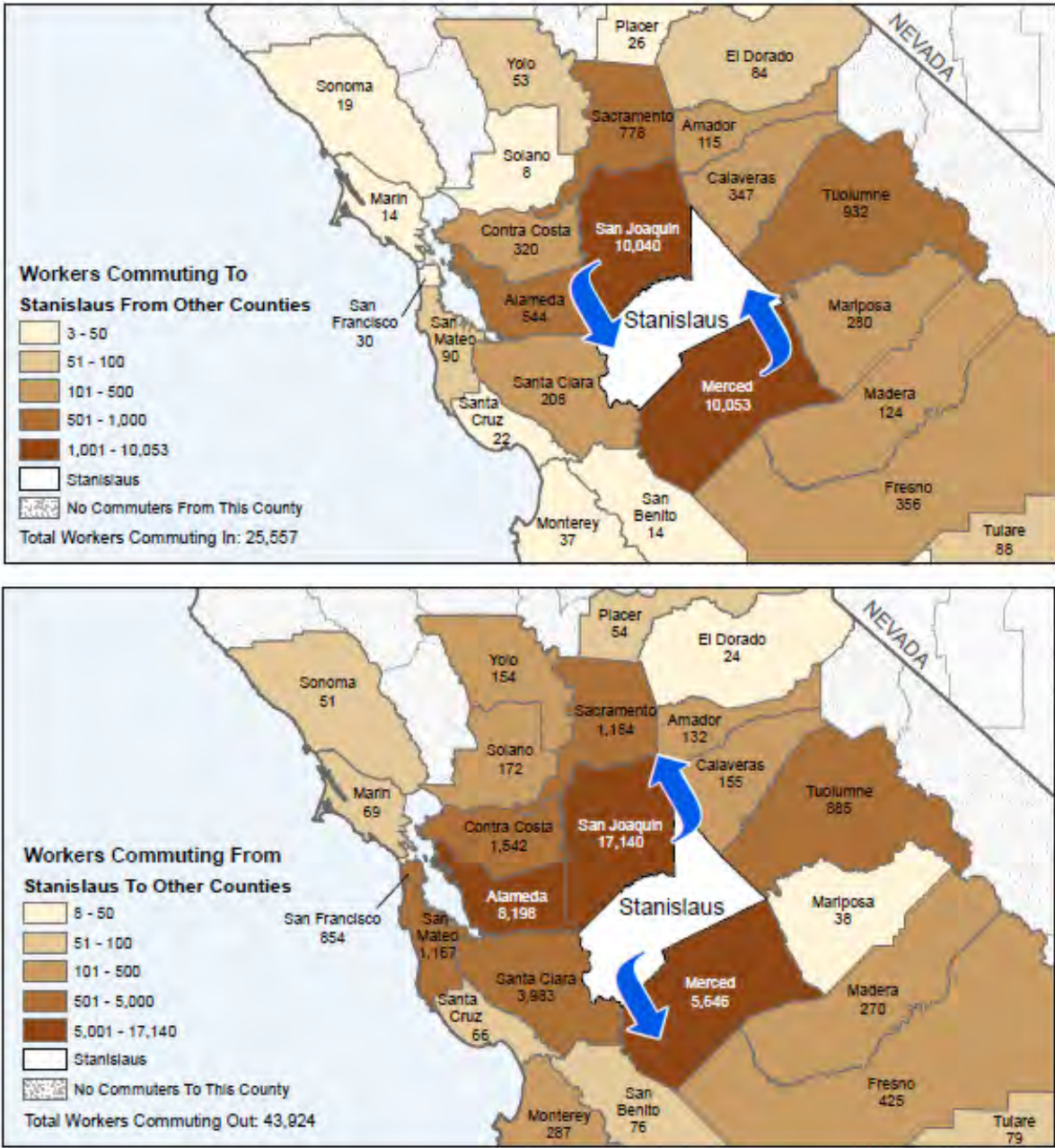


Source: United States Census Bureau

COMMUTERS

Based on a January 2013 report by the U.S. Census Bureau, the State of California Employment Development Department estimates that 25,557 workers commuted to work from other counties to Stanislaus County and 43,924 workers commuted from Stanislaus County to other Counties. The total number of workers estimated to live and work in Stanislaus County is 157,079.

Stanislaus
County to County Commuting Estimates



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SECTION FOUR

Planning Process

SECTION FOUR - PLANNING PROCESS

This section identifies the planning process, the Planning Team members, the meetings held as part of the planning process, documents the outreach efforts, and the review and incorporation of existing plans, reports, and other appropriate information.

A comprehensive description of the planning process in this document informs citizens and other readers about the plan's development and serves as a record of how decisions were reached. A detailed summary of the participation demonstrated by each jurisdiction is presented under Supporting Documentation at the end of this section.

At the Kickoff Meeting on March 31, 2016, the Office of Emergency Services convened an internal meeting with Planning Team members. The Planning Team members include representatives who are leads in the development of the Stanislaus County General Plan, the Capital Improvement Plan and the Emergency Operations Plan. Their involvement in the plan development ensures the integration of the mitigation plan with other local plans. The following is list of Planning Team members, including their roles in the planning process.

PLANNING TEAM MEMBERS

ROLE	NAME	DEPARTMENT
Assistant Director of Emergency Services/Fire Warden Authority on mitigation planning, hazard response, and community issues.	Dale Skiles	Office of Emergency Services
Deputy Director of Emergency Services/Fire Warden - Project Leader - Flood and Dam Inundation Risk Assessment and Mitigation Strategy	Eric Holly	Office of Emergency Services
Project Manager/Plan Author to July - Initiate and managed the plan update through June, 2016; - Involved participating jurisdictions and stakeholders and represented the Chief Executive Office; and - Developed text and orchestrates actual production of plan document.	Paul Gibson	SBT / Office of Emergency Services
Project Manager/Plan Author – July forward - Assumed responsibility for completing the plan and managed the final development - Responsible for final submittal and approval of the LHMP - Project Lead for Plan - Project Lead for Earthquake Risk Analysis and Mitigation Strategy	Deborah Thrasher	Office of Emergency Services
Project Assistant Provides project management assistance to the Project Manager/Plan Author; and Planning Team.	Peter Ishaya	Chief Executive Office / Office of Emergency Services

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ROLE	NAME	DEPARTMENT
Emergency Management - Assists in coordinating emergency services for OES and Operational Area. - Project Lead for Landslide Hazard Risk Analysis and Mitigation Strategy	Melba Hibbard	Office of Emergency Services
Plan Development/Hazard Knowledge - Edited and finalized plan document for adoption; - Historical data of past events; and - Knowledge of Emergency Operations Plan for the County and nine cities.	Chris Holmer	Office of Emergency Services
Fire Marshal - Responsible for Federal, State and local code interpretations; and - Code variance, pre-engineering analysis, new business development, and fire code development for the County. - Wildfire Hazard Expert	Jerry McDaniel/ Randy Crook	Office of Emergency Services
Planner Plan development, land use, future development, and safety element of the General Plan.	Angela Freitas, Director	Planning & Community Development
Planner Plan development, land use, future development, and safety element of the General Plan.	Kristin Doud	Planning & Community Development
Chief Building Official Building code enforcement, land use, and mitigation goal and strategy contact.	Denny Ferreira	Planning & Community Development
Public Works - Expert on County infrastructure. This includes inventory and valuation information for public infrastructure for each of the five identified hazards. The inventory is comprehensive and includes: roads, traffic signals, drainage facilities, lighting facilities, bridges, and airports; and - GIS mapping is now done through the Public Works Department, but will soon be handled by the Strategic Business Technology department.	Randy Avants	Public Works
Public Works/GIS Manager GIS implementation and mapping.	Peou Khiek	Public Works / SBT
Public Works/GIS Application Specialist GIS map creation, research, data collection, data verification, and hazard analysis.	Aron Harris	Public Works / SBT

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ROLE	NAME	DEPARTMENT
Assessor - Determines property values of parcels in County; and - Shares database and resources to aid in determining property values for risk assessment and integration with GIS mapping of hazards.	Don Gaekle	Assessor's Office
Assessor - Information Technology Specialist; - Shares database and resources to aid in determining property values for risk assessment and integration with GIS mapping of hazards; - Information Technology Specialist	Clarence Willmon	Assessor's Office
Capital Projects - Provides inventory of current and future County facilities for integration into GIS mapping. - Provides link to Capital Projects and Capital Improvement Plan	Tim Fedorchak	Chief Executive Office
Senior Application Specialist IT expert; and coordinating efforts between SBT and Planning Team members.	Debra Siebrecht	Strategic Business Technology
Risk Management Provides a list of the insured value of each County owned facility.	Kevin Watson	Risk Management Division / Chief Executive Office

LHMP KICK-OFF MEETING

On March 16, 2016, the Project Assistant sent an e-mail to the Planning Team members across multiple County departments, inviting them to participate in the Kick-Off Meeting for the LHMP Update. These County personnel were assigned to execute specific roles for the update.

On March 31, 2016, fifteen individuals participated in the Kick-Off Meeting held at 1010 10th Street Modesto, California, Room 2008. The Assistant Director of Emergency Services explained the importance of participating in the plan update and presented an overview of the process with a discussion explaining the plan requirements. The Project Manager and Assistant Director of Emergency Services reviewed the FEMA Planning Guide requirements and discussed the importance of accurately completing the planning process. The Project Manager provided training on the desired organization of the plan document and reviewed the requirements of the Prerequisites, Planning Process, and Risk Assessment sections of the plan. Training on the Mitigation Strategy and Plan Maintenance sections of the plan were identified to be discussed at the next meeting.

PUBLIC INVOLVEMENT IN THE PLAN DEVELOPMENT PROCESS/DECLARATION OF INTENT TO PARTICIPATE WITH STANISLAUS COUNTY

On April 12, 2016, the Project Assistant sent an email notification to local jurisdictions and participating agencies inviting them to participate in the Public/Participating Agency Meeting to be held at Salida Library. Over 190 individuals were contacted from various jurisdictions within the County. A press release

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was submitted by David Jones, Stanislaus County Director of Communications and Legislative Affairs. Mr. Jones also informed the media about the public notification. The press release can be found here: <http://www.stancounty.com/news-room/news-releases/news-2016/pdf/press-release-20160411-oes.pdf>.



CHIEF EXECUTIVE OFFICE
Office of Emergency Services/
Fire Warden

Dale Skiles
Fire Warden
Assistant Director of OES

3705 Oakdale Rd, Modesto, CA 95357
Phone: 209.552.3600 Fax 209.552.2512

PRESS RELEASE

For Immediate Release
April 8, 2016

Contact: Paul Gibson
(209) 552-3600

PUBLIC MEETING:

Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan Update

The Office of Emergency Services will hold a public meeting on **April 28th, 2016 from 1:00 p.m. to 3:00 p.m. at the Salida Library**. You are invited to attend. The purpose of the meeting is to provide a project overview and gather input from citizens regarding natural, human-caused and other hazards in Stanislaus County and the risk to critical facilities and vulnerable areas in our County.

Natural disasters, such as earthquake and flooding are real threats to citizens, property, businesses and government operations. In California, wildfires are a perennial concern. Stanislaus County would hope to hear from you about the types and natures of hazards that we all face, and your thoughts about how to minimize or curb their impacts.

Details:

Stanislaus County Hazard Mitigation Plan Update Public Meeting
Time & Date: 1:00-3:00PM, Thursday, April 28, 2016
Location: Nick W. Blom Salida Regional Library
4835 Sisk Rd, Salida, CA 95368

About the Hazard Mitigation Plan

The plan, when approved, will guide Stanislaus County toward greater disaster resistance as part of on-going efforts to create a more sustainable community. An approved plan will also qualify the County for certain kinds of Federal mitigation project funding. This plan will be a blueprint for reducing or eliminating long-term property damage and saving lives from the effects of future natural and man-made disasters in the community. This detailed plan update will address a variety of potential hazards that could affect some or all of the County's residents.

Hazard mitigation plans must be implemented on an ongoing basis, and updated every five years to ensure that they remain applicable representations of local risk and locally-preferred risk reduction strategies. More information about the project is maintained on the County's website at <http://stanoes.com/mjhmp.shtm>.

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Each jurisdiction was asked to formally declare if they were going to participate with Stanislaus County. This information was used to determine participation so the Project Manager could schedule meetings and share resources.

JURISDICTIONS INVITED	PARTNERS INVITED
Mayors/City Managers	18 partners
School Districts	27 partners
Community Service Districts	8 partners
Fire Protection Districts	15 partners
Fire Services	7 partners
Police Services	5 partners
Hospital Districts	3 partners
Irrigation Districts	6 partners
Sanitary Districts	2 partners
Cemetery districts	3 partners
Drainage Districts	2 partners
Flood Control Districts	2 partners
Mosquito Abatement Districts	2 partners
Reclamation Districts	2 partners
Resource Conservation Districts	2 partners
Water Districts	7 partners

On April 4, 2016, the Office of Emergency Services convened an internal meeting with the hazard team leads to discuss the plan update process and schedule, set the agenda for the public/participating agency meeting, review tasks to be accomplished, and assign hazard team leads their individual responsibilities for each hazard identified in the plan update.

On April, 6, 2016, the Project Manager and the Project Assistant met with the GIS Team to discuss data gathering and GIS mapping for the plan update. An update strategy was assigned to the GIS Team to assist them in completing and delivering high-quality GIS maps for the 2016 Local Hazard Mitigation Plan.

On April 13, 2016, a teleconference call was scheduled with CalOES representative, Victoria LaMar-Haas to discuss the update strategy, process, and planning with Planning Team members. Other topics discussed during this meeting included review tools and guides that may be used in the plan update. The following individuals participated in the conference call: Peter Ishaya, Paul Gibson, Kevin Watson, Don Gaekle, Debbie Siebrecht, Melba Hibbard, Marvin Afable, Jerry McDaniel, Randy Avants, Eric Holly, Dennis Cordova, and Francine Gutierrez.

On April 28, 2016, the Office of Emergency held the Public/PA Meeting at the Nick W. Blom Salida Regional Library, located at 4835 Sisk Road, Salida, California 95368. The Assistant Director of

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Emergency Services explained the importance of participating in the plan update and presented an overview of the process with a discussion explaining the plan requirements.

**Local Hazard Mitigation Plan
Public Participating Agency Meeting
April 28, 2016
Attendees**

NAME	POSITION	DEPARTMENT/ORGANIZATION
Melba Hibbard	OES Manager	Stanislaus County OES
Deborah Thrasher	OES Planner/Personal Services Contractor	Stanislaus County OES
Eric Holly	Deputy Fire Warden	Stanislaus County OES
Richard Murdock	Executive Director	Mountain-Valley Emergency Medical Services Agency
Matt Erickson	Public Works Director	City of Waterford
Adam Scheuber	Water Operations and Resources Manager	Del Puerto Water District
John Black	Director of District Security, Compliance and Emergency Preparedness	Yosemite Community College District
Erik Klevmyr	Fire Prevention Specialist II	Stanislaus County OES
Mike Borges	Chief of Police	Mike Borges
Paul Willette	Director of Ambulance Operations	Patterson District Ambulance
Mike Payton	Fire Division Chief	Modesto Fire Department
Jaime Towe	Chief Business Officer	Salida Union School District
Beronia Beniamine	Hazardous Materials Division Manager	Stanislaus County Department of Environmental Resources
Steve Jackson	Probation Manager	Adult Probation Department
Norma Torres-Manriquez	Administration Analyst II/Human Services Specialist	City of Riverbank
Teresa Fields	Facilities Analyst	Stanislaus County Office of Education
Dan Bernaciak	Deputy Agricultural Commissioner/Sealer	Stanislaus County Agricultural Commissioner

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NAME	POSITION	DEPARTMENT/ORGANIZATION
Jeff Gregory	Fire Chief	City of Patterson and West Stanislaus Fire Protection District
Darlene Barber-Martinez	City Council Member	City of Riverbank
Laura Rodriguez-Mascorro	Campus Continuity Coordinator	California State University Stanislaus
Jerry McDaniel	Personal Services Contractor	Stanislaus County OES
Paul Easter	Deputy Fire Marshal	City of Modesto Fire Department
Elsy Voltino	Emergency Services Coordinator	Cal OES
Don Gaekle	Assessor	Stanislaus County Assessor's Office
Jeff Rufo	Road Supervisor	Stanislaus County Public Works Department
James Ferrera	Manager II	Stanislaus County Health Services Agency
Ray Martin	Board Member	Oakdale Fire Protection District
Casi Persons	Confidential Assistant IV	Stanislaus County OES
Tim Spears	Fire Marshal	Stanislaus Consolidated Fire Protection District
John W. Barios	Board Member	Stanislaus Consolidated Fire Protection District
Kristin Doud	Associate Planner	Stanislaus County Planning and Community Development Department
Tom Price	Superintendent/Principal	Valley Home Unified School District
Danielle Denczek	District Manager	Salida and Oakdale Rural Fire Protection Districts
Mike Anderson	Veteran and Military Liaison	Congressman Jeff Denham's Office
Ed Miller	Director of Child Welfare	Modesto City Schools

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Participants provided feedback during the meeting through their completion and submittal of the Hazard Identification Questionnaire. Each entity was asked to review the hazards and state if they concurred with the determination and to provide information on: (a) any unique concerns; (b) any notable events since 2010, including the date, number of injuries, and types (and or dollar amounts) of damages to buildings, utilities, infrastructure and, especially, critical facilities; and (c) any areas of the County and/or specific facilities that they felt were particularly at risk, even if there are no historic occurrences.

There were fifteen surveys received and reviewed at the meeting. Seven respondents indicated no additional hazards should be included in the updated plan. The following hazards were mentioned at least once for inclusion in the current plan: chemical spills, climate change, cyber terrorism, drought, extreme heat and windstorms / tornados. Cyber terrorism was noted five times, the most of any new hazards. The survey specific to new hazards was also available on the internet via SurveyMonkey. One response was received with the responder indicating avalanche, chemical spill, climate change, cyberterrorism, drought and windstorms/tornadoes should be considered for inclusion in the plan update. The meetings participants had a lively discussion and reached consensus that the County would include the original five hazards identified in previous plans and not include new hazards at this time. The five hazards are earthquake, landslide, dam failure, flood, and wildfire. Climate change impacts will be discussed specific to each of these five hazards.



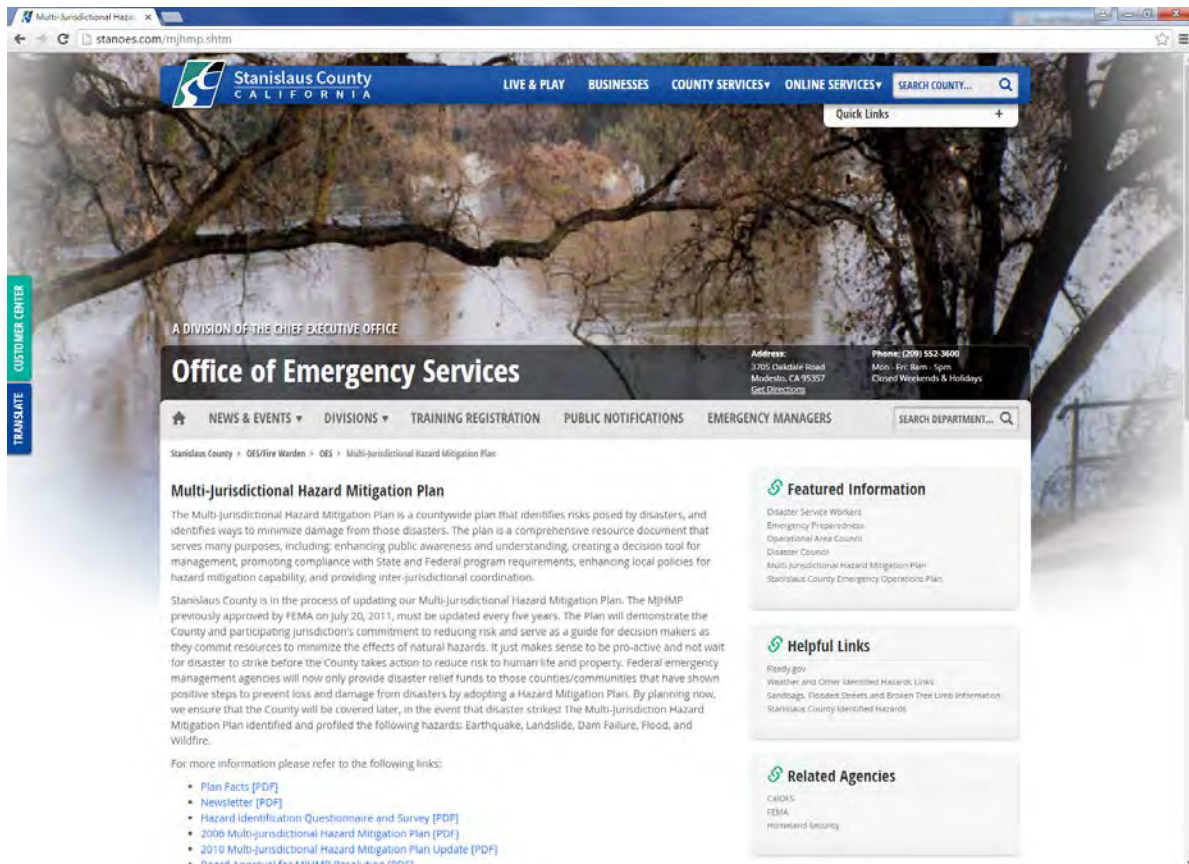
The meeting was the perfect opportunity to discuss the benefits of local mitigation planning. A local plan offers an opportunity to cooperate on mutual concerns, allows economies of scale, and avoids duplication of efforts.

The LHMP Update website <http://stanoes.com/LHMP.shtm> was shared at the meeting. Resource materials such as: Plan Facts, Hazard Identification Questionnaire and Survey were reviewed.

It is important to provide the general public with a means to not only learn about the Plan Update, but to voice concerns and to provide input throughout the planning process. The LHMP website served as a means to alert the public to the fact that the County was working to develop a Hazard Mitigation Plan Update and to provide the public with an opportunity to participate, ask questions, and submit comments and/or suggestions on the process through the SurveyMonkey link posted on the website. The website provided an opportunity to ensure that the participating jurisdictions were fully aware of the plan update and to make it easier for them to become involved and engaged during the planning process. The website will continue to be maintained on a regular basis to alert the public on the progress of the update

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and subsequent updates. The website also has a Contact Us link with the name and phone number of the Assistant Director of Emergency Services and Project Manager so individuals can reach out for information on how to become involved. The following screen shot shows the County's site.



PLAN FACTS

Plan Facts was created to increase public awareness of the hazard mitigation plan process by providing a simple one page handout that could be used to inform the public and community leaders and other stakeholders about the importance of hazard mitigation planning and the plan update. Hard copies were handed out at the Public/PA Meeting.

Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan Facts



For more information contact:

- Dale Skiles, Assistant Director of Emergency Services (209) 552-3600
- Paul Gibson, Project Manager (209) 552-3868
- pgibson@stanoes.com
- Visit our website at: <http://www.stanoes.com/oes.shtm>
- Office of Emergency Services
3705 Oakdale Road, Modesto, California 95357
- Natural disasters can't be prevented, but their impacts can be reduced through hazard mitigation
- The County Multi-Jurisdictional Hazard Mitigation Plan is currently being updated. If you are interested in participating please contact the Project Manager.
- Components of a MJHMP include: prerequisites, planning process, risk assessment, mitigation strategy, and plan maintenance.
- Don't miss out—join Stanislaus County as one of our multi-jurisdictional partners!



Protect Your Future...



What is Hazard Mitigation?

Natural hazards have the potential to cause property damage, loss of life, economic hardship, and threats to public health and safety. Hazard mitigation measures are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. Hazard Mitigation measures are the things you do today to be more protected in the future. They are measures taken before a disaster happens to reduce the impact that future disasters will have on people and property in the community. Mitigation reduces the risk of loss and creates a more disaster-resistant and sustainable community.

Purpose and Need for the Plan

Hazard mitigation plans are developed BEFORE a disaster strikes. The plans identify community policies, actions, and tools for long-term implementation to reduce risk and potential for future losses. Adopted, implemented, and maintained on an ongoing basis, these plans will lessen the impacts associated with hazard events in Stanislaus County. As of November 1, 2004 communities that do not have a FEMA approved hazard mitigation plan in place are no longer eligible for FEMA project grant monies under programs such as the Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Pre-Disaster Mitigation Grant Program, and Severe Repetitive Loss.

Participation

Jurisdictions located within Stanislaus County who wish to be recognized by FEMA as being compliant with DMA 2000 must either: (a) participate with the County in the multi-jurisdictional plan development process and formally adopt the final plan, or (b) prepare their own hazard mitigation plan. All jurisdictions in Stanislaus County are being invited to participate in the process. Active participation in the process is the only way a jurisdiction can be seen in FEMA's eyes as a "participating jurisdiction" that has met the requirements of DMA 2000 and is therefore eligible to apply for Federal funds for hazard mitigation projects. Participation includes attending meetings, providing feedback, reaching out to the public and other key stakeholders in the community, and adopting the final plan.

All jurisdictions received an email following the Public/PA Meeting with an update of what was discussed along with copies of the resource materials and link to the website. The initial meeting generated a lot of interest and subsequent one-on-one meetings with various jurisdictions wanting additional information on how to proceed.

In past years, the County coordinated the development of a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). After Stanislaus County Office of Emergency Services staff reviewed the previous hazard mitigation plans and the short timeline to complete the update, the County decided to focus on the development of a Local Hazard Mitigation Plan (LHMP). References to the MJHMP in other county plans should be considered synonymous with the term LHMP. The LHMP developed for the County may be used as a base plan by other local government within Stanislaus County to complete their specific plans. County OES staff will be available to assist with the development of mitigation plans by local agencies.

INVOLVEMENT OF OTHER STAKEHOLDERS IN THE PLAN DEVELOPMENT PROCESS

In order to meet Federal requirements, the plan development process must be open to stakeholders beyond planning group members and the general public. Opportunities must be available for other stakeholders such as businesses, neighboring communities, academia, and other relevant private and non-profit interests to become involved in the planning process. The Planning Team determined that the LHMP website, previously mentioned, would provide an opportunity for the public to be notified of the plan update.

GEOGRAPHICAL INFORMATION SYSTEM (GIS) PROJECT PLANNING

When the Risk Assessment for the Local Hazard Mitigation Plan was originally prepared in 2004, the County's Public Works Department was responsible for all GIS mapping. Between 2004 and June 2016, the GIS mapping function was transferred to Strategic Business Technology (SBT) Department. Since July 1, 2016, the GIS mapping function has returned to the Strategic Business Technology (SBT) Department as part of some organizational restructuring executed by the Chief Executive Office.

The Project Manager, who previously served as the County's former Chief Information Officer in the previous Local Hazard Mitigation Plan in 2011, scheduled a GIS internal meeting on April 6, 2016, to discuss the update process and schedule, plan review, data gathering, and GIS hazard mapping for the Plan update. In attendance were representatives from the County's Information Technology Department (Strategic Business Technology), Public Works – GIS, and the Assessor's Office. The GIS team proceeded to discuss the details of the GIS mapping requirements, such as including inventory and valuation information for public infrastructure for each of the five identified hazards: earthquake, landslide, dam failure, flood, and wildfire. Other related comprehensive inventory information that was discussed included: roads, traffic signals, drainage facilities, lighting facilities, bridges and airports.

Other data collection partners included: Kevin Watson from Risk Management who was contacted to provide a list of the insured value of each County owned facility, and Tim Fedorchak of Capital Projects, who was contacted to provide a list of the County-owned and occupied facilities. Assessor, Don Gaekle, was contacted by the GIS Manager to provide access to the Assessor's database for the LHMP update. The Assessor previously assisted the County in 2004 when the original Hazard Mitigation Plan was drafted.

Most of the inventory and risk data can be layered into the County's existing GIS system to provide nearly instant aggregation of asset values within specifically identified risk areas. This data will then be updated and made available in a live database to ensure that the information is current. A GIS-based solution provides an interactive tool that can be shared with emergency responders and policy-makers in addition to supplying the preventative hazard mitigation-planning tool for development analysis purposes. Use of the GIS system will also be expanded in the future to provide for automation of notification to responders for virtually any "emergency alert" situation such as evacuations. Other resources were used for data integration for hazard mapping, including CalOES tools such as MyHazards and MyPlan.

PUBLIC WORKS/GIS PROJECT PLANNING MEETINGS

The Project Manager and Project Assistant met with the GIS team on April 29, 2016 to describe the role, responsibilities and expectation of Public Works in the plan update. Also in attendance was Victoria LaMar-Haas from CalOES. Participants discussed what information was needed to prepare the GIS maps and how to obtain resources from State Cal OES and FEMA. In attendance were Aron Harris, Mike Baniel, Peter Ishaya, and Paul Gibson. Victoria LaMar-Haas presented on MyHazards and MyPlan tools for use in the plan update.

On July 8, the Project Lead met with the Director of the Strategic Business Technology (SBT) Department and the GIS Manager to review the progress on the GIS maps. SBT continued regular meetings to oversee the development of GIS components of the plan. GIS worked with the Project Lead to ensure accurate and up to date information.

GIS SCOPE OF WORK FOR EACH HAZARD INCLUDES:

- Identify Structures—buildings, infrastructure, critical facilities, structures that house elderly or disabled and transportation systems—both for present assets and those planned for the future.
- Address Repetitive Loss Properties—by type including residential, commercial, and institutional.
- Estimate Potential Losses. The development of the Local Hazard Mitigation (LHMP) will include an inventory of assets from each publicly governed jurisdiction, coordinated by Stanislaus County, and an assessment of hazard risks: earthquakes, flooding, dam failure, wildfires and landslides.
- The LHMP must include the five specified risks gauged at 22 levels. The asset inventory provided by the County Assessor's Office database includes individual parcels; various lands use codes, and various taxing agencies or districts.
- County property (building asset) inventory and valuation—for both present assets and those planned for the future. This inventory to be by APN number with Assessor's use code, government jurisdiction, and valuation data for all APN's.
- Update the separate GIS layers for present assets and those planned for the future, to allow for GIS queries and reports to distinguish between the two. When new facilities are completed, the corresponding feature will be moved from the "future assets" layer to the "current asset" layer.
- From Census data, the number of people that would be affected by each natural hazard.
- During an update to the risk assessment, local jurisdictions must consider current and expected future vulnerability to all hazards and integrate new hazard data such as flood studies. Local jurisdictions are asked to incorporate updated estimates of cost of living and replacement costs for vulnerable buildings and impacts of population growth or loss in vulnerable areas.
- The number of properties/assets by general use code, for privately owned properties, and the sum of the property values, and improvement values from the Assessor's database.
- The number of people impacted by the disaster.

STRATEGIC BUSINESS TECHNOLOGY (SBT)—GEOGRAPHICAL INFORMATION SYSTEM (GIS)

The GIS maps and reports developed for the Local Hazard Mitigation Plan were developed by the Stanislaus County Public Works Department. This system is not connected to, dependent on, or in any way related to the GIS system developed by California CAD Solutions for the Alliance project. The Alliance project was developed using the Autodesk MapGuide software—a browser based "inquiry only" type system with limited analysis and mapping capabilities. That project addressed the specific needs of the Alliance group, and runs on an entirely different server from any other County GIS system.

The GIS system used for the LHMP, is based on ESRI's ArcInfo software, and is capable of performing sophisticated GIS layer creation, analysis, and mapping tasks. ESRI's software is the County GIS standard, used by most, if not all other County departments actively involved in GIS—including SBT, the Emergency Operations Center, and 9-1-1.

RISK ASSESSMENT MEETING

All Planning Team members were invited to attend a Risk Assessment meeting held on May 3, 2016 and May 4, 2016 in Room 2008 of 1010 10th Street, Modesto, California. Planning Team members, along with hazard team leaders, consulted with various experts within the County, in order to develop a comprehensive risk assessment for each hazard identified in this plan update.

MITIGATION STRATEGY MEETING

On June 1, 2016, the Project Manager and Project Assistant convened a meeting with the Planning Team. The previous plan was reviewed and new mitigation goals and actions were discussed along with incorporating information from the Safety Element of the Stanislaus County General Plan.

The Planning Team was charged to review and further analyze the mitigation goals and strategies in order to set hazard mitigation goals, set objectives for mitigation actions, and review implementation strategy. Incorporating feedback and comments from all Planning Team members into the draft plan was helpful in updating the mitigation strategies for this plan update. The Planning Team then developed a mitigation strategy with goals and actions to increase the disaster resistance of the County, along with

SECTION FOUR

procedures for monitoring, evaluating, and updating the Plan to ensure that it remains a “living document.”

JOINT DISASTER COUNCIL/OPERATIONAL AREA COUNCIL MEETING

On May 26, 2016, Stan Risen, the Chief Executive Officer, who also serves as the Director of Emergency Services, and Dale Skiles, the Assistant Director of Emergency Services, presented the planning process for the 2016 Local Hazard Mitigation Plan. Participants included the nine incorporated cities within the County and partnering agencies.

FINAL REVIEW

On August 30, 2016, all members of the Planning Team received a draft copy of the hazard mitigation plan for review and feedback. The Planning Team was given a turnaround time in which to review the plan and provide comments to the Project Manager for incorporation into the final submission to CalOES and FEMA. Comments were received from Planning Team members representing GIS, Capital Projects, the Office of Emergency Services, Assessor, Public Works and Planning. Input included updated information specific to the flood and dam risks along with GIS data. The team also provided guidance on areas that needed additional editing.

The plan was submitted for local government and public review on September 15, 2016. The draft LHMP was posted on the Stanislaus County website and a comment form was included. The public comment period was also promoted via a press release and on Facebook and Twitter. Operational Area partners, including cities and districts, were sent emails with link to the website that included the draft plan and comment form. The public comment period closed on October 3, 2016 and no comments were received through the website. There were additional comments during this period from the Stanislaus County Planning Department and the Office of Emergency Services. The comments were specific to the General Plan references, the dam failure risk assessment and general edits for the plan. The comments were incorporated into the document. Below is the Press Release for the September 15, 2016 plan review.

SUPPLEMENTAL REVIEW

The State of California Office of Emergency Services reviewed the LHMP and contacted the Stanislaus County Office of Emergency Services with suggestions to enhance the plan. As a result members of the planning team met on January 12, 2017. Representatives present were from the Planning Department, Assessors Office, Public Works, Office of Emergency Services/Fire Warden and the Chief Executive Office. Items for discussion included the mitigation activities and the cost-benefit analysis. The updated plan was re-submitted to the State of California on February 2, 2017.



CHIEF EXECUTIVE OFFICE
Office of Emergency Services/
Fire Warden

Dale Skiles
Fire Warden
Assistant Director of OES

3705 Oakdale Rd. Modesto, CA 95357
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PRESS RELEASE

For Immediate Release
September 15, 2016

Contact: Dale Skiles
(209) 552-3600

PLAN REVIEW AND COMMENT PERIOD: Stanislaus County Local Hazard Mitigation Plan Update

Every five years the Federal Emergency Management Agency (FEMA) requires local government to update the Local Hazard Mitigation Plan (LHMP). The LHMP identifies risks posed by disasters and ways to minimize damage from those disasters. A FEMA approved plan allows Stanislaus County to qualify for federal hazard mitigation funding as well as recovery funds after a disaster. The last plan was approved by FEMA in 2011.

The Office of Emergency Services has coordinated the update of the Stanislaus County Local Hazard Mitigation Plan. The plan is available for review and comment on the County website at <http://www.stanoes.com/lhmp.shtml>

The plan will be open for comment until October 3, 2016. After comments are reviewed and the plan is updated, the County will submit the LHMP to the California Governor's Office of Emergency Services for review and comment. Once approved by the State, the plan will then be submitted to FEMA. After FEMA approves the plan, the LHMP will be submitted to the Stanislaus County Board of Supervisors for plan adoption.

Details:

Stanislaus County Local Hazard Mitigation Plan Update

Plan Location: <http://www.stanoes.com/lhmp.shtml>

Public Comment: September 15, 2016 through October 3, 2016

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REVIEW AND INCORPORATION OF EXISTING PLANS

In the process of preparing this hazard mitigation plan, many other existing plans, studies, reports, and technical information were evaluated or used as guidance. The Planning Team for the development of the Local Hazard Mitigation Plan included representatives who are charged with developing the Stanislaus County General Plan, the Stanislaus County Capital Improvement Plan and the Stanislaus County Emergency Operations Plan. The team members work to ensure that local plans are integrated with the LHMP and also provide expertise for the integration of other local, state and federal plans, codes and regulations. The list below includes the sources that were referenced for the development of the Stanislaus County Local Hazard Mitigation Plan.

U.S. Government:

- Federal Emergency Management Agency (FEMA) to obtain current 100 and 500 year flood data;
- FEMA Technical Bulletin 11-01 Crawlpace Construction for Buildings located in Special Flood Hazard Areas National Flood Insurance Program Interim Guidance provides guidance on crawlpace construction.
- National Flood Insurance Program
- This program aims to reduce the impact of flooding on private and public structures by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures.
- National Incident Management System (NIMS)
- This system directs the creation of a comprehensive, national approach to incident management by federal, state, territorial, Tribal and local responders and across all functional disciplines.
- Federal Energy Regulatory Commission (FERC)
- FERC is an independent agency that regulates interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects and providing regulations of dams.
- USGS to obtain seismic data;
- Census Bureau to obtain County census block data;

State of California:

- California Code of Regulations, Title 24, Part 9 (California Building Standards Code) (Fire Code)
- CCR Title 24 governs the design and construction of all building occupancies and associated facilities and equipment throughout California and is also known as building standards. It contains requirements for the structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety, and accessibility.
- Alquist-Priolo Earthquake Fault Zoning Act
- The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.
- California Environmental Quality Act (CEQA)
- The California Environmental Quality Act (CEQA) is a California statute passed in 1970 shortly after the United States federal government passed the National Environmental Policy Act (NEPA), to institute statewide policy of environmental protection.
- California Public Resources Code (PRC) Section 4291 – Clearance Around Structures provides direction for persons owning, leasing, controlling, operating, or maintaining any building or structure in, upon, or adjoining any mountainous area of forest-covered lands, brush-covered lands, or grass-covered lands, or any lands which is covered with flammable material, to maintain clearance from structures and minimize the changes of a forest fire entering into populated areas.
- 2013 California Enhanced State Multi-Hazard Mitigation Plan – The State plan addresses hazards, mitigation capabilities, strategies and actions. The plan was reviewed for coordination with the local plan.
- California Department of Forestry and Fire Prevention to obtain current "Fire Hazard Severity Zones" and "Historical Burn Areas."

Stanislaus County:

- **General Plan**
The Stanislaus County General Plan was adopted by the Board of Supervisors on August 23, 2016. The County proactively addresses hazards through the General Plan Safety Element and has many references to the MJHMP, which is synonymous with the LHMP. Representatives from the work group for the General Plan are also members of the LHMP planning team, ensuring that both plans are integrated. The recent General Plan update and the 2016 Hazard Mitigation Plan work together to achieve the goal of hazard risk reduction. Future updates of the General Plan will continue to be consistent with the LHMP.

The General Plan also includes the Housing Element chapter. The Housing Element is incorporated into the LHMP to identify development trends. The Housing Element was reviewed by the Planning Commission on November 11, 2015, February 18, 2016, and March 3, 2016. The Housing Element was formally approved and adopted by the Stanislaus County Board of Supervisors on April 5, 2016. No development project was proposed as part of the Housing Element Update.

- **Capital Improvement Plan**
Projects included in the Stanislaus County Capital Improvement Plan (CIP) include 44 approved/funded projects, 21 projects pending implementation and 64 future projects/master planned. The projects are evaluated to ensure consistency with the Stanislaus County General Plan. These projects will be individually reviewed in terms of conceptual plan, project schedule and funding plan by the Board of Supervisors before they are implemented. Included in the review by the Board of Supervisors are the concept, scope and cost of the project as well as the appropriate environmental reviews before a project is initiated.

The Stanislaus County Capital Improvement Plan, along with the Capital Project Program, supports the goal of the County to protect critical facilities and infrastructure. The Capital Projects Team is actively working to incorporate LHMP priorities in the CIP development to protect facilities and infrastructure important to the County Areas of repetitive loss are high priorities for mitigation funding as they can negatively affect County coffers.

- **Stanislaus County Emergency Operations Plan**
The Stanislaus County Emergency Operations Plan (EOP) establishes an emergency management organization and assigns functions and tasks consistent with California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). It provides for the integration and coordination of planning efforts of multiple jurisdictions. This plan was developed utilizing the "whole community" planning process as outlined in FEMA's Comprehensive Preparedness Guide 101, and was reviewed and approved by representatives from each Stanislaus County department as well as members of the Operational Area Council and County/City Disaster Council. The content is based on guidance approved and provided by the State of California and FEMA. The EOP provides direction on how to respond to an emergency from the initial onset, through an extended response, and into the recovery process.

A key element of the update process for this hazard mitigation plan was the annual review of the EOP. The Hazard Mitigation Planning Team remained informed of major review findings of the EOP with the intent to integrate with key components of the hazard mitigation plan. Future updates to the EOP will coincide with the future updates of the Local Hazard Mitigation Plan.

- **Stanislaus County Code, Title 16 Buildings and Construction**
The Stanislaus County Code, Title 16 provides minimum standards to safeguard life, health, property, and the public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the unincorporated areas of the County.
 - **Chapter 16.50, Flood Damage Prevention**
The purpose of this Chapter is to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas through specific provisions.

- Chapter 16.55, Fire Code
Addresses requirements, responsibilities, and provisions for the prevention of fires and the spreading of fires as it pertains to structures.
- Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan Updated 2010 – The plan was reviewed to provide a basis for the current update.
- Assessor for parcel data including Use Codes; assessed categories; and values;
- Public Works for current infrastructure list (Bridges, Drainage, Street Lights, and Traffic Lights) and their geographic placement;
- SBT/GIS for numerous base map shape files such as cities, county, parcels, rivers, and roads;
- All relevant plans, codes, and ordinances currently in place such as building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, site plan review requirements, growth management ordinances, economic development plans, and emergency response plans were reviewed.



SECTION FIVE

Risk Assessment

SECTION FIVE - RISK ASSESSMENT

INTRODUCTION

Stanislaus County has identified several hazards that are addressed in the County's previous update. These hazards were identified through a process that utilized input from the various local partners, work groups, Stanislaus County Emergency Operations Plan, the Safety Element of the General Plan, input from the Planning Director, Public Works Director, Public Health Director, Assistant Director of Emergency Services, City governments, researching past disaster proclamations and declarations in the County and public input. Hazards that are unlikely to occur, or for which the risk of damage is accepted as being very low, were eliminated from consideration after review by the Planning Team.

The County's Public Work's Department developed a Geographical Information System (GIS) database that will map the County's infrastructure, critical facilities, and land uses. Initial data from this study was also used to determine those hazards that present the greatest risk. As discussed in Section Four of this plan, stakeholders attended a meeting on April 28, 2016 and were asked to review the hazards discussed in previous plans and to provide input on other hazards that should be considered. After discussion and review of surveys, the decision was to continue with the original hazards identified previously and to include a discussion of climate change implications for each hazard. The hazard areas are:

- Earthquake
- Landslide
- Dam Failure
- Flood
- Wildfire

The Risk Assessment component includes the following subsections for each of the five hazards:

Identifying Hazard - includes a description of the types of all natural hazards;

Profiling Hazard - identifies the location, extent, previous occurrences, new occurrences, and probability of future events;

Assessing Vulnerability: Overview - identifies an overall summary description of vulnerability to each hazard and the impact of each hazard on the jurisdiction. Plans approved after of October 1, 2008, must also address National Flood Insurance Program insured structures that have been repetitively damaged by floods;

Assessing Vulnerability: Identifying Structures/Estimating Potential Losses - includes the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas, and includes estimates of potential dollar losses to vulnerable structures and describes the methodology used to prepare the estimate;

Assessing Vulnerability: Analyzing Development Trends - includes the land uses and development trends;

Impact of Climate Change - identifies the potential impacts to each hazard as discussed within the individual risk assessment; and

Probability Scale – identifies the terms used to define the probability of future events for each hazard.

Highly Likely	Occurring every 1 to 10 years
Likely	Occurring every 10 – 50 years
Unlikely	Occurring more than 50 years

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RISK ASSESSMENT

Earthquake

EARTHQUAKE HAZARD

Identifying Hazard

The State of California is particularly vulnerable to earthquakes due to its location between two tectonic plates, the North American Plate and the Pacific Plate. Historically, earthquakes within the State have proven extremely destructive. Earthquakes usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. The most common effect of earthquakes is ground motion, usually felt as shaking and vibrations. The severity of the ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Earthquakes are usually measured in terms of magnitude and intensity.

Profiling Hazard

NATURAL HAZARD	HOW IDENTIFIED	WHY IDENTIFIED
EARTHQUAKE	• County General Plan • County Emergency Operations Plan • Input from Planning Director • Input from Public Works Director • Input from LHMP Planning Team • Risk Assessments • Feedback from LHMP partners	• Previous occurrences • Potential to cause harm

LOCATION

There are several faults known to exist within Stanislaus County. In the extreme eastern parts of the County, the Bear Mountain and Melones faults are found, though both are believed to have been inactive for the past 150 million years. No faults are currently known to exist within the valley portion of the County. Within the Diablo Range, the most recent movements were along the Tesla-Ortogonalita fault approximately five million years ago.

EXTENT

Since 1930, one earthquake epicenter of a magnitude greater than 4.0 on the Richter Scale was recorded within Stanislaus County. On June 27, 1986, an earthquake with a magnitude of 3.7 on the Richter Scale occurred with an epicenter several miles west of Crows Landing.

Numerous earthquakes occur each year along California's major faults. The active faults that may have the most potential impact on Stanislaus County include the San Andreas, Calaveras, and Hayward. The western region of Stanislaus County experiences a higher level of earthquake hazard than the eastern portion of the County. According to the California Geological Survey Map Areas Damaged by Earthquakes (1800-2007), except for the extreme eastern portion of Stanislaus that borders Santa Clara County, there have been zero occurrences of earthquake damage for Stanislaus County within the 207 year time period. Over that period, there have been two occurrences of damage in that eastern portion of the County. Stanislaus County has zero declared disasters for earthquake since 1950.

PROBABILITY OF FUTURE EVENTS

Although Stanislaus County is not known for its seismic activity, all of California is at high risk for earthquakes and it is imperative that we plan for a potential earthquake disaster. While there are no known active faults within Stanislaus County, there are faults on the western and eastern edges of the County. The western section of the County border is nearer to the Calaveras and Hayward faults that run through neighboring Santa Clara County.

Stanislaus County is not expected to be an epicenter for a major earthquake but damage could result from shaking and aftershocks in other areas. The United States Geological Survey database indicates there is an 80.62% chance of a major 5.0 earthquake within 50km (31 miles) of Stanislaus County within the next 50 years. The probability of an earthquake impacting Stanislaus County is likely.

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Information furnished by the State Department of Mines and Geology and the California Governor's Office of Emergency Services indicate that potential ground shaking can produce damage within the County to reach varying intensities as rated on the Modified Mercalli Intensity (MMI) Scale of 1931. Per the Modified Mercalli Intensity Scale, the eastern half can expect to have shaking to an intensity of a VI or VII. This range of shaking may be felt by all with some negligible building damage to buildings of good design and construction. Older buildings or poorly designed structures would suffer considerable damage. The western half of the County can expect to receive shaking to an intensity of VII to VIII Mercalli, which is more intense shaking with damage to ordinary structures and potential building collapse. The area around Newman may have shaking intensity of IX or X which results in considerable damage and may be judged a major hazard.

The following is an abbreviated description of the levels of Modified Mercalli intensity.

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.

Abridged from The Severity of an Earthquake, a U. S. Geological Survey General Interest Publication.

NEW OCCURRENCES

There have been no new occurrences since the County's original LHMP was adopted on January 12, 2006.

Assessing Vulnerability: Overview

Although no known active faults are identified within Stanislaus County, its proximity to the Calaveras, Hayward and San Andreas faults on the western side of the County increases its vulnerability to earthquakes. The Earthquake Shaking Potential for California (2008) map developed by the California Geological Survey and United States Geological Survey emphasizes the vulnerability of Stanislaus County on the western side including the Interstate 5 corridor. This information is reflected in the County map included in the LHMP for the earthquake hazard. The cities of Patterson and Newman are near Interstate 5. According to the map, this region is near major or active faults and will experience on average stronger earthquake shaking. Migrating east from the Interstate 5 corridor the earthquake hazard level decreases. The map indicates this region is distant from known, active faults and will experience lower levels of shaking less frequently.

Structures and populations along the Interstate 5 corridor and within the Diablo Range are most vulnerable to damage. All populations are vulnerable to impacts of any earthquake. However, the area of the county identified for the most intense shaking is the least populated. The most vulnerable populations are those that live in older homes. The structures in place prior to 1976 are considered most vulnerable due to less strict building codes.

Stanislaus County is home to several reservoirs including Modesto, Woodward and Turlock. A secondary effect of an earthquake can include a seiche. A seiche is an earthquake-induced wave. Seiches impact enclosed or partially enclosed bodies of water including reservoirs and swimming pools. The most severe hazard would exist if a seiche occurred while many people were using a reservoir for recreation.

Earthquakes can result in other secondary impacts that may include dam failure, landslides and wildfires. These hazards are discussed in separate sections of this plan.

VULNERABILITY IMPACTS

The combined population of the cities of Patterson and Newman (31,847) are located near major or active faults.

Structures built prior to 1976 are most vulnerable due to less strict building codes.

Interstate 5 is a main transportation route for California. Economic impacts would affect the County and the State.

The County Library, Public Works Patterson Yard, Fink Road Landfill and Waste-to – Energy plant and privately-owned major distribution centers are located near I-5. Job loss, revenue loss and environmental hazards may result.

There is no hospital in the area, however, schools, police, fire stations and medical care facilities could be at risk.

Assessing Vulnerability: Identifying Structures/Estimating Potential Losses

The vast majority of the County occupied space is within the highest population density along the State Route 99 corridor in Salida, Modesto, Ceres and Turlock. This area is located within a shaking intensity zone of 21-30% gravity spectral acceleration. Of most critical concern is County operated facilities located in the area of greatest probabilistic shaking potential (41-50%) gravity on the western side of the County, located in Patterson and west of Crows Landing. Of the facilities located in Patterson, the County Library and Public Works Patterson Yard are owned and the Women Infants and Children (WIC) is leased. The County's Fink Road Landfill is also located in this area. The landfill is collocated with a waste-to-energy facility and could be of critical use in situations where safe disposal is required after emergency events.

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Interstate 5 runs along the western edge of the county. If Interstate 5 is damaged in an earthquake, there may be economic repercussions for local and state economies as Interstate 5 is a major transportation thoroughfare. The Interstate is maintained by the State of California.

All property within Stanislaus County is subject to the effect of seismic activity. Structures built prior to 1976 are most vulnerable. Hazard maps show the probabilistic shaking potential of populated lands within Stanislaus County at a spectral acceleration one second period of up to 50% the force of gravity. The map delineates five zones in 10% increments of shaking intensity, with the greatest intensity along the western-most edge of the valley floor near the Interstate 5 corridor. Probabilistic ground shaking intensity is shown on each map by colored zone, keyed to the legend. The following table illustrates the housing and population expected to be impacted at various shaking potential. The data provides a detailed identification of the number of housing units and population within each seismic risk increment by jurisdiction for unincorporated Stanislaus County and the incorporated nine cities within the County. The table also shows the number and total value of existing County owned or leased parcels impacted at each level.

Probabilistic Shaking Potential (Spectral acceleration: 1 second period)	Number of Housing Units	Population	County Parcels, Structures and Content (Owned or leased)	Value of County owned Structures
5%	54	70	1	19,330,029
15%	16,693	48,905	4	2,671,914
25%	134,257	419,703	83	528,437,232
35%	7,998	23,384	5	8,758,659
45%	6,456	20,434	4	2,995,409

The Recommended Proposed Stanislaus County Capital Improvement Plan (CIP) for fiscal years 2015-2017 identifies several projects that would be impacted during an earthquake. The projects expand existing facilities and parcels already identified in the table above. There are six projects in the 25% probabilistic shaking potential for a total value of \$212,700,000. There are two projects identified in the 35% probabilistic shaking potential area for a total of \$2,365,000. Stanislaus County has identified eight bridges for seismic bridge replacement within the (CIP) totaling \$129,088,192.

Assessing Vulnerability: Analyzing Development Trends

There has been limited development in the Diablo Grande. Diablo Grande is located seven miles west of I-5. The development was approved by the Board of Supervisors in 1993 for 5,000 residences. As a result of the economic turn down in 2008, build out of the residential area was stalled. There are currently 425 occupied residences and building is projected to continue over the next few years. Aside from the limited development in the area of Diablo Grande, there has been no significant change in development in the unincorporated areas impacted by earthquake within Stanislaus County since the last LHMP update.

Most development is occurring on the valley floor within cities or within spheres of influence in cities. Very little development is taking place in the agricultural areas. There is minimal growth within the unincorporated areas of the County. According to the LAFCO Municipal Service Review only minor infill growth is anticipated for the unincorporated area on the west side of the County including Grayson and Westley.

Stanislaus County has initiated the development of the 1,528 acre former Crows Landing Airfield. The California Environmental Quality Act (CEQA) review is in process for the Crows Landing Industrial Business Park. The timeline for construction of new buildings is unknown but may be initiated within the

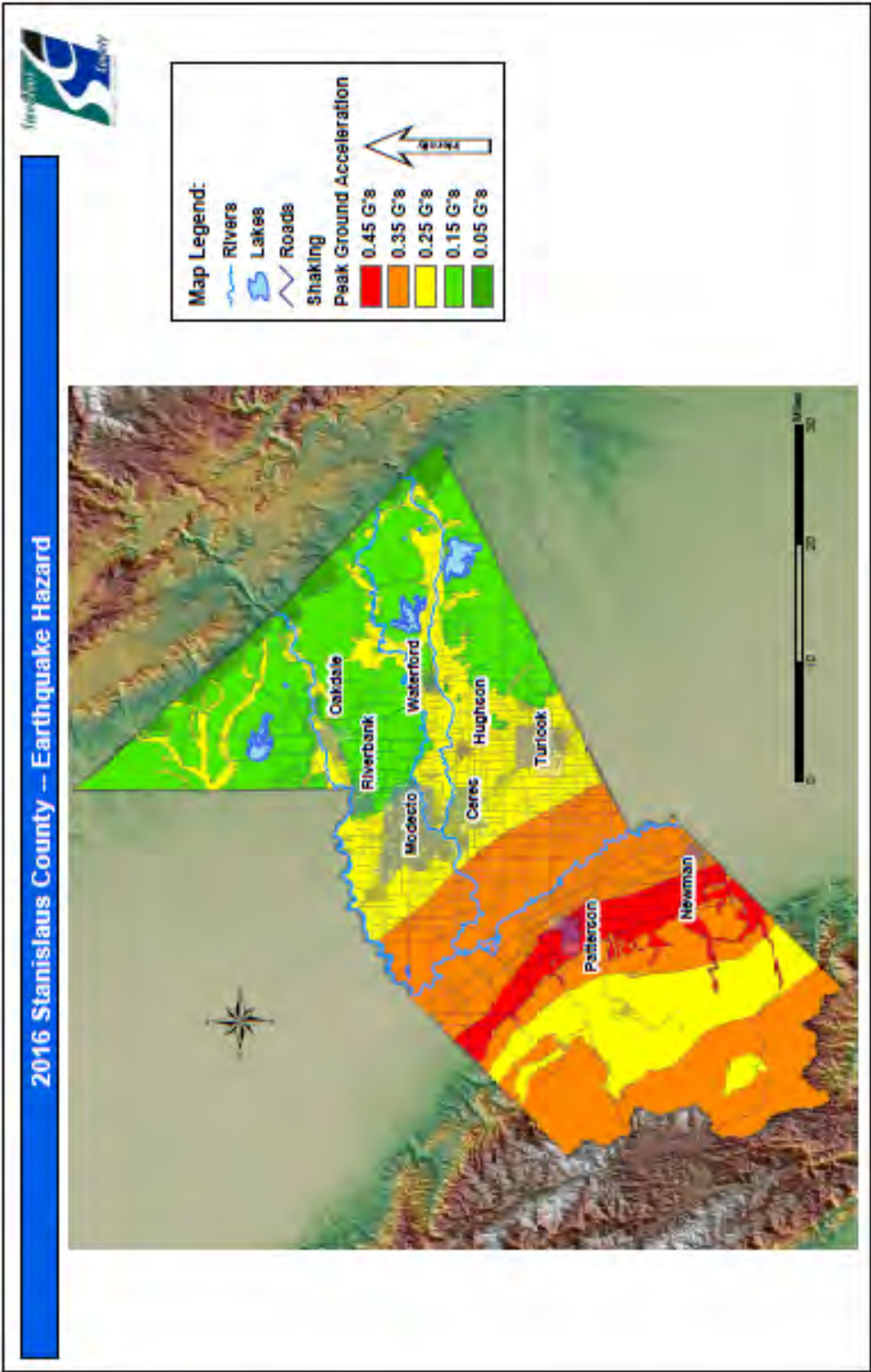
SECTION FIVE

next five years. However, all new buildings within Stanislaus County are constructed to prevent loss of life as a result of an earthquake and will meet current building codes.

The General Plan provides for diverse land use needs by designating patterns that are responsive to the physical characteristics of the land. The Planning and Community Development Department has a policy that urban development shall be prohibited in geological fault areas unless measures to mitigate the problem are included as part of the development application. The County enforces the provisions of the Alquist-Priolo Earthquake Fault Zoning Act that limits development in areas identified as having special seismic hazards. Construction is prohibited without a geologic study.

Impact of Climate Change

The impact of climate change on earthquakes is unclear. There are some articles that claim climate change and drought, resulting from climate change, may increase the likelihood of earthquakes, but there seems to be no consensus within the scientific community.





RISK ASSESSMENT

Landslide

LANDSLIDE HAZARD

Identifying Hazard

According to the USGS National Landslide Information Center (NLIC), the term “landslide” is defined as the movement of a mass of rock, debris, or earth down a slope. The force of gravity acting upon a steep (or sometimes, even a moderately steep) slope is the primary cause of a landslide. Slope failure occurs when the force of gravity pulling the slope downward exceeds the strength of the earth materials that comprise the slope to hold it in place. In addition to the force of gravity, other contributing factors to landslides can include rainfall, earthquakes, changes in groundwater, and human-induced modifications to existing slopes. The potential for a landslide to occur exists in every state wherever very weak or fractured materials are resting on a moderate to steep slope.

The severity of a landslide depends in large part on the degree of development in the area in which it occurs and the geographic area of slide itself. Generally speaking, landslides often result in devastating consequences, but in very localized areas. A landslide occurring in an undeveloped area would be less severe because lives and property would not be affected; the only impacts would be to land, vegetation, and possibly some wildlife. On the contrary, a landslide occurring in a developed area could have devastating effects, ranging from structure and infrastructure damage to injury and/or loss of life. Structures or infrastructure built on susceptible land would likely collapse as their footings slide downhill, while those below the land failure would likely be crushed. Landslides in the area of roadways could have the potential to fall and damage or destroy vehicles, and force other drivers to have accidents.

Profiling Hazard

NATURAL HAZARD	HOW IDENTIFIED	WHY IDENTIFIED
LANDSLIDE	- California proclaimed State of Emergency - County General Plan Safety Element - County Emergency Operations Plan - Input from Planning Director - Input from Public Works Director - Input from LHMP Planning Team - Risk Assessments - Feedback from LHMP partners	Previous and potential occurrences

LOCATION

Hazards due to landslide events are mostly limited to areas within the foothills at the western and eastern edges of Stanislaus County. The western edge of the County is part of the Diablo Range which stretches almost 200 miles along the west side of the Central Valley, running parallel to the Pacific Ocean. Virtually the entire area located west of Interstate 5 is composed of geological formations that, due to structure, slope, runoff, lack of vegetation, earthquake and human activity, are considered extremely susceptible to failure and sliding. The eastern edge of the County touches the Sierra Nevada mountain range. The west-facing slope of the Sierra Nevada range has a series of streams whose waters ultimately reach the Pacific Ocean. It is along these areas and other locally identified specific river bluff regions near rivers and streams that are susceptible to landslide, though occurrences are few. Those areas near rivers and streams are subject to natural erosion, although erosion activity may be increased during flood events.

CALIFORNIA GEOLOGICAL SURVEY
JOHN F. HARRIS, PH.D., STATE GEOLOGIST

STATE OF CALIFORNIA, EDWARD G. BROWN, JR., GOVERNOR
THE NATURAL RESOURCES AGENCY, JOHN LARRO, SECRETARY FOR NATURAL RESOURCES
DEPARTMENT OF CONSERVATION, DEIRDRE CHERNO, ACTING DIRECTOR

MAP SHEET 58
SUSCEPTIBILITY TO DEEP-SEATED LANDSLIDES IN CALIFORNIA

Susceptibility to Deep-Seated Landslides in California

2011

C. J. Wills, F. G. Perez and C. I. Gutierrez

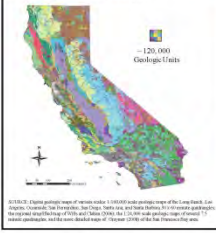
This map shows the relative likelihood of deep landsliding based on regional estimates of rock strength and steepness of slopes. On the most basic level, weak rocks and steep slopes are more likely to generate landslides. The map uses detailed information on the location of past landslides, the location and relative strength of rock units, and steepness of slope in a methodology developed by Wilson and Keefer (1985). The result shows the distribution of one very important component of landslide hazard. It is intended to provide infrastructure owners, emergency planners and the public with a general overview of where landslides are more likely. The map does not include information on landslide triggering events, such as rainstorms or earthquake shaking, nor does it address susceptibility to shallow landslides such as debris flows. This map is not appropriate for evaluation of landslide potential at any specific site.

How this map was prepared

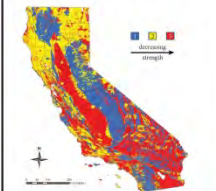
Landslide inventory: All previously mapped deep-seated landslides that are considered to be significant are mapped. The location of each landslide is indicated by a yellow dot. The size of the dot is proportional to the volume of the landslide. The color of the dot indicates the type of landslide. The color of the dot is proportional to the volume of the landslide. The color of the dot is proportional to the volume of the landslide.



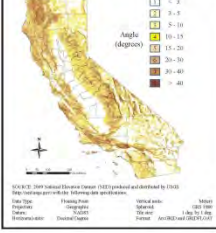
Geology: A generalization of geologic maps is used to determine the relative strength of rock units. The map uses a color scale to indicate the relative strength of rock units. The color of the dot is proportional to the volume of the landslide. The color of the dot is proportional to the volume of the landslide.



Rock strength: A relative rating of rock strength, a measure of resistance to landsliding, was developed from the geologic and landslide inventory maps. The map uses a color scale to indicate the relative strength of rock units. The color of the dot is proportional to the volume of the landslide. The color of the dot is proportional to the volume of the landslide.



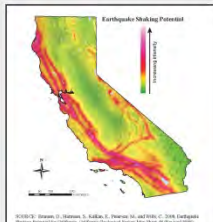
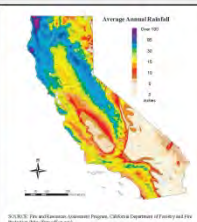
Slope: The slope gradient was computed from the 10-m grid of elevation values from the 10-m National Elevation Dataset (NED). The map uses a color scale to indicate the relative steepness of slopes. The color of the dot is proportional to the volume of the landslide. The color of the dot is proportional to the volume of the landslide.



ROCK STRENGTH	SLOPE CLASSES			
	1	2	3	4
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	0	0	0	0
56	0	0	0	0
57	0	0	0	0
58	0	0	0	0
59	0	0	0	0
60	0	0	0	0
61	0	0	0	0
62	0	0	0	0
63	0	0	0	0
64	0	0	0	0
65	0	0	0	0
66	0	0	0	0
67	0	0	0	0
68	0	0	0	0
69	0	0	0	0
70	0	0	0	0
71	0	0	0	0
72	0	0	0	0
73	0	0	0	0
74	0	0	0	0
75	0	0	0	0
76	0	0	0	0
77	0	0	0	0
78	0	0	0	0
79	0	0	0	0
80	0	0	0	0
81	0	0	0	0
82	0	0	0	0
83	0	0	0	0
84	0	0	0	0
85	0	0	0	0
86	0	0	0	0
87	0	0	0	0
88	0	0	0	0
89	0	0	0	0
90	0	0	0	0
91	0	0	0	0
92	0	0	0	0
93	0	0	0	0
94	0	0	0	0
95	0	0	0	0
96	0	0	0	0
97	0	0	0	0
98	0	0	0	0
99	0	0	0	0
100	0	0	0	0

LANDSLIDE SUSCEPTIBILITY CLASSES
(0 = Very Low, VIII = Very High)
Increasing susceptibility

Landslide losses: California has a substantial share of the nation's landslide risk because of high population and concentration of infrastructure in areas with substantial landslide hazard. Landslides cause an estimated 25 to 50 deaths and over \$2 billion damage per year in the United States (Spiker and Gort, 2003). This map of landslide susceptibility may be used to estimate where in California landslide losses are most likely to be concentrated.



Next steps, from landslide susceptibility to landslide potential: Landslides can be triggered by rainfall, by earthquake shaking, or other factors. Additionally, this map does not include susceptibility to debris flows, a very fluid, fast-moving form of landslide which typically is triggered by intense rainfall. A complete map of landslide potential would consider the increase in landslide hazard, including debris flow hazard, with higher potential rainfall and with higher potential earthquake shaking. Average annual rainfall is higher in the northern Coast Ranges and northern Sierra Nevada than in the rest of the state and potential earthquake shaking is higher in the coastal region. Although we cannot currently combine these factors to produce a landslide potential map, the convergence of factors suggests higher landslide potential in the northern Coast Ranges than in other regions of the state.

EXTENT

Developed for the 2013 State of California Multi-Hazard Mitigation Plan, the above California Geological Survey map shows the relative likelihood of deep landsliding based on regional estimates of rock strength and steepness of slopes. The map uses detailed information on the location of past landslides, the location and relative strength of rock units, and steepness of slope in a methodology developed by Wilson and Keefer (1985) as implemented by Ponti et al (2008) to create classes of landslide susceptibility. These classes express the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weaker rocks. The convergence of factors suggests a low landslide potential in most of Stanislaus County due to the very low slopes. There are areas on the west side where the potential increases due to increase in slope.

SECTION FIVE

Landslides are often triggered by other natural hazards such as earthquakes, heavy rain, flood or wildfires. Landslide frequency is often related to the frequency of these other hazards. In Stanislaus County, landslides typically occur during and after major storms so the potential for landslides largely coincides with the potential for sequential severe storms that saturate steep, vulnerable soils. In the winter of 1982-1983, saturation of the soil in the Diablo Range area resulted in a considerable amount of damage to Del Puerto Canyon Road. During the winter storms of 1997, Del Puerto Canyon Road experienced an approximately .10 mile landslide consisting of mud, rocks and boulders. One lane was closed for repair 2-3 months while the other lane stayed open to traffic. This caused minor traffic delays since the road is not a major thoroughfare. These types of landslides are typical for this area following storms due to vertical cuts for roadways without sufficient sloping for run-off.

PROBABILITY OF FUTURE EVENTS

It is evident that the steep slopes and undesirable geology of the area on the west side of the County, even without considering the possibility of an earthquake, present risks in certain conditions. It is common for minor incidents requiring some debris clearing of Del Puerto Canyon Road to occur on average of 5-12 times a year. On the east side of the County there are frequent landslides on Hwy 132 along the river bluffs. These landslides are usually due to rain and occur during or within days after a storm. Based on these past events, landslides are highly likely to continue to impact the Diablo Range and areas on Hwy 132.

NEW OCCURRENCES

A significant rain event in January 2016 required one lane closure of Del Puerto Canyon Road which caused minimum impact to traffic. The most recent storms of January 2017 created landslides across Del Puerto Canyon Road ranging from 3 feet to 40 feet in size. These slides consist of mud, rocks and boulders and caused minor traffic delays. Clean up was completed within 1-2 hours and the road was fully open for traffic. Also during the January 2017 storms, two landslides occurred on Highway 132 approximately 1 mile from La Grange Road. The landslide consisted of rocks and boulders and closed one lane for about 3 hours while Caltrans removed the debris. The slides were 10 to 15 feet on the roadway.

Assessing Vulnerability: Overview

The California Geological Survey (CGS) uses three factors that most determine susceptibility of landslide: prior failure, rock or soil strength, and steepness of slope. Landslides can also be triggered by rainfall, earthquake shaking, or other factors. The unstable formation comprising the underlying geologic structure of the Diablo Range makes this area of Stanislaus County more vulnerable to landslides and its effects.

Stanislaus County took into account the following when updating our vulnerability assessment:

- a. Updates to inventories of existing structures in hazard areas, including new development, and redeveloped areas or structures;
- b. Potential impacts of future land development, including areas that may be annexed in the future;
- c. New buildings; and
- d. Completed mitigation actions that reduced overall vulnerability.

VULNERABILITY IMPACTS

Roads in the Diablo Range are at greatest risk.

Debris removal on Del Puerto Canyon Road averages 5 to 12 times per year with 1-2 hour cleanup and very little impact to traffic.

The area is sparsely populated. There are currently 425 occupied residences.

No critical County buildings are located in the area.

Economic impacts would be minimum due to lack of population and buildings.



SECTION FIVE

Impacts in the Diablo Range, specifically Del Puerto Canyon Road, are limited. Del Puerto Canyon Road is not a major thoroughfare and the area is sparsely populated. Debris clearing of the road occurs an average of 5 to 12 times per year. Lane closure is less frequent. Stanislaus County Public Works maintains the road and within 1-2 hours debris is cleared with little to no impact to traffic. Staffing and equipment needs to clear the landslide are minimal. The few structures and population within the Diablo Range are most vulnerable to damage due to landslides. There are no critical buildings in the area. The area is sparsely populated and landslide. The impacts of landslides on the population have been minimal due to the short duration of road closure during debris removal. The landslides experienced on Hwy 132 are also limited occurring due to rain and during or within days after a storm. These happen along the river bluff and there are no critical structures in the area. Roadways may be blocked causing traffic delays.

Assessing Vulnerability: Identifying Structures and Estimating Potential Losses

No County occupied buildings other than non-critical "out" structures are located at sites having a landslide risk. County infrastructure (roads, utilities, drainage, and bridge structures) may be subject to landslide hazards; however, most landslide threats are limited in scale to a specific point.

Several State highways traverse cuts through hillsides or along river bluffs where landslide hazards may pose a risk, including State Routes 4, 108, 120, 132, 219 and Interstate 5. County roads at risk include

COUNTY ROADS AT RISK	
Ingram Creek Road	Roberts Ferry Road
Del Puerto Canyon Road	Lake Road
Diablo Grande Parkway	Warnerville Road
Orestimba Road	Crabtree Road
Crows Landing Road-at San Joaquin River	La Grange Road
South Carpenter Road	Cooperstown Road
Grayson Road (at San Joaquin River)	Los Cerritos Road
Paradise Road (at San Joaquin River)	River Road (Ceres area)
Shiloh Road (at Tuolumne River)	Mitchell Road (at Tuolumne River)
Santa Fe Avenue	Hills Ferry Road
Geer/Albers Roads	

While no critical County-occupied facilities are exposed to the landslide hazard, infrastructure may be impacted. Roads in the Diablo Grande area are prone to mass movement hazards. Access to these roads is crucial to life-safety after a disaster event and to response and recovery operations. Landslides can block egress and ingress causing isolation for residents and responders.

Assessing Vulnerability: Analyzing Development Trends

There has been limited development in the Diablo Grande area. Diablo Grande is located seven miles west of I-5. The development was approved by the Board of Supervisors in 1993 for 5,000 residences. As a result of the economic turn down in 2008, build out of the residential area was stalled. There are currently 425 occupied residences and building is projected to continue over the next few years. Aside from the limited development in the Diablo Grande area, there has been no significant change in development in the unincorporated areas impacted by landslide within Stanislaus County since the last LHMP update.

Construction is possible west of Interstate 5, but any proposals for significant development (anything other than the currently permitted two dwellings for every 160 acres), should include a geological report identifying potential problems and mitigation measures to be incorporated into the development plan.

The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to landslides. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.

The routes of new public roads in areas subject to landslides shall be designed to minimize landslide risks. Engineered benchmarks will be utilized to monitor movement of slopes in order to stabilize and mitigate the hazard before it occurs, if possible. Road-clearing and debris equipment will be pre-staged to make response time faster to maintain accessibility to roads and infrastructure. Improved mapping and data collection will assist in identifying needed mitigation strategies for the future.

Impact of Climate Change

Climate change may impact storm patterns in California, increasing the probability of more frequent, intense storms with varying duration. Increase in global temperature could affect the snowpack and its ability to hold and store water. Warming temperatures also could increase the occurrence and duration of droughts, which would increase the probability of wildfire, reducing the vegetation that helps to support steep slopes. Tree mortality resulting from drought, pests or any other threat could also pose an increase to landslides. Currently, Stanislaus County is not experiencing tree mortality as severe as other areas of California due to the drought and bark beetle. However, any future loss of trees would reduce the protection of steep slopes and thereby increase the probability for landslide occurrences.

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RISK ASSESSMENT

Dam Failure

DAM FAILURE HAZARD

Identifying Hazard

Dam failure is the breakdown, collapse or other failure of a dam structure characterized by the uncontrolled release of impounded water that results in downstream flooding. In the event of a dam failure, the energy of the water stored behind even a small dam is capable of causing loss of life and severe property damage if development exists downstream. An uncontrolled breach is the unintentional discharge from the impounded water body and is considered a failure. Dam failure can result from natural events or human-induced events. Natural occurrences that may cause dam failure include floods, earthquakes and landslides. Dams have received more attention recently in the emergency management community as a potential target for terrorist acts.



Dam failure presents a significant potential for disaster, because there would be considerable loss of life and property in addition to the possible loss of power and water resources. The most common cause of dam failure is prolonged rainfall that produces flooding. Failures due to other natural events such as earthquakes or landslides are significant because there is little advance warning. The best way to mitigate dam failure is through the proper construction, inspection, maintenance, and operation of the dam.

Profiling Hazard

NATURAL HAZARD	HOW IDENTIFIED	WHY IDENTIFIED
DAM FAILURE	- County General Plan Safety Element - County Emergency Operations Plan - Emergency Action Plans (EAPs) for dams - Input from LHMP Planning Team - Feedback from LHMP Partners	Potential to cause devastation.

LOCATION

Three major dams have a direct effect on Stanislaus County: Don Pedro, New Melones and New Exchequer.

Don Pedro Dam is located in Tuolumne County on the upper Tuolumne River. It has a gross pool capacity of 2,030,000 acre feet and is operated jointly by the Modesto and Turlock Irrigation Districts and the City of San Francisco. Below Don Pedro, the Tuolumne River feeds into the LaGrange Dam. It is situated on the Tuolumne River just above the town of LaGrange and operated by the Modesto and Turlock Irrigation Districts. The Tuolumne River flows through populated areas of the County including the cities of Waterford and Modesto.

New Melones Dam, located in both Tuolumne and Calaveras Counties, is located on the Stanislaus River and operated by the U.S. Bureau of Reclamation. Gross pool capacity of New Melones is 2,420,000 acre feet. The Stanislaus River flows through the cities of Oakdale, Riverbank and Modesto.

New Exchequer Dam is on the Merced River in Central California. The Merced River feeds into the San Joaquin River which flows through the western side of Stanislaus County. Releases from New Exchequer Dam impact the flows on the San Joaquin River and can threaten the cities of Newman and Patterson.

EXTENT

A severe storm, earthquake or erosion of the embankment and foundation leakage may cause the collapse and structural failure of dams in or adjacent to Stanislaus County. Seismic activity may also cause inundation by the action of a seismically induced wave that overtops the dam without causing failure of the dam, but significant flooding downstream. Landslides flowing into lakes and reservoirs may also cause dams to fail or overtop.

A catastrophic failure of the Don Pedro Dam is assumed to be followed by the failure of the La Grange Dam located approximately 2.5 miles downstream. Inundation modeling provided by the Turlock Irrigation District for the Don Pedro Hydroelectric Project Emergency Action Plan, indicates that maximum water level elevation in some areas could reach 111.4 to 113.3 feet above sea level. Flooded areas would extend beyond the borders of Stanislaus County, roughly 153 river miles from the Don Pedro Dam to Mandeville Island in San Joaquin County. Flooded areas in Stanislaus County could see 11 to 13 feet of water in as little as 8 hours and 53 minutes depending on ground level elevation.

Inundation modeling provided by the U.S. Bureau of Reclamation for the Emergency Action Plan for Central California Area Office Facilities, indicates a catastrophic failure of the New Melones Dam could impact waterways and areas in Stanislaus County within 5 miles of the Stanislaus River with a water depth in excess of 5 meters in less than 10 hours. Flood waters would extend beyond the borders of Stanislaus County, reaching as far as San Joaquin and Sacramento Counties.

Inundation modeling provided by the Merced Irrigation District for the New Exchequer and McSwain Dams Emergency Action Plan, indicates that following a catastrophic failure of the Exchequer Dam, the section of the San Joaquin River that runs through Stanislaus County could experience river level rise in excess of 20 feet above normal water level elevation in less than 7 hours.

The inundation map on page 60 in this section, illustrates the maximum probable flood areas that could occur following the catastrophic failure of the Don Pedro, New Melones, and Exchequer Dams.

PROBABILITY OF FUTURE EVENTS

There have been no previous occurrences. The probability of dam failure is not likely. Dams are regulated and inspected by either the State of California's Division of Safety of Dams or the Federal Energy Regulatory Commission (FERC) or both with follow up written inspection reports. There have been no findings that would raise concern for a potential dam failure.

VULNERABILITY IMPACTS

Catastrophic failure of Don Pedro, New Melones or New Exchequer dams would have severe consequences.

Loss of life could result due to insufficient time to warn people who live downstream.

Major transportation routes and critical infrastructure would be affected causing business disruption and economic loss.

Agriculture losses would occur and affect production.

A majority of the population of Stanislaus County would be significantly impacted including County facilities, hospitals, schools, fire and police stations, and health-care services.

Historical buildings located throughout the County could be at risk.

NEW OCCURRENCES

There have been no new occurrences since the County's original MJHMP plan was originally adopted on January 12, 2006.

Assessing Vulnerability: Overview

The catastrophic failure of Don Pedro, New Melones or New Exchequer dams would have severe consequences resulting in injuries, loss of life, limited transportation routes, and decrease in vital utilities. Additionally, because of Stanislaus County's strong agricultural influences, significant downstream property damage and the loss of domestic and farm production animals are a major concern.

There are a number of smaller dams, both in and out of the County on the east and west sides, which could produce flooding should they fail. Although the incident would have severe impacts, the likelihood of such an occurrence is remote. The Federal Energy Regulatory Commission (FERC) requires dam operators to prepare comprehensive emergency action plans (EAP) in case of a failure. These EAPs include inundation maps whose information is used for the maps provided in this plan. FERC also requires annual training and exercises for each individual plan. Stanislaus County maintains copies of the dam emergency action plans at its Emergency Operations Center and participates in exercises with the dam operators. In partnership with the dam operators, Stanislaus County has identified the vulnerable areas specific to dam inundation.

Vulnerable populations are downstream from a potential dam failure. The populations most vulnerable are those that have the least time to evacuate and need assistance. Populations that may need assistance to evacuate include the elderly, disabled and young. The vulnerable population also includes those who may not have adequate warning to evacuation from emergency notification systems. The loss of life is impacted by the amount of early warning time first responders and the public has prior to the incident.

Assessing Vulnerability: Identifying Structures and Estimating Potential Losses

In the unlikely event of a complete dam failure, the majority of the populated areas within Stanislaus County are impacted. Specifically, those areas along the Stanislaus, Tuolumne and San Joaquin Rivers will see major flooding and damage. Inundation due to dam failure within the San Joaquin Valley is a low-probability but high-risk hazard. The potential risk for inundation of property is present in nearly all of the developed areas of Stanislaus County; however, catastrophic failure or flood release of water from multiple dams at a single point in time is considered to be extremely unlikely.

If dam failure occurred, the impacts to the local economy and infrastructure would be severe. Impacts to cities would affect key infrastructure including hospitals, fire stations, clinics, and businesses. Economic impacts in the unincorporated areas of the county would include the agriculture industry. According to the 2015 Stanislaus County Agriculture Report, the value of agricultural commodities produced in Stanislaus County was \$3.8 billion.

SECTION FIVE

The following table illustrates the populations and households that will be impact by a failure for each of the major dams that may impact Stanislaus County.

POPULATION AND PROPERTY VALUE ANALYSIS BY DAM		
Name of Dam	Population	Property Values
Don Pedro	59,554	1,453,719,334
New Exchequer	6,291	418,354,184
New Melones	226,789	5,687,785,473
Pine Flat	2,356	136,191,252
San Luis	16,062	603,060,314
Tulloch	31,194	767,527,511

The table below shows a breakdown the number of existing and future County facilities and the total value by dam. The total value includes buildings and content. In the event of a dam failure it is anticipated that the facilities would be negatively impacted. Key facilities include law enforcement stations, jails, health and the County administration building.

EXISTING AND FUTURE COUNTY FACILITIES TOTAL VALUE BY DAM				
Name of Dam	Existing Facilities	Value	Future Facilities	Value
Don Pedro	21	9,342,767	0	0
New Exchequer	21	5,672,586	2	7,500,000
New Melones	73	303,933,135	1	24,000,000
Pine Flat	22	7,386,424	2	7,500,000
San Luis	22	7,386,424	2	7,500,000
Tulloch	3	2,432,991	0	0

SECTION FIVE

Bridges that may be damaged by a dam failure and their value are included below:

COUNTY BRIDGES BY DAM		
Name of Dam	# of Bridges	Value
Don Pedro	42	152,253,027
New Exchequer	16	114,846,804
New Melones	42	124,724,934
Pine Flat	9	23,747,042
San Luis	15	29,253,889
Tulloch	12	24,030,355

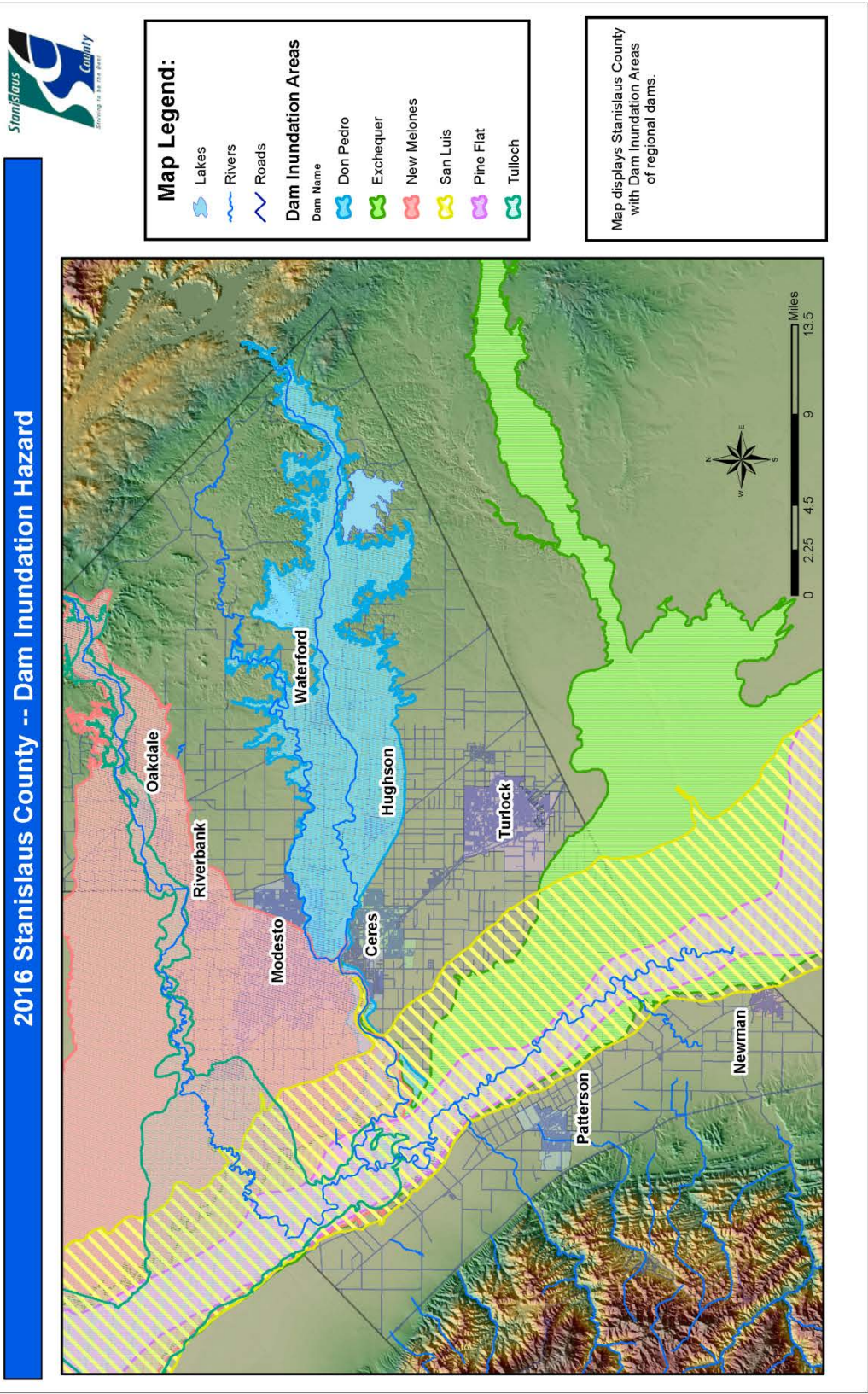
Assessing Vulnerability: Analyzing Development Trends

The Stanislaus County Board of Supervisors has maintained support for the preservation of agricultural resources through the adoption of the Agricultural Element of the General Plan. This policy has minimized “leap frog” development and the resulting conflict with agricultural uses throughout Stanislaus County. The Board has also encouraged the development of “infill” areas within existing communities as a priority over expansion into existing agricultural lands.

There has been no significant change in development in the unincorporated areas impacted by dam failure within Stanislaus County since the last LHMP update. The proposed industrial development of the Crows Landing Airfield on the western side of the County along Interstate 5 would be impacted by inundation caused by failure of the San Luis Dam and Exchequer Dam. The Crows Landing Industrial Business Park is currently in the CEQA process and no firm date for development has been identified.

Impact of Climate Change

An article published by researchers D. E. Rheinheimer and J.H. Viers from the University of California at Davis discusses the effects of climate change on reservoir operations. The article is titled *Combined Effects of Reservoir Operations and Climate Warming on the Flow Regime of Hydropower Bypass Reaches of California’s Sierra Nevada*. This article and others implies that climate change will impact the traditional operation measures and flow regimes used for dams as river conditions and water levels are fluctuating. Climate change may increase drought which lessens the water available or may produce intense sudden storms. Reservoir operators may need to change operations to mitigate the impact of climate change on rivers and the ecosystem.





RISK ASSESSMENT

Flood

FLOOD HAZARD

Identifying Hazard

A flood is the temporary inundation of water or mud on normally dry land. Heavy or prolonged rain or dam collapse can cause inundation, as can flash floods. Urban flooding occurs in developed areas where the amount of water generated from rainfall and runoff exceeds the storm water systems' capacity. As land is converted from agricultural to urban uses, it often loses its ability to absorb rainfall. Rain flows over impervious surfaces such as concrete and asphalt and into nearby storm sewers and streams. This runoff can result in the rapid rise of floodwaters. During urban floods, streets can become inundated, and storm drains often back up because of the volume of water and become blocked by vegetative debris like yard waste, which can cause additional flooding.



Development in or near the floodplain puts lives and property at risk. Flood damage can include: structure inundation, erosion of stream banks, road embankments, foundations footings for bridges, impact damage from debris, blockage of infrastructure, cropland destruction, sewage releases from damaged tanks, and economic loss to agriculture.

Profiling Hazard

NATURAL HAZARD	HOW IDENTIFIED	WHY IDENTIFIED
FLOOD	- County General Plan Safety Element - County Emergency Operations Plan - Input from LHMP Planning Team - Risk Assessments - Feedback from LHMP partners through submittal of the Hazard Identification Questionnaire - FEMA Flood Hazard Mapping	- Previous instances - Several repetitive loss properties are located in the County.

LOCATION

Substantial action has been taken place to reduce flood hazards. Construction of Don Pedro Dam on the Tuolumne River and New Melones Dam on the Stanislaus River has permitted officials to monitor the flows of water in those rivers, significantly reducing the chances of flooding. New Melones Dam has, since its completion in 1978, prevented flooding above the 8000 cubic feet per second (cfs) level on the Stanislaus River. Regulation of the flows from Don Pedro limits flooding along the Tuolumne River, but does not completely eliminate it. Another seasonal flooding threat is Dry Creek. It originates near the Modesto Reservoir and flows past Waterford through Modesto where it finally terminates at its confluence with the Tuolumne River. The Mid San Joaquin Regional Flood Management Working Group is working on mitigation measures that would further limit flooding from the San Joaquin River. The San Joaquin River impacts the areas along Interstate 5 and the unincorporated communities of Grayson and Westley.

EXTENT

Flooding has been a major problem throughout the history of Stanislaus County, particularly with the encroachment of urban growth into flood plains. Major floods have occurred in 1861, 1938, 1950, 1955,

1969, 1983, 1995, 1997, and 1998. Minor flooding occurred in 2006 with limited impacts to County property. The State Reclamation Board has identified and adopted designated floodways, defined in feet per second of flow, along the San Joaquin River, Stanislaus River, Tuolumne River, and portions of Dry Creek. Seasonal flooding along Dry Creek and the San Joaquin River is common during very wet years or periods.

The Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) provides information on flood risk in Stanislaus County using 100 and 500-year floodplain GIS mapping layers. Areas within the 100-year floodplain zone have a 1% annual exceedance probability of flood, meaning a flood has a 1% chance of being equaled or exceeded in any single year in those areas. Areas between the limits of the 100-year and 500-year floodplain zone have a 0.2% annual chance of flooding. The 100-year and 500-year floodplain zones are identified on the 2016 Stanislaus County-Flooding Hazard Map on page 67 in this section.

The Department of Housing and Urban Development (HUD) has also developed flood hazard zones, which are referenced in the County's Flood Control Ordinance and used for insurance purposes. Any non-agricultural encroachment into these areas requires special permits that are difficult to obtain and often costly to implement. Permits for encroachment into the designated floodways must be obtained from the Reclamation Board. The County administers other permits. These measures still do not control flood hazards for existing development. Information regarding flood-prone areas as shown on the HUD maps is available in the Department of Public Works.

PROBABILITY OF FUTURE EVENTS

The probability of flooding in Stanislaus County is likely. Historically, there have been clusters of flooding incidents within the County approximately every 14 years. Flooding risks are present among several creeks and rivers, including Del Puerto Canyon, Dry Creek, Orestimba Creek, Salado Creek, San Joaquin River, Stanislaus River, and the Tuolumne River. Stanislaus County is most regularly impacted by flooding along Dry Creek, the Tuolumne River and San Joaquin River.

The Dry Creek watershed is a major factor in flooding in eastern Stanislaus County and the east side of Modesto. The watershed was traditionally un-monitored and un-controlled. To improve monitoring capabilities, in 2011 Stanislaus County purchased a Remote Automated Weather System (RAWS) to help monitor rainfall on the watershed near Crabtree Road. Turlock Irrigation District is now planning to install another weather station on the upper Dry Creek watershed to give further capabilities for managing this flood hazard.

The Mid San Joaquin Regional Flood Management Working Group is focused on increasing transitory storage on the San Joaquin River. Flooding on the San Joaquin generally impacts the west side of the County. Increased storage will help reduce seasonal flood threats as well as the impact of larger incidents.

NEW OCCURRENCES

Since the current plan was updated in 2010, there has been one new occurrence. In April 2011, Stanislaus County proclaimed a local state of emergency for limited flooding at various locations within the County. This was considered a minor incident as there was limited damage.

VULNERABILITY IMPACTS

Seasonal flooding is experienced along the San Joaquin River and Tuolumne River.

Life and property loss could occur as well as damage to agricultural land.

Road and bridge closures, and communication systems may cause disruption to normal process.

Population most vulnerable are those living in low-lying trailer parks along the rivers and the homeless. There is usually sufficient time to alert and warn those that may be affected.

There are no County buildings or historical buildings located in these areas. The Modesto Water Treatment Plant could experience problems should waters rise high enough.

Assessing Vulnerability: Overview

There is commonly seasonal flooding along the San Joaquin River and Dry Creek in wet years.

Most flood conditions are from heavy, prolonged rain or rapid snow thaw. Flooding could involve extensive life and property loss, interruption of transportation and communications systems, loss and damage to agricultural land, and interruption of government infrastructure.

Most The San Joaquin Regional Flood Management Working Group is focused on reducing the flood risk on the San Joaquin River. The working group includes local and state government, irrigation districts and levee districts. The group has proposed mitigation measures and has made available grants to help local government and districts implement recommendations. The working group has recommended increasing transitory storage on San Joaquin River.

The Stanislaus County and Turlock Irrigation District have installed or is in the process of installing equipment to monitor the flow of Dry Creek and rain amounts within that watershed. Turlock Irrigation District is also examining methods to increase and decrease inflows from Don Pedro Reservoir on the Tuolumne River to lesson flooding probability at the Dry Creek / Tuolumne River confluence in Modesto.

Flooding on the Stanislaus River is not common and is only an issue in a major flood event. Even in the largest flood event in recent history (1997 and 1998), there were minimal impacts on the Stanislaus River.

Historically, emergency officials have received notice of potential flooding before the incident giving first responders time to notify and evacuate residents. The more vulnerable populations are those who are not able to self-evacuate including the elderly, young and those with disabilities. The homeless population is vulnerable in a flood incident and may need expanded notification and relocation efforts. Law enforcement and fire departments have coordinated the notification of homeless in past incidents. Drivers who ignore warnings of flood are also a population of concern particularly in the west side of the County at Eastin Road and Orestimba Creek. The county maintains crossing guards for this section, but they are sometimes ignored.

REPETITIVE LOSS PROPERTIES

Stanislaus County participates in the National Flood Insurance Program (NFIP) and complies with the NFIP requirements. The Stanislaus County Planning Department is the conduit for the program within this jurisdiction. The Planning Department provides information to the public specific to NFIP and flood hazards within the County on its website at the following link:

<http://www.stancounty.com/planning/bp/floodplain-management.shtm>

In compliance with the NFIP, Repetitive Loss Properties (RLP) has been identified in Stanislaus County. There are four (4) properties identified and they are located in Crows Landing, Modesto and Newman. There have been no new claims to these properties since the last plan update in 2010.

Assessing Vulnerability: Identifying Structures and Estimating Potential Losses

This section is based on an inventory of existing and future buildings, infrastructure, and critical facilities located within the identified flood hazard zones. Using maps from the FEMA 100 and 500-year floodplain layers, the following table lists a summary of the population, properties and values at risk from 100-year and 500-year floods from various source rivers. This exhibit also lists a summary of the housing units, population, and number of parcels and valuation of properties at risk of flooding from various rivers within unincorporated Stanislaus County.

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FLOOD RISKS IN STANISLAUS COUNTY				
River	Population	Households	# of Parcels	Total Value
100 Year Flood Zone				
Del Puerto Canyon	97	36	150	37,560,049
Dry Creek	205	103	649	114,525,728
Orestimba Creek	1,729	620	765	76,556,776
Salado Creek	1,419	462	645	53,314,273
San Joaquin River	866	231	702	130,354,364
Stanislaus River	64	40	544	109,002,577
Tuolumne River	3,077	894	1,596	174,037,212
River	Population	Households	# of Parcels	Total Value
500 Year Flood Zone				
Del Puerto Canyon	96	37	91	25,142,995
Dry Creek	259	122	325	38,689,834
Orestimba Creek	1,869	640	761	54,969,118
Salado Creek	14,281	4,574	4,629	258,849,978
San Joaquin River	52	18	32	12,148,637
River	Population	Households	# of Parcels	Total Value
Stanislaus River	974	347	701	98,840,359
Tuolumne River	10,187	2,730	2,983	197,213,289

There are seventeen existing County facilities in the 100 and 500 year flood zones with a total value of \$5,467,908. Both future facilities that would be impacted and the total value is \$2,365,000. The two facilities are expansion of the existing Honor Farm that is impacted by the 100 year flood zone along the San Joaquin River.

SECTION FIVE

The table below reflects the value of County Bridges in the event of a flood hazard:

COUNTY BRIDGES FLOOD RISK		
River	# of Bridges	Total Value
100 Year Flood		
Del Puerto Canyon	2	1,549,524
Dry Creek	3	12,112,883
Orestimba Creek	11	12,775,729
Salado Creek	4	4,016,025
San Joaquin River	4	24,544,988
Stanislaus River	4	25,734,308
Tuolumne	11	129,333,913

COUNTY BRIDGES FLOOD RISK		
River	# of Bridges	Total Value
500 Year Flood Zone		
San Joaquin River	1	490,454
Stanislaus River	1	256,050

Assessing Vulnerability: Analyzing Development Trends

There is no significant development in the unincorporated County impacted by flood since the last plan update. Most development has been infill in cities within the county.

Urban development is discouraged in areas with growth-limiting factors such as a high water table, poor soil percolation and flood plains unless measures to mitigate the problems are included as part of the development application.

Development is not allowed in areas that are within the designated floodway. Development within the 100-year flood boundary shall meet the requirements of Chapter 16.50 Flood Damage Protection of the County Code and within the designated floodway shall obtain Reclamation Board approval.

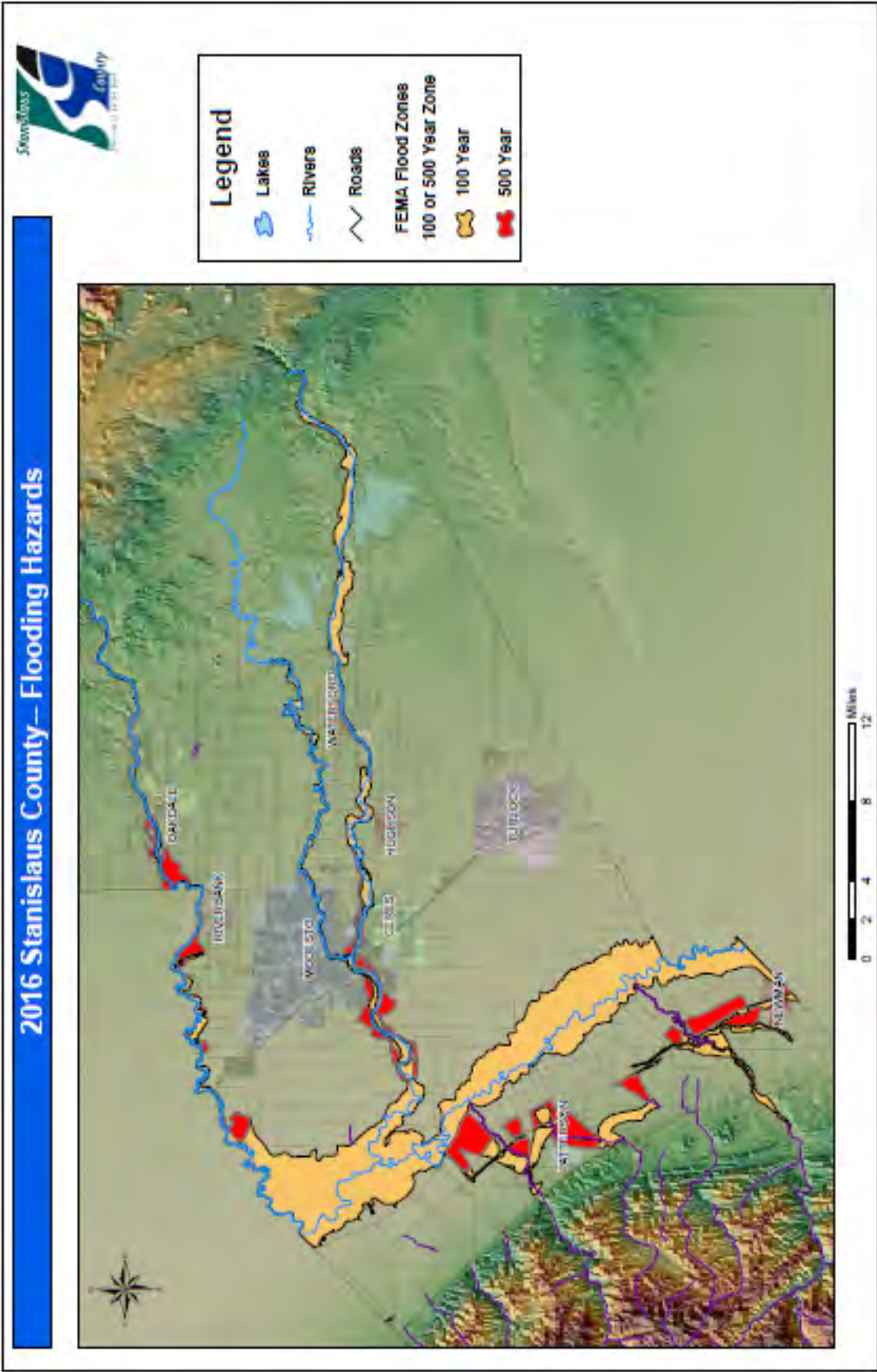
With several rivers traversing the County, flooding is a concern. The County makes information available to landowners in areas subject to flooding and supports the formation of improvement districts including flood control districts to eliminate safety hazards.

The County also utilizes the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to flooding. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.

The County continues to support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection.

Impact of Climate Change

The impact of climate change may lessen the flood risk in some areas including Stanislaus County. Climate change may increase drought and lessen snow pack in the mountains resulting in less water in the region. Climate change may produce unpredictable weather patterns that results in strong or slow moving storms that could cause localized flooding. It is anticipated that climate change will cause the sea level to rise. It is unclear how the rising sea level impacts of coastal flooding and coastal erosion may impact inland areas including Stanislaus County.



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RISK ASSESSMENT

Wildfire

WILDFIRE HAZARD

Identifying Hazard

A wildfire is an uncontrolled fire burning in an area of vegetative fuels such as grasslands, brush, or woodlands. Wildfires can occur in areas essentially void of development, or in areas where development intermingles with this natural area known as the wildland-urban interface. Many wildfires occur in locations that abound in grasslands and brush. Heavier fuels with high temperatures, low humidity, low rainfall, and high winds all work to increase risk.

Wildfires can occur at any time of the year, but will usually occur during warmer and dryer months. Wildfires are most commonly caused by people through arson, debris, burns, and carelessness. Areas that are typically considered to be safe from wildfires include highly urbanized, developed areas that are not contiguous with vast areas of wild lands. Areas typically considered being prone to wildfires include large tracks of wild lands.

Profiling Hazard

NATURAL HAZARD	HOW IDENTIFIED	WHY IDENTIFIED
WILDFIRE	• County General Plan Safety Element • County Emergency Operations Plan • Input from LHMP Planning Team • Feedback from LHMP partners	• Potential to cause devastation.

LOCATION

Generally from May to October of each year, Stanislaus County experiences its wildfire season. Most of the fire susceptible areas are located in the extreme eastern and western portion of the County. This is due to the underdeveloped, rugged terrain and the highly flammable, grass and brush covered land. High temperatures, low humidity, strong winds and drought may exacerbate the potential for wild land fires. Included within the Eastern and Western portion of the County, locations have been identified by the California Department of Forestry and Fire Protection ([CAL FIRE](#)) as State Responsibility Area (SRA).

Within Stanislaus County, the areas of potential brush fires are the Diablo Range, generally located west of Interstate 5, and the Sierra Nevada foothills in the eastern portions of the County. According to CAL FIRE, which includes the Santa Clara Unit (SCU) and Tuolumne Calaveras Unit (TCU), the majority of these areas are rated as having the highest possible critical fire weather frequency on an annual basis. Assessments of current and anticipated hazards/risks have been identified in CAL FIRE's Strategic Fire Plans for [SCU](#) and [TCU](#). This factor, combined with vegetation and slope percentage, produce overall fire ratings of moderate to high throughout the fire hazardous areas as identified in the Fire Hazard Severity Zones ([FHSZ map](#)).

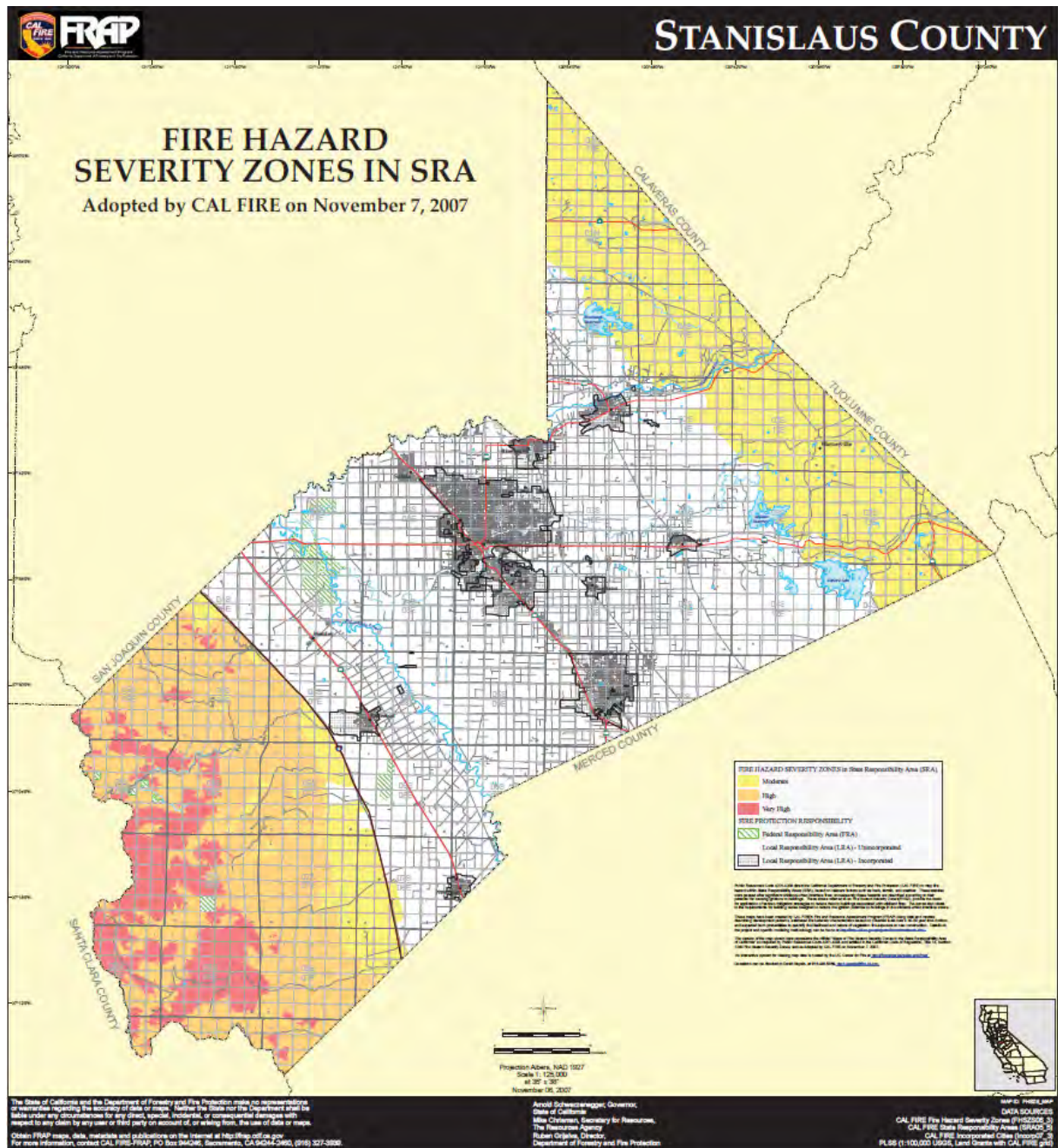
EXTENT

Brush fire hazards can be traced to four causes: topography, vegetation, climate, and people. Chaparral, grasslands and other wild plant life provide the major sources of fire fuel. Stanislaus County has a Mediterranean type of climate with cool, wet winters and hot, dry summers. The hot, dry summers in Stanislaus County produce large areas of extremely dry vegetation often located on topography which enhance the spread of flames and prohibits access of firefighting equipment. When people are added to the above situation, the chances of fires are greatly increased.

The largest wildfires occurring in Stanislaus County have been on the western side of the County in the SRA. THE SRA is rural and sparsely populated. The Del Puerto Fire and The Canyon Fire were in July 2006. They burnt 2,593 and 34,217 acres respectively. There were no structures residences lost in the

SECTION FIVE

Del Puerto Fire, but 11 residents were lost in the Canyon Fire. The Lick Incident was in July 2007 in the SRA encompassing Santa Clara and Stanislaus Counties. Approximately 47,460 acres burned and four residences were lost.



As depicted in the CAL Fire Fire Hazard Severity Zones in State Responsibility Area (SRA) map, above, Stanislaus County has a high to very high hazard severity zone on the western side of the County in the SRA. The eastern side of the County is indicated with a moderate severity zone rating in the SRA.

CAL FIRE has determined that Stanislaus County has no very high fire hazard severity zones in the Local Responsibility Area (LRA) indicated on the map in white.

PROBABILITY OF FUTURE EVENTS

The potential of future wildfires within Stanislaus County is highly likely. New construction continues to encroach into the wildland creating Urban Wild Land Inter Face in the State Responsibility Areas on the

SECTION FIVE

West and East sides of the County. The increase of human activity in these areas will increase the frequency and the significance of wildland fires as population increases.

The Stanislaus County, Stanislaus Consolidated, West Stanislaus and Cal Fire, Fire Prevention Bureaus will continue to work with new construction projects enforcing the California Fire Code, District Ordinances and the California Code of Regulations Title 14, Section 1273 working to reduce the significance of wildfires in the Wildland Interface and the State Responsibility Areas.

The drought experienced in the past years continues to reduce the fuel moisture levels in all fuel models. Increased wildfire numbers and more extreme fire behavior can be expected throughout the County if drought conditions persist.

The Northeast and East portions of the County continue to see conversion of State Responsibility Area land that historically contained grassland to irrigated land used for tree crops. The conversion of this SRA into irrigated land reduces the wildfire threat in the converted areas. Cal Fire is due to issue a new SRA map for the State in the coming years. The irrigated crop land should be removed from the SRA.

NEW OCCURRENCES

There have been over several hundred wildfire starts in Stanislaus County since the plan was updated in 2010. Only one of the fires grew to be significant in acreage. The Grayson Fire in 2016 was 2,000 acres and in the Local Responsibility Area (LRA). Drought conditions contributed to the spread of this fire including hot and dry conditions, drier than normal fuels and more river bottom exposure. It is unusual to have a fire of this size outside the SRA within Stanislaus County. No homes were lost as a result of the fire and there was no economic impact.

ASSESSING VULNERABILITY: OVERVIEW

Stanislaus County took into account the following when updating our vulnerability assessment:

- Updates to inventories of existing structures in hazard areas, including new development, and redeveloped areas or structures;
- Potential impacts of future land development, including areas that may be annexed in the future;
- New buildings; and
- Completed mitigation actions that reduced overall vulnerability.

Wild land fires are generally limited to the foothills on either side of the County. Although there is less of a hazard to structures and people, controlling such fires is more difficult because of their inaccessibility. While urban fires result in injuries and loss of property, brush fires may result in loss of natural vegetation, loss of agricultural crops, vulnerability to flood and landslides, erosion of the soil, and intrusion of the eroded soil into lower lying areas where it may be deposited.

Stanislaus County has developed several mechanisms for dealing with fire hazards. Building Code Standards require use of the safest construction methods. In the State Responsibility Areas ([CA Building Code Chapter 7A](#)) is enforced to create a higher level of fire resistance to wildland fires. Upgraded windows, doors, siding, roofing and deck construction enable a residence to withstand a wildfire moving through the area. Since the January 2011 adoption of the Fire Code all new residences in the State of California have been required

VULNERABILITY IMPACTS

Wildland fires are generally limited to the foothills on either side of the County, identified as State Responsibility Area (SRA).

There is little population or development in these high risk areas due to the rugged terrain.

Inaccessibility in the area makes controlling fires in these areas more difficult.

Loss of natural vegetation and soil erosion could make the area susceptible to flood and landslide.

Agricultural crops could be lost threatening economic health.

The few homes in the rural areas of the SRA are isolated with limited egress. Timely notification of fire threat is critical.

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to be fitted with fire sprinklers which reduce the fire occurrences in those residences.

The County Fire Warden's Office and Fire District's enforce a section of the County Code which requires removal of "all dirt, rubbish, weeds, ... which constitute a fire menace or which is otherwise a menace to health or safety..." in urban areas. If the property owner does not remove the material, the Fire Warden's Office can do so and charge the cost of removal to the property owner ([Stanislaus County Weed Abatement Ordinance Title 9, Chapter 9.20](#))

Cal Fire and Fire Prevention Bureau's having Jurisdiction also enforce the Public Resources Code Section 4290 in State Responsibility Areas of Stanislaus County requiring defensible space for structures.

Vulnerable populations are those who live in the rural areas of the SRA. Their homes are isolated with limited egress. It is important that these residents receive timely notification regarding potential evacuations.

Assessing Vulnerability: Identifying Structures and Estimating Potential Losses

The majority of areas threatened by potential wildfire losses within Stanislaus County are in the foothills at the far eastern and western edges of Stanislaus County where little population or development presently exist. Exceptions include:

- Pockets of development west of Interstate 5 (Diablo Grande; Fink Road Landfill)
- Frank Raines Regional Park (restrooms, well/pump facilities)
- Radio communications facilities (Mt. Oso)
- Woodward, Turlock Lake and Modesto Reservoir park improvements
- La Grange Regional Park improvements

Wildfires can threaten any improvements, particularly those which are not protected by buffer zones or which are constructed of combustible materials. The highest risk areas are also those with the least density of development, but may include ranches, farmland and pasture properties and their associated structures and fences. Most of the County's infrastructure facilities are less vulnerable to wildfire due to the materials used in their construction. Wildfires may threaten infrastructure of other utilities, such as power and telecommunications lines.

The vulnerability in terms of dollar losses is defined and provides the community and the State of California with a common framework in which to measure the effects of hazards on vulnerable structures. The County has reviewed and revised this new plan to reflect changes in development and updated the inventory of structures.

POPULATION AND PROPERTY VALUE ANALYSIS FOR WILDFIRE			
Wildfire Zone	Population	Households	Total Value
Fire Zone <1 Mile	1,242	725	288,748,713
Fire Zone >1 Mile < 2 Miles	9,384	3,459	514,345,331
Fire Zone >2 Mile < 3 Miles	10,796	3,484	470,840,443
Fire Zone >3 Mile < 4 Miles	6,720	2,270	398,277,093
Fire Zone >4 Mile < 5 Miles	5,243	1,976	387,601,549

EXISTING COUNTY FACILITIES PROPERTY VALUE BY FIRE ZONE		
Wildfire Zone	Existing Facilities	Total Value
Fire Zone <1 Mile	0	0
Fire Zone >1 Mile < 2 Miles	4	1,340,597
Fire Zone >2 Mile < 3 Miles	14	3,456,344
Fire Zone >3 Mile < 4 Miles	4	1,860,754

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Fire Zone >4 Mile < 5 Miles	1	1,713,838
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There are currently no future County facilities planned within a wildfire zone.

Assessing Vulnerability: Analyzing Development Trends

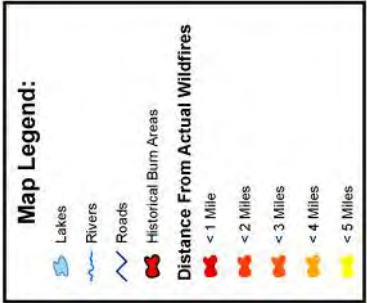
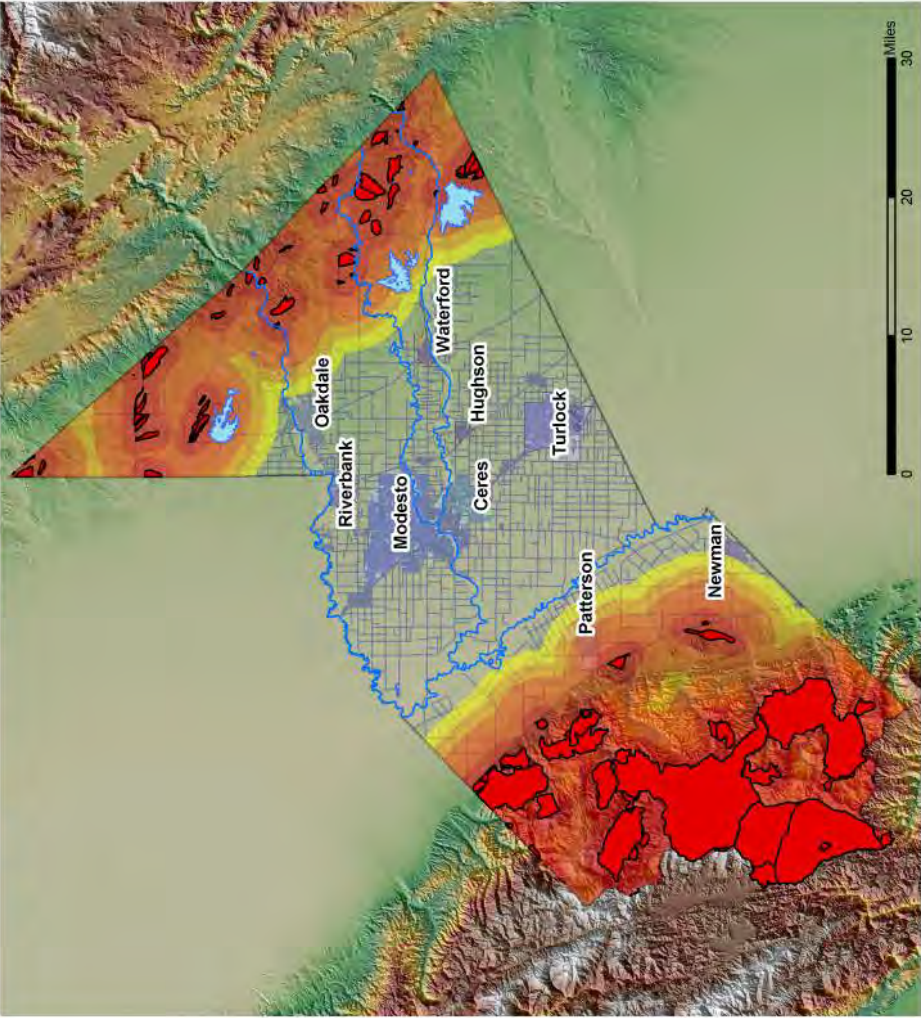
The areas most vulnerable to wildfire are in the SRA on the east and west sides of the County. There has been little to no development within the majority of the SRA with two exceptions. On the Western side, there has been limited development in the Diablo Grande. Diablo Grande is located seven miles west of I-5. The development was approved by the Board of Supervisors in 1993 for 5,000 residences. As a result of the economic turn down in 2008, build out of the residential area was stalled. There are currently 425 occupied residences and building is projected to continue over the next few years.

There has been development of ranchettes, two to ten acre homesteads, on the eastern side of the county between Knights Ferry and the City of Oakdale. These ranchettes are located primarily in the SRA. Aside from these limited developments, there has been no significant change in development in the unincorporated areas impacted by wildfire within Stanislaus County since the last LHMP update.

Impact of Climate Change

California has experienced a significant drought over the past five years. The drought has stressed all ranges of fuel in the wildland in Stanislaus County producing extreme fire behavior. The areas most affected by the drought would be the river bottom fuels and the fuels in the extreme west and east foothill portions of the County.

2016 Stanislaus County -- Historical Wildfire Hazard





SECTION SIX

Mitigation Strategy

SECTION SIX – MITIGATION STRATEGY

INTRODUCTION

The mitigation strategy serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy includes the development of goals and prioritized hazard mitigation actions. Goals are long-term policy statement and global visions that support the mitigation strategy. A critical step in the development of specific hazard mitigation actions and projects is assessing the community's existing authorities, policies, programs, and resources and its capability to use or modify local tools to reduce losses and vulnerability from profiled hazards.

Stanislaus County utilized a four-step process to reaffirm or update goals and actions based on current conditions including: Developing mitigation goals,

- Identifying mitigation actions,
- Evaluating mitigation actions, and
- Implementing mitigation action plans.

The Planning Team developed the mitigation goals, reviewed potential mitigation actions, and developed the Mitigation Action Plan for the unincorporated portion of the County. The plan was also reviewed and shared with our local partners to receive feedback and help us prioritize goals and objectives.

WHY DO WE NEED A MITIGATION STRATEGY

- To help the County make decisions that will reduce its vulnerability to hazards;
- It costs too much money to only address the effects of a disaster after it occurs;
- State and Federal aid is usually insufficient to cover the extent of physical and economic damages resulting from disasters;
- Damage from hazards can be prevented if the County takes the time to anticipate where and how disasters will occur, and then take appropriate action to minimize damages;
- The County can lessen the impact of disasters and speed the response and recovery process;
- The County has a moral responsibility to its citizens to plan and recognize the potential for hazards; and
- Awareness can help our community become more sustainable and disaster resistant.

DEVELOPING MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what the County wants to achieve in terms of hazard and loss prevention. Goals are typically long-range statements representing community-wide visions. The Planning Team reviewed the goals from the 2010 plan which focused on minimizing future loss of life, reducing property damage, and avoiding long-term vulnerabilities to the identified hazards. After the Risk Assessment was completed, the Planning Team developed additional goals. This included: increased planning and mitigation efforts for dam and flood along with increased preparedness in participating in ShakeOut for earthquakes. The goals were developed to be compatible with the goals of the community as expressed in the Safety Element of the General Plan, and the Emergency Operations Plan. The County's Mitigation Strategy is guided by the vision of a safe and resilient County. Our mission is to integrate existing laws and programs into a mitigation strategy that will serve the citizens by reducing and preventing injury and damage from natural hazards.

Stanislaus County routinely performs activities such as issuing building permits, approving development plans, and repairing roads. The County is conscious that these activities should reflect our vision and goals by using the most current building code, restricting development in hazard-prone areas, or making infrastructure decisions based on our latest Risk Assessment findings. The table below highlights the County's existing authorities, policies, and programs and the ability to expand upon and improve them through continuous review and integration with the Mitigation Plan.

<i>Existing Authority, Policy or Program Title</i>	<i>Goal</i>	<i>Policy / Program Improvements</i>
Stanislaus County General Plan	Hazard Risk Reduction	Addresses hazards through the General Plan Safety Element and integrated with the stated goals and priorities of the LHMP. The plan is continuously reviewed and revised based on current identified hazards.
Capital Improvement Plan	Protect Critical Facilities and Infrastructure	Incorporates LHMP priorities in the Capital Improvement Plan and requires project review by the Board of Supervisors during the concept, scope and cost of the project as well as the appropriate environmental reviews before a project is initiated. The Board of Supervisors review insures continuous expansion and improvement of critical facilities and infrastructure capability.
Stanislaus County Emergency Operations Plan (EOP)	Establish Emergency Management Organization	The Hazard Mitigation Planning Team remains informed of major review findings during the annual review of the EOP with the intent to integrate with key components of the LHMP. Annual review of this plan allows emergency management staff to continue to improve and expand capability to identify opportunities to mitigate hazards.
Stanislaus County Codes, Title 16 Buildings and Construction	Safeguard life, health, property and the public welfare	Reviews the LHMP to ensure integration by: Assessor for parcel data including use codes, assessed categories and values; Public Works for current infrastructure (bridges, drainage, street lights and traffic lights) and their geographic placement; Strategic Business Technology for numerous GIS base map shape files for cities, county, parcels, rivers and roads. Changes to County Code can be made as needed to expand and improve capability to protect life and property of Stanislaus County residents.

IDENTIFYING MITIGATION ACTIONS

For the Plan Update, the County proceeded to evaluate potential mitigation actions after reviewing our mitigation goals. Mitigation actions are activities, measures, or projects that help achieve the goals of a mitigation plan. Particular effort was made to identify at least one new mitigation action per identified hazard and define whether the existing actions were completed, deleted, deferred, or ongoing. County and jurisdiction-specific mitigation actions to reduce hazard impacts to new and existing buildings and infrastructure were also reviewed. Mitigation efforts should occur both before and after emergencies or disasters. This includes eliminating or reducing the impact of hazards that exist within Stanislaus County.

Mitigation efforts include:

- Amending local ordinances and statutes, such as zoning ordinances, building codes, and other enforcement codes;
- Integrating mitigation efforts into the County General Plan;
- Improving the understanding of the vulnerability of building types;

-
- Ensuring that all development in high-risk areas is protected by mitigation measures that provide for safety;
 - Assessing tax levies or abatements;
 - Emphasizing public education and awareness;
 - Assessing and altering land use planning; and/or
 - Establishing partnerships between all levels of government and the business community to improve and implement methods to protect property and lives.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMPLIANCE

Stanislaus County actively participates in FEMA's National Flood Insurance Program (NFIP) and has implemented floodplain policies, regulations, and ordinances to protect the threatened population and infrastructure to assure NFIP compliance.

COMMUNITY ASSISTANCE AND MONITORING ACTIVITIES

The Building Permits Division has a Flood Plain Administrator that attends and schedules workshops, provides informational assistance to the general public, and creates ordinance adoptions to comply with FEMA requirements. The Flood Plain Administrator also monitors FEMA publications and has close contact with the State Water Resources Board to maintain accurate information. The Public Works Department provides FEMA flood plain maps on the County Website for community review.

EVALUATING AND PRIORITIZING MITIGATION ACTIVITIES

The Planning Team reviewed mitigation activities identified in the 2010 mitigation plan. The mitigation strategies for each risk were reviewed and then validated or more clearly defined. The Planning Department, Building Permits Division and the Public Works Department enforce local, state and federal building codes that mitigate damage during a disaster. Their role is key in preventing future losses. The Chief Executive Office / Office of Emergency Services and other County departments ensure that emergency plans are developed and implemented and that personnel are trained in disaster response including the National Incident Management System. During this review cycle, no changes in priorities were identified by the Planning Team or through public comment. However, new mitigation actions were added for earthquake, landslide, dam, flood and fire risks to reflect current conditions. Mitigation is an ongoing activity that is incorporated into the day-to-day work flow for many County departments involved. The work is often funded through general fund, application fees or federal and state grants.

IMPLEMENTING A MITIGATION ACTION PLAN

The mitigation activities table for each hazard identifies the action, associated objectives, progress/status responsible agency and time frame. Many of these actions are considered ongoing or continuous County initiatives. The progress/status section of the table indicates the status of the activity if it was included in the previous plan or indicates if it is a new activity for the current plan.

COST-BENEFIT REVIEW

A cost-benefit review was applied in order to prioritize the mitigation recommendations for implementation. The priority for implementing mitigation recommendations depends upon the overall cost effectiveness of the recommendation, when taking into account monetary and non-monetary costs and benefits associated with each action. The cost-benefit table for each hazard provides an analysis of the benefit, cost and a relative priority rank (High, Medium and Low) for each mitigation activity. The general guidelines are listed below.

- High – Benefits are perceived to exceed costs without further study or evaluation.
- Medium – Benefits are perceived to exceed costs, but may require further study or evaluation prior to implementation.
- Low – Benefits and cost evaluations requires additional evaluation prior to implementation.

Funding projects that will help to mitigate imminent hazards are cost effective and assist in efforts to help communities recover from disasters. Most of the projects are already funded through general fund, application fees or state/federal funds. The majority of the projects are ongoing to ensure mitigation

measures are implemented within the County. It is not anticipated that all future projects will be identified in this Local Hazard Mitigation Plan. The County's Mitigation Plan will help guide local government to prioritize, be flexible, and identify critical mitigation strategy needs that may arise from a disaster when there is no time to update the local plan.

It is also important for the County to protect critical facilities and infrastructure. Stanislaus County has a Capital Improvement Plan with a Capital Projects Program in place. The Capital Projects Team is actively working to protect facilities and infrastructure important to the County. Areas of repetitive loss are high priorities for mitigation funding as they can drain County coffers.

EARTHQUAKE HAZARD

Hazard Mitigation Goals

- Minimize loss of life and reduce property damage as a result of earthquakes
- Reduce economic impact of earthquakes
- Increase public preparedness for disasters

Identification and Analysis of Mitigation Actions

OBJECTIVES	
Objective No.	Description
EQ01	Encourage and comply with higher development standards in geological fault areas.
EQ02	Discourage urban development in geological fault and hazard areas unless measures to mitigate the problems are included as part of the application.
EQ03	All new public and private development shall be designed to increase safety.
EQ04	The County shall continue to enforce State-mandated Health and Safety Codes, which include but are not limited to the California Code of Regulations Title 24 and International Property and Maintenance Code. Specifically for Seismically designed structures that meet or exceed the requirements stated in the California Building Code Volumes 1 and 2.
EQ05	Continue critical business operations.
EQ06	Train emergency responders.
EQ07	Enable the public to prepare for, respond to, and recover from disasters by improving hazard information.
EQ08	Support efforts to identify and rehabilitate structures that are not earthquake resistant.
EQ09	Integrate mitigation plan with other local government plans.

Implementation of Mitigation Actions

EARTHQUAKE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.01 Ensure all Development and Building Permit Applications in areas with geological faults shall include measures to mitigate the impacts based on the Seismic Design Category associated with Soil Classification, liquefaction and seismic activity, in accordance with California Code of Regulations Title 24.	EQ01 EQ02 EQ03	Fully implemented since the 2010 plan and continues to be implemented to ensure building structural safety.	Planning and Community Development	Ongoing at time of development and building permit review.	County General Funds; Fees; State Earthquake Hazard Mitigation Funding
2016. HMP.02 Proposed Residential development may not be approved at the maximum density if it is in a geological fault area or if it does not meet the requirements of Ordinance 1182(Building Code adoption), Title 24 and 16, Stanislaus County Code unless mitigation measures are approved at application.	EQ01 EQ02 EQ03	All new residential development and structures within are reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Planning and Community Development	Ongoing at time of development and building permit review	County General Funds; State Earthquake Hazard Mitigation Funding
2016. HMP.03 The County shall enforce provisions of the Alquist-Priolo Earthquake Fault Zoning Act.	EQ01 EQ02 EQ03	All new residential developments are designed, reviewed and approved through entitlement process.	Planning and Community Development	Ongoing	County General Funds
2016. HMP.04 Conduct public outreach about earthquake risk and mitigation activities through participation in and publicizing The Great California Shake Out.	EQ07	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office / Office of Emergency Services	Annual	County General Funds; US Department of Homeland Security
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	EQ09	Previous plan focused on EOP development only. This updated strategy emphasizes integration between local plans.	Chief Executive Office / Office of Emergency Services	Ongoing as plans are updated.	County General Funds; US Department of Homeland Security
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	EQ05	The COOP is updated as needed with a scheduled review annually.	Chief Executive Office / Office of Emergency Services	Ongoing with scheduled annual update.	County General Funds; US Department of Homeland Security

EARTHQUAKE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	EQ06	Since 2006 Stanislaus County has provided NIMS training to employees and maintains an active training plan that emphasizes NIMS.	Chief Executive Office / Office of Emergency Services	Ongoing as county employees move through attrition or new responsibilities.	County General Funds; US Department of Homeland Security
2016. HMP.08 New public roads and bridges in areas subject to significant seismic hazard shall be designed to minimize seismic risk.	EQ03	Continuous implementation since 2010 and will continue to implement to ensure road and bridge safety.	Public Works	Ongoing	County General Funds; State Earthquake Hazard Mitigation Funding
2016. HMP.09 Additional width shall be required if right-of-way widths greater than those specified in the Circulation Element are necessary to provide added safety in geologically unstable areas.	EQ03	Continued implementation as warranted by specific projects.	Public Works	Ongoing	County General Funds; State Earthquake Hazard Mitigation Funding
2016. HMP.10 Take advantage of programs that would provide funds to identify and rehabilitate structures that do not currently meet building standard minimums for earthquake resistance.	EQ04 EQ08	Continuous implementation based on the number of grant applications and the approval of application for funds.	Planning and Community Development	Ongoing based on applications received.	County General Funds; State Earthquake Hazard Mitigation Funding

EARTHQUAKE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.01 Ensure all Development and Building Permit Applications in areas with geological faults shall include measures to mitigate the impacts based on the Seismic Design Category associated with Soil Classification, liquefaction and seismic activity, in accordance with California Code of Regulations Title 24.	- Avoids Casualties - Avoids Physical Damage	Staff time for development process, plan review, and Inspection(s) associated with Building Permit costs.	High
2016. HMP.02 Proposed Residential development may not be approved at the maximum density if it is in a geological fault area or if it does not meet the requirements of Ordinance 1182, Title 24 and 16, Stanislaus County Code unless mitigation measures are approved at application.	- Avoids casualties - Avoids physical damage	Staff time for development process, plan review, and Inspection(s) associated with Building Permit costs	High
2016. HMP.03 The County shall enforce provisions of the Alquist-Priolo Earthquake Fault Zoning Act.	- Avoids casualties - Avoids physical damage	Staff time for development process	High
2016. HMP.04 Conduct public outreach about earthquake risk and mitigation activities through participation in and publicizing The Great California Shake Out.	- Avoids casualties - Avoids emergency management costs	- Staff time for development and coordination - Costs for publications	High
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	Avoids emergency management costs	Staff time for coordination	High
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	Avoids loss of function costs	- Staff time for maintenance and coordination \$10,000 for annual maintenance fees	High
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	Avoids emergency management costs	- Staff time for Coordination - Costs for trainers and materials	High

EARTHQUAKE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.08 New public roads and bridges in areas subject to significant seismic hazard shall be designed to minimize seismic risk.	- Avoids casualties - Avoids loss of function - Avoids physical damage	- Staff time for coordination - Specific project costs outlined in Stanislaus County Capital Improvement Plan	Medium
2016. HMP.9 Additional width shall be required if right-of-way widths greater than those specified in the Circulation Element are necessary to provide added safety in geologically unstable areas.	Avoids physical damage	No cost unless purchase or right of way or imminent domain needed	Low
2016. HMP.10 Take advantage of programs that would provide funds to identify and rehabilitate structures that do not currently meet building standard minimums for earthquake resistance.	- Avoids physical damage - Avoids casualties	Staff time for coordination of applications and grants	Low

LANDSLIDE HAZARD

Hazard Mitigation Goals

- Minimize loss of life and reduce property damage as a result of landslides
- Reduce economic impact of landslides
- Promote sustainable economy
- Identification and Analysis of Mitigation Actions

OBJECTIVES	
Objective No.	Description
LS01	Development west of Highway 5 in areas susceptible to landslides shall be permitted only when a geological soils report has been completed with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.
LS02	All new development, including near river bluffs shall be designed to increase safety and reduce health hazards.
LS03	Discourage development on lands that are subject to landslides.
LS04	Implement engineering benchmarks to monitor landslide susceptibility to prevent impacts to roadways.
LS05	Manage landslide hazard areas by pre-staging road clearing equipment.
LS06	Continue critical business operations.
LS07	Train emergency responders.
LS08	Integrate mitigation plan with other local government plans.

Implementation of Mitigation Actions

LANDSLIDE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	LS08	Previous plan focused on EOP development only. This updated strategy emphasizes integration between local plans.	Chief Executive Office / Office of Emergency Services	Ongoing as plans are updated.	County General Funds; US Department of Homeland Security
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	LS06	The COOP is updated as needed with a scheduled review annually.	Chief Executive Office / Office of Emergency Services	Ongoing with scheduled annual update.	County General Funds; US Department of Homeland Security
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	LS07	Since 2006 Stanislaus County has provided NIMS training to employees and maintains an active training plan that emphasizes NIMS.	Chief Executive Office / Office of Emergency Services	Ongoing as county employees move through attrition or new responsibilities.	County General Funds; US Department of Homeland Security
2016. HMP.11 All building permit applications shall be reviewed to ensure compliance with the California Code of Regulations Title 24 and Subdivision Ordinance in areas of unstable soils.	LS01, LS02, LS06	Fully implemented since the 2010 plan and continues to be implemented to ensure building structural safety.	Planning and Community Development	Ongoing at the time of development and building permit review.	County General Funds; Fees
2016. HMP.12 Development west of Highway 5 located in Seismic Design Category D shall submit a geological soils report unless the Chief Building Official and Planning Director are satisfied that no need for the report is present.	LS01	Fully implemented since the 2010 plan and continues to be implemented to ensure building structural safety.	Planning and Community Development	Ongoing at the time of development and building permit review.	County General Funds; Fees
2016. HMP.13 The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to landslides. Most discretionary projects require review for	LS03	Continuous implementation since 2010 and will continue to utilize CEQA to ensure that new development is safe.	Planning and Community Development	Ongoing at the time of development review and the CEQA process.	County General Funds

LANDSLIDE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.					
2016. HMP.14 The routes of new public roads in areas subject to landslides shall be designed to minimize landslide risks.	LS03	Continuous implementation since 2010 to ensure minimizing of landslide risks to public roads.	Public Works	On-going	County General Funds; Bonds; Tax Measures
2016. HMP.15 Engineering benchmarks will be utilized to survey slope differences over time and monitor for changes in topography to prevent roadway damage and traffic disruptions.	LS04	This activity is new to the Local Hazard Mitigation Plan.	Public Works	On-going	County General Funds; Bonds; Tax Measures
2016. HMP.16 Manage landslide hazard areas by staging road-clearing equipment in known landslide prone areas for faster stabilization.	LS05	This activity is new to the Local Hazard Mitigation Plan.	Public Works	Annual (seasonal)	County General Funds
2016. HMP.17 Development proposals in an area identified as having unstable soils and subject to landslides such as areas in the foothills and river bluffs shall include an engineered design with emphasis on soil, degree of slope measures for mitigating possible hazards.	LS03	Fully implemented since the 2010 plan and continues to be implemented to ensure building structural safety.	Planning and Community Development	Ongoing at the time of development and building permit review.	County General Funds; Bonds; Tax Measures

LANDSLIDE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	Avoids emergency management costs	Staff time for development and coordination	High
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	Avoids loss of function costs	- Staff time for maintenance and coordination \$10,000 for annual maintenance fees	High
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	Avoids emergency management costs	- Staff time for coordination - Costs for trainers and materials	High
2016. HMP.11 All building permit applications shall be reviewed to ensure compliance with the California Code of Regulations Title 24 and Subdivision Ordinance in areas of unstable soils.	Avoids physical damage	Staff time for coordination	High
2016. HMP.12 Development west of Highway 5 located in Seismic Design Category D shall submit a geological soils report unless the Chief Building Official and Planning Director are satisfied that no need for the report is present.	Avoids physical damage	Staff time for coordination	High

LANDSLIDE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.13 The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to landslides. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.	Avoids physical damage	- Staff time and development - Application fees	High
2016. HMP.14 The routes of new public roads in areas subject to landslides shall be designed to minimize landslide risks.	- Avoid casualties - Avoid physical damage	Staff time of Public Works Engineering Department	High
2016. HMP.15 Engineering benchmarks will be utilized to survey slope differences over time and monitor for changes in topography to prevent roadway damage and traffic disruptions.	- Avoid physical damage - Avoid traffic disruptions	Staff time to survey and monitor changes	High
2016. HMP.16 Manage landslide hazard areas by staging road-clearing equipment in known landslide prone areas for faster stabilization.	- Avoid traffic disruptions - Avoid emergency management costs	- Staff time - Equipment costs	High
2016. HMP.17 Development proposals in an area identified as having unstable soils and subject to landslides such as areas in the foothills and river bluffs shall include an engineered design with emphasis on soil, degree of slope measures for mitigating possible hazards.	Avoids physical damage	- Staff time and development - Application fees	High

DAM FAILURE HAZARD

- Minimize loss of life and reduce property damage as a result of dam inundation
- Reduce the economic impact of flooding due to dam inundation
- Promote sustainable economy
- Increase public preparedness for disasters

Identification and Analysis of Mitigation Actions

OBJECTIVES	
Objective No.	Description
DI01	Continue critical business operations.
DI02	Train emergency responders.
DI03	Enable the public to prepare for, respond to, and recover from disasters by improving hazard information.
DI04	Integrate mitigation plan with other local government plans.
DI05	Coordinate with partner agencies to limit impacts to public, infrastructure and environment.

Implementation of Mitigation Actions

DAM FAILURE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	DI04	Previous plan focused on EOP development only. This updated strategy emphasizes integration between local plans.	Chief Executive Office / Office of Emergency Services	Ongoing as plans are updated.	County General Funds; US Department of Homeland Security
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	DI01	The COOP is updated as needed with a scheduled review annually.	Chief Executive Office / Office of Emergency Services	Ongoing with scheduled annual update.	County General Funds; US Department of Homeland Security
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	DI02	Since 2006 Stanislaus County has provided NIMS training to employees and maintains an active training plan that emphasizes NIMS.	Chief Executive Office / Office of Emergency Services	Ongoing as county employees move through attrition or new responsibilities.	County General Funds; US Department of Homeland Security
2016. HMP.18 Continue to partner with dam operators to identify projected flood path of travel as if total loss of dam occurs.	DI05	Since 2010, Stanislaus County has participated in exercises with dam operators and initiated working groups specific to dam inundation.	Chief Executive Office / Office of Emergency Service	Ongoing	County General Funds; US Department of Homeland Security
2016. HMP.19 Participate in the Stanislaus County /Turlock Irrigation District Flood Working Group to develop and approve plans specific to public notification and evacuation.	DI02, DI04, DI05	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office / Office of Emergency Services	Ongoing	County General Funds; US Department of Homeland Security
2016. HMP.20 Participate in the Mid San Joaquin Regional Flood Management Working Group. The group is developing plans for watershed reservoir management on the San Joaquin River.	DI05	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office / Office of Emergency Services	Ongoing	County General Funds; US Department of Homeland Security

DAM FAILURE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.21 Identify structures within the flood path of travel and note impacted properties in data base.	DI05	County continues to work with dam operators to identify flood path of travel and impacted areas.	Planning and Community Development	Ongoing	County General Funds; US Department of Homeland Security
2016. HMP.22 The County will continue to participate in Emergency Action Plan training and exercises. Lessons learned will be reflected in plans developed for dam inundation.	DI04, DI05	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office / Office of Emergency Services	Ongoing / Annual	County General Funds; US Department of Homeland Security

DAM FAILURE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	Avoids emergency management costs	Staff time for development and coordination	High
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	Avoids loss of function costs.	- Staff time for maintenance and coordination \$10,000 for annual maintenance fees	High
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	Avoids emergency management costs.	- Staff time for Coordination - Costs for trainers and materials	High
2016. HMP.18 Continue to partner with dam operators to identify projected flood path of travel as if total loss of dam occurs.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	Staff time for coordination	High
2016. HMP.19 Participate in the Stanislaus County Turlock Irrigation District Flood Working Group to develop and approve plans specific to public notification and evacuation.	- Avoids casualties - Avoids emergency management costs	- Staff time for coordination and development - Costs for public notification systems	High
2016. HMP.20 Participate in the Mid San Joaquin Regional Flood Management Working Group. The group is developing plans for watershed reservoir management on the San Joaquin River.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	Staff time for coordination and development	Medium
2016. HMP.21 Identify structures within the flood path of travel and note impacted properties in data base.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	Staff time for coordination	High

DAM FAILURE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.22 The County will continue to participate in Emergency Action Plan training and exercises. Lessons learned will be reflected in plans developed for dam inundation.	Avoids emergency management costs	Staff time for coordination and development	High

FLOOD HAZARD

- Minimize loss of life and reduce property damage as a result of floods
- Reduce the economic impact of floods
- Promote sustainable economy
- Increase public preparedness for disasters

Identification and Analysis of Mitigation Actions

OBJECTIVES	
Objective No.	Description
FL01	Provide ordinances to ensure that flood insurance can be made available to qualified property owners through State and Federal programs.
FL02	Support programs and activities that increase Community Rating System (CRS) premium discounts through National Flood Insurance Program (NFIP).
FL03	Development should not be allowed in areas that are within the designated floodway.
FL04	New developments shall be designed to increase safety.
FL05	Discourage development in areas susceptible to floods.
FL06	Continue critical business operations.
FL07	Integrate mitigation plan with other local government plans.
FL08	Train emergency responders.
FL09	Coordinate with partner agencies to limit impacts to public, infrastructure and environment.

Implementation of Mitigation Actions

FLOOD HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	FL07	Previous plan focused on EOP development only. This updated strategy emphasizes integration between local plans.	Chief Executive Office / Office of Emergency Services	Ongoing as plans are updated.	County General Funds; US Department of Homeland Security
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	FL06, FL07	The COOP is updated as needed with a scheduled review annually.	Chief Executive Office / Office of Emergency Services	Ongoing with scheduled annual update.	County General Funds; US Department of Homeland Security
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	FL08	Since 2006 Stanislaus County has provided NIMS training to employees and maintains an active training plan that emphasizes NIMS.	Chief Executive Office / Office of Emergency Services	Ongoing as county employees move through attrition or new responsibilities.	County General Funds; US Department of Homeland Security
2016. HMP.23 GIS layers will be maintained and kept current of the probability and extent of flooding based on various models, primarily data about historical flooding. Capturing real time flood reporting and monitoring for integration into flood maps is a key focus for GIS mitigation efforts.	FL09	Stanislaus County continues to integrate flood data into GIS layers and develop flood maps for emergency managers based on current data.	Strategic Business Technology	Ongoing as new information becomes available.	County General Funds; US Department of Homeland Security; State Flood Hazard Mitigation Funding
2016.HMP.24 Through enforcement of Title 16, require that structures in a flood plain will have the Lowest Flood Elevation constructed at a minimum level of one foot above Base Flood Elevation and to adopt FEMA section 11-01 and provide clarity on basement definition.	FL01, FL02, FL04	All new residential development and structures within the County are reviewed, permitted and inspected in accordance with the most currently adopted code. (Tile 24 and Title 16).	Planning and Community Development	Ongoing at the time of development and building permit review.	County General Funds; Fees

FLOOD HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.25 Elevate existing homes out of the flood plain due to repetitive loss.	FL02	Any substantial improvement or repair would require the structure be elevated.	Planning and Community Development	Ongoing at the time of improvement or repair.	County General Funds; State Flood Hazard Mitigation Funding
2016. HMP.26 Coordinate participation in the National Flood Insurance Program (NFIP) for Stanislaus County and ensure compliance with the requirements.	FL01, FL02, FL04, FL05	Continual compliance with Stanislaus County Flood Damage Protection Ordinance and NFIP.	Planning and Community Development	Ongoing	County General Funds
2016. HMP.27 Enforce Chapter 16.50 Flood Damage Protection Ordinance of the County Code and within the designated floodway shall obtain State Floodway Agency and Reclamation District Board approval.	FL03	Continual enforcement of the ordinance.	Planning and Community Development	Ongoing	County General Funds; US Department of Homeland Security
2016. HMP.28 The Public Works Department will provide information to landowners in areas subject to flooding to help them form a flood control district in Stanislaus County.	FL04, FL05	Continuous implementation as development and infrastructure meet.	Public Works	Ongoing	County General Funds
2016. HMP.29 The County shall use the California Environmental Quality Act (CEQA) process to ensure that development does not occur in areas that would be especially susceptible to flooding. As part of this review potential impacts must be identified and mitigated.	FL01, FL07	Continuous implementation since 2010 and will continue to utilize CEQA to ensure that new development is safe.	Planning and Community Development	Ongoing at the time of development review and the CEQA process.	County General Funds
2016.HMP.30 Participate in the Mid San Joaquin Regional Flood Management Working group to develop infrastructure, plans, training and exercises to limit flooding and flooding impacts on the San Joaquin River within Stanislaus County.	FL09	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office /Office of Emergency Services	Ongoing	County General Funds; US Department of Homeland Security
2016. HMP.31 Increase monitoring capabilities for the Dry Creek watershed.	FL09	This activity is new to the Local Hazard Mitigation Plan.	Chief Executive Office / Office of Emergency Services	Ongoing	County General Funds; US Department of Homeland Security; State Flood Hazard Mitigation Funding

FLOOD HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	Avoids emergency management costs	Staff time for development and coordination	High
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	Avoids loss of function costs.	- Staff time for maintenance and coordination \$10,000 for annual maintenance fees	High
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	Avoids emergency management costs	- Staff time for Coordination - Costs for trainers and materials	High
2016. HMP.23 GIS layers will be maintained and kept current of the probability and extent of flooding based on various models, primarily data about historical flooding. Capturing real time flood reporting and monitoring for integration into flood maps is a key focus for GIS mitigation efforts.	- Avoids casualties - Avoids emergency management costs	- Staff time for development and coordination \$2,000 for licenses and support	High
2016.HMP.24 Through enforcement of Title 16, require that structures in a flood plain will have the Lowest Flood Elevation constructed at a minimum level of one foot above Base Flood Elevation and to adopt FEMA section 11-01 and provide clarity on basement definition.	- Avoids casualties - Avoids emergency management costs	- Staff time and development - Building permit fees	High
2016. HMP.25 Elevate existing homes out of the flood plain due to repetitive loss.	- Avoids Casualties - Avoids Property Damage - Avoids Emergency Management Costs	- Staff time and development - Application fees	Medium
2016. HMP.26 Coordinate participation in the National Flood Insurance Program (NFIP) for Stanislaus County and ensure compliance with the requirements.	- Avoids casualties - Avoids emergency management costs	Staff time for coordination	High

FLOOD HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.27 Enforce Chapter 16.50 Flood Damage Protection Ordinance of the County Code and within the designated floodway shall obtain State Floodway Agency and Reclamation District Board approval.	- Avoids casualties - Avoids emergency management costs	Staff time for coordination	High
2016. HMP.28 The Public Works Department will provide information to landowners in areas subject to flooding to help them form a flood control district in Stanislaus County.	- Avoids casualties - Avoids property damage	Staff time for coordination	High
2016. HMP.29 The County shall use the California Environmental Quality Act (CEQA) process to ensure that development does not occur in areas that would be especially susceptible to flooding. As part of this review potential impacts must be identified and mitigated.	- Avoids casualties - Avoids emergency management costs	- Staff time and development - Application fees	High
2016.HMP.30 Participate in the Mid San Joaquin Regional Flood Management Working group to develop infrastructure, plans, training and exercises to limit flooding and flooding impacts on the San Joaquin River within Stanislaus County.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	- Staff time for participation and coordination - Cost for trainers and exercise coordinators	High
2016. HMP.31 Increase monitoring capabilities for the Dry Creek watershed.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	- Staff time for coordination - Cost for materials, equipment and labor	Medium

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WILDFIRE HAZARD

Hazard Mitigation Goals

- Minimize the effects of hazardous conditions that might cause loss of life and property
- Reduce the economic impact of wildfires
- Promote sustainable economy
- Increase public preparedness for disasters
- Identification/Analysis of Mitigation Actions

OBJECTIVES	
Objective No.	Description
WF01	All new development shall be designed to increase protection from wildfire.
WF02	Adequate fire protection shall be provided.
WF03	Roads shall be maintained for the safety of travelers for wildfire.
WF04	Future growth shall not exceed the capacity to provide services such as water and public safety.
WF05	The County will continue to enforce the State Mandated Health and Safety Code, the Public Resources Code and the California Code of Regulations, Title 24.
WF06	The County to adopt an ordinance that meets or exceeds the regulations in 14 CCR 1270 et seq to be used in lieu of the minimum State Standards in the State responsibility Areas.
WF07	The County shall continue to support the training of emergency responders.
WF08	Integrate mitigation plan with other local government plans.
WF9	Continue critical business operations.

Implementation of Mitigation Actions

WILDFIRE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	WF08	Previous plan focused on EOP development only. This updated strategy emphasizes integration between local plans.	Chief Executive Office / Office of Emergency Services	Ongoing as plans are updated.	County General Funds; US Department of Homeland Security
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	WF09	The COOP is updated as needed with a scheduled review annually.	Chief Executive Office / Office of Emergency Services	Ongoing with scheduled annual update.	County General Funds; US Department of Homeland Security
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	WF07	Since 2006 Stanislaus County has provided NIMS training to employees and maintains an active training plan that emphasizes NIMS.	Chief Executive Office / Office of Emergency Services	Ongoing as county employees move through attrition or new responsibilities.	County General Funds; US Department of Homeland Security
2016.HMP.32 All building permit applications shall be reviewed to ensure compliance with the California Code of Regulations, Title 24, County Ordinances and California Public Resources Code.	WF01, WF04, WF06	All new development is reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Planning and Community Development	Ongoing at time of development and building permit review.	County General Funds; Fees
2016. HMP.33 The California Fire Code shall be enforced during inspections and maintenance of structures regulated under that code.	WF01, WF04, WF06	All new development is reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Fire Warden / Fire Prevention Bureau	Ongoing at the time of development.	County General Funds; Fees

WILDFIRE HAZARD MITIGATION ACTIVITIES					
Mitigation Activity	Objective	Progress / Status	Responsible Agency	Time Frame	Potential Funding Source/s
2016. HMP.34 All discretionary projects in the County shall be referred to the County Fire Prevention Bureau and to the appropriate Fire District for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues	WF01, WF04, WF05	All new development is reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Fire Warden / Fire Prevention Bureau	Ongoing at the time of development.	County General Funds; Fees
2016.HMP.35 The County Fire Prevention Bureau shall work with the California Department of Forestry and Fire Protection and with local fire districts to minimize the danger from wildfires and the related impacts of post fire conditions	WF02, WF03, WF05, WF06	Weed abatement is actively and continually enforced during and prior to fire season.	Fire Warden / Fire Prevention Bureau	Annually.	County General Funds; Fees; State Wildfire Hazard Mitigation Funding
2016.HMP.36 All New development shall have adequate fire flow water supply that meets or exceeds the requirement specific to the project as required by the California Fire Code-appendix B, NFPA 1142, County-District Ordinance or the California Code of Regulations Title 14 1270 in the SRA.	WF02, WF04, WF05, WF06	All new development is reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Fire Warden / Fire Prevention Bureau	Ongoing at the time of development.	County General Funds; Fees; State Wildfire Hazard Mitigation Funding
2016.HMP.37 All building permits and discretionary projects within the State Responsibility Areas, as identified by the California Department of Forestry and Fire Protection, shall meet the minimum development standards outlined in the California Code of Regulations Title 14 1270	WF02, WF04, WF05, WF06	All new development is reviewed, permitted and inspected in accordance with the most currently adopted code. Title 24 and 16.	Planning and Community Development	Ongoing at time of development and building permit review.	County General Funds; Fees; State Wildfire Hazard Mitigation Funding
2016. HMP.38 Adopt a County Ordinance as requested by the State Board of Forestry to be enforced in the SRA within Stanislaus County that meets or exceeds the regulations of 14 CCR 1270.	WF05, WF06, WF08	This activity is new to the Local Hazard Mitigation Plan.	Fire Warden / Fire Prevention Bureau	Ongoing and updated to comply with state regulations.	County General Funds; Fees; State Wildfire Hazard Mitigation Funding

WILDFIRE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016. HMP.05 Continue to integrate LHMP priorities with policies included in the Emergency Operation Plan (EOP), General Plan and Capital Improvement Plan and other local plans.	Avoids emergency management costs	Staff time for development and coordination	High
2016. HMP.06 Develop, adopt, maintain, and update a Continuity of Operations Plan (COOP). Provide disaster management to assist and support County departments to maintain their critical functions.	Avoids loss of function costs	- Staff time for maintenance and coordination. \$10,000 for annual maintenance fees	High
2016. HMP.07 Provide NIMS training to all County employees who may be called upon during an emergency. The National Incident Management System (NIMS) was developed so that responders from different jurisdictions and disciplines can work together to provide a unified approach to incident management.	Avoids emergency management costs	- Staff time for coordination - Costs for trainers and materials	High
2016.HMP.32 All building permit applications shall be reviewed to ensure compliance with the California Code of Regulations, Title 24, County Ordinances and California Public Resources Code.	Avoids emergency management costs	- Staff time for coordination - Building permit fees	High
2016. HMP.33 The California Fire Code shall be enforced during inspections and maintenance of structures regulated under that code.	- Avoids casualties - Avoids property damage - Avoids emergency management costs	- Staff time for coordination - Fire Prevention fees	High
2016. HMP.34 All discretionary projects in the County shall be referred to the County Fire Prevention Bureau and to the appropriate Fire District for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues	- Avoids casualties - Avoids property damage - Avoids emergency management costs	- Staff time for coordination - Fire Prevention fees	High
2016.HMP.35 The County Fire Prevention Bureau shall work with the California Department of Forestry and Fire Protection and with local fire districts to minimize the danger from wildfires and the related impacts of post fire conditions	- Avoids casualties - Avoids property damage - Avoids emergency management costs	- Staff time for coordination - State fees	High

WILDFIRE HAZARD COST BENEFIT TABLE

Mitigation Activity	Benefits	Costs	Priority
2016.HMP.36 All New development shall have adequate fire flow water supply that meets or exceeds the requirement specific to the project as required by the California Fire Code-appendix B, NFPA 1142, County-District Ordinance or the California Code of Regulations Title 14 1270 in the SRA.	• Avoids casualties • Avoids property damage • Avoids emergency management costs	• Staff time for coordination • Fire Prevention fees	High
2016.HMP.37 All building permits and discretionary projects within the State Responsibility Areas, as identified by the California Department of Forestry and Fire Protection, shall meet the minimum development standards outlined in the California Code of Regulations Title 14 1270	• Avoids casualties • Avoids property damage • Avoids emergency management fees	• Staff time for coordination • Building permit	High
2016. HMP.38 Adopt a County Ordinance as requested by the State Board of Forestry to be enforced in the SRA within Stanislaus County that meets or exceeds the regulations of 14 CCR 1270.	• Avoids casualties • Avoids property damage • Avoids emergency management costs	• Staff time for coordination	High

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SECTION SEVEN

Plan Maintenance

SECTION SEVEN - PLAN MAINTENANCE

INTRODUCTION

This section describes a formal plan maintenance process to ensure that the LHMP remains an active and applicable document. It includes an explanation of how Stanislaus County and the Planning Team intend to organize their efforts to ensure that improvements and revisions to the LHMP occur in a well-managed, efficient, and coordinated manner.

The following three process steps are addressed in detail below:

- Monitoring, evaluating, and updating the LHMP;
- Implementation through existing planning mechanisms; and
- Continued public involvement.

MONITORING, EVALUATING, AND UPDATING THE LHMP

The LHMP was prepared as a collaborative effort among Stanislaus County and the participating jurisdictions. To maintain momentum and build upon previous hazard mitigation planning efforts and successes, the County will use the Planning Team Members expertise to monitor, evaluate, and update the LHMP. The Assistant Director of Emergency Services will serve as the primary point of contact and will coordinate all local efforts to monitor, evaluate, and revise the LHMP. The Planning Team Members will monitor integration between the LHMP and other plans including the General Plan, Capital Improvement Plan (CIP) and Emergency Operation Plan. Proposed projects that are included in the CIP must be individually reviewed in terms of conceptual plan, project schedule and funding plan by the Board of Supervisors before they are implemented. The Board of Supervisors reviews the concept, scope and cost of the project and appropriate environmental reviews are completed before a project is initiated.

The Office of Emergency Services will send an email to the planning team and conduct an annual review to monitor the progress in implementing the LHMP. The LHMP Progress Report Form has been developed for this purpose and will be sent to the planning team beginning one year from the date of FEMA's approval of the Final Plan Update.

The LHMP Progress Report Form will provide the basis for possible changes to the overall LHMP and the County and/or jurisdiction will have an opportunity to refocus on any new or more threatening hazards. This will allow the County to make any necessary adjustments to, or changes in resource allocations, and engage additional support for the LHMP implementation, if warranted. The findings will be reviewed by the Assistant Director of Emergency Services and used for the plan update in 2021.

LHMP Progress Report Form will be used to evaluate the plan for the following:

- Have any new hazard/disaster events occurred during the reporting period?
- Did anyone from the public comment on the plan during this reporting period?
- Do the goals and objectives address current and expected conditions?
- Were any mitigation projects identified in the LHMP implemented during this reporting period?
- What obstacles, problems, or delays did any current or ongoing mitigation projects encounter, if any?
- Are the current resources appropriate for implementing the plan?
- Have the outcomes occurred as expected?
- Have the agencies participated as proposed?
- Where shortcomings are identified, what can the County do to bring things back on track?
- Have there been changes in development trends that could create additional risks?

In addition to the annual review, the County will update the LHMP every five (5) years to maintain FEMA mitigation funding eligibility. The Plan Update will include the following activities:

- Review FEMA LHMP update requirements for the new planning cycle;
- Thoroughly analyze and update the risk of natural hazards Countywide;

SECTION SEVEN

- Coordinate with participating jurisdictions to review and update the LHMP;
- Complete a comprehensive detailed risk assessment updating costs and facilities;
- Complete a comprehensive detailed mitigation strategy review and revision;
- Update the Mitigation Action Plan for all participating jurisdictions identifying the status of the currently identified actions and adding newly considered, prioritized, and assigned actions;
- Present LHMP to Cal OES and FEMA for review and approval;
- Present LHMP to each governing agency for adoption; and
- Return a copy of the finalized LHMP with adoption resolutions from all participating jurisdictions to FEMA to finalize FEMA's approval.

CRITERIA FOR REVISIONS TO THE LHMP

- New technology;
- If changing situations have modified goals/objectives/actions and/or hazards;
- New information to update vulnerability assessments;
- Shifts in development;
- Participating jurisdictions who wish to be added or removed from the plan;
- Areas affected by recent disasters; and/or
- Significant changes in Federal, State or County regulations, codes, ordinances or policies.

CONTINUED PUBLIC INVOLVEMENT

Stanislaus County remains dedicated to involving the public in the continual reshaping and updating of the LHMP. The website designed for the plan update will remain live and the updated plan will be posted. This will provide an opportunity for the public to comment on the plan at any time. In addition to the plan being downloadable from the OES website, the site also contains contact information with an e-mail address and phone number to which people can direct their comments or concerns.

The Assistant Director of Emergency Services also has the opportunity to raise County and community awareness of the LHMP by his attendance and participation at other meetings such as: the Operational Area Council, Disaster Council, Fire Chief's Association, and Department Head meetings, to name a few. Operational Area Council meetings are attended by all nine cities as well as participating agencies such as the American Red Cross, United Way, Latino Emergency Council, private industry, schools, California Emergency Management Agency, CERT, Mountain Valley EMSA, utilities, Faith Based Organizations, and other Stanislaus County departments. Any public comments received regarding the LHMP will be collected by OES, included in the annual report, and considered during future plan updates.

SECTION SEVEN



LOCAL HAZARD MITIGATION PLAN PARTICIPATING JURISDICTION PROGRESS REPORT FORM

PURPOSE

As part of the Plan Maintenance Process for the LHMP, the Office of Emergency Services will convene the LHMP Planning Team and conduct an annual review to monitor the progress in implementing the LHMP. The LHMP Progress Report Form has been developed for this purpose and will be completed annually.

The LHMP Progress Report Form will provide the basis for possible changes to the overall LHMP and the County and/or jurisdiction will have an opportunity to refocus on any new or more threatening hazards. This will allow the County to make any necessary adjustments to, or changes in resource allocations, and engage additional support for the LHMP implementation, if warranted. The findings will be reviewed by the Assistant Director of Emergency Services and used for the next plan update.

LHMP ANNUAL PROGRESS REPORT		
Date:		
Name of Department:		
Contact Name:	Email:	Phone#:
SUMMARY OF PROGRESS—CHECKLIST REVIEW		
Have any new hazard/disaster events occurred during the reporting period? If so, list the events.		
Did anyone from the public comment on the plan during this reporting period? If so, list comments.		
Do the goals and objectives address current and expected conditions? If not, explain further below.		
Were any mitigation projects identified in the LHMP implemented during this reporting period?		
What obstacles, problems, or delays did any current or ongoing mitigation projects encounter, if any? How were the problems solved?		
Are the current resources appropriate for implementing the plan?		

SECTION SEVEN

Have the outcomes occurred as expected?	
Have the agencies participated as proposed?	
Where shortcomings are identified, what can the County do to bring things back on track?	
Have there been changes in development trends that could create additional risks? Please explain.	
PROGRESS REPORT VERIFICATION	
Print Name of Contact Person:	
Signature:	Date Signed:

CITY OF RIVERBANK

RESOLUTION NO. 2021-____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK,
CALIFORNIA, ADOPTING THE 2020 REVISED WATER SHORTAGE
CONTINGENCY PLAN**

WHEREAS, the State of California requires a Water Shortage Contingency Plan (WSCP) be prepared per California Water Code Section 10620(e); and,

WHEREAS, Kjeldsen, Sinnock & Neudeck, Inc. have prepared the 2020 WSCP as contained in Section 8 of the 2020 Urban Water Management Plan in accordance with State requirements; and,

WHEREAS, the City Council directs minor changes to be made prior to submission of the WSCP to the State DWR as discussed at the public hearing.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves and adopts the 2020 WSCP, subject to minor changes as may be necessary.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th of October 2021; motioned by _____, seconded by _____, and upon roll call was carried by the following City Council vote of _-_:

AYES:

NAYS:

ABSENT:

ABSTAIN:

ATTEST:

APPROVED:

Annabelle H. Aguilar, CMC
City Clerk

Richard D. O'Brien
Mayor

Attachments: 2020 WSCP Final

(City Clerk Certification Stamp)



Water Shortage Contingency Plan



October 2021



Prepared for:
The City of Riverbank

Prepared by:
Kjeldsen, Sinnock & Neudeck, Inc.



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Water Shortage Contingency Plan

This section describes the City's water shortage contingency planning and structured steps to respond to a water shortage. A water shortage is triggered when the supply of available water is unable to meet the normally expected customer water use at any given point in time.

In accordance with the City of Riverbank's emergency response procedures, the City has developed a comprehensive Water Shortage Contingency Plan (WSCP) as contained in the 2020 Urban Water Management Plan (UWMP). The WSCP is consistent with the provisions of the City's emergency response procedures to implement during an interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. A sample resolution to declare a water shortage emergency is included in Appendix I of the 2020 UWMP.

The WSCP address the several types of water supply shortages that could potentially impact the City and its customers. The potential impacts experienced may result from:

- Long-term supply shortages due to years of consecutive dry-year conditions, contamination, etc.
- Short-term supply shortages that are the result of natural or man-made disasters, such as earthquakes, flood, fire, or other emergencies, that would place restrictions on production capacities.

The City's WSCP has been updated so that it is consistent with 2018 California State Legislature enacted Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman)). The 2018 water conservation legislation, set new requirements for WSCPs while establishing a new foundation for drought planning due to projected impacts of climate change. The City considers the WSCP as a dynamic tool that is adaptable to ensure that its shortage response actions are effective and will produce the desired results. As such, the WSCP refinement procedures and adoption requirements are provided in this plan to allow the City to modify the WSCP outside of the UWMP process.

1.1 WATER SUPPLY RELIABILITY ANALYSIS

Water supply and its reliability are evaluated in Chapter 6 and Chapter 7, respectively, in the 2020 UWMP. Analysis of the supply sources show that the City will have enough supply to meet increases in retailer water demand in both the short-term and long-term. The Water Supply Reliability Analysis includes both the water service reliability assessment and the DRA. Under a normal year, a single-dry year, and five consecutive dry year period conditions, a supplier must evaluate the long-term (2025-2040) water service reliability assessment. In the short-term (2021-2025), a supplier must evaluate the Drought Risk Assessment (DRA) to evaluate the effects of an impending five consecutive dry-year period.

The water source at Riverbank has been consistent in both source production levels and levels of water use. In the foreseeable future, there are no environmental or legal factors that are

expected to affect water supplies. Therefore, the City expects to meet demands under all water year scenarios while still promoting conservation. In the event of an unforeseen sudden emergency event, the City well production and/or water quality may be affected. Since the City relies exclusively on groundwater, a low probability, high impact issue—like the sudden presence of an unforeseen toxin—may require shuttering the main groundwater pumping system and activating the WSCP.

As stated in Section 7 of the 2020 UWMP, the City's water supply is very reliable through multiple dry years, and there is no expectation of a drop in water supply. Table 1 shows that the City anticipates for the water supply to meet the projected water demands at the very minimum. These demands are calculated as described in Section 4.1.

Table 1
Minimum Supply Next Five Years

	2021	2022	2023	2024	2025
Available Water Supply (AF)	4,469	4,513	4,557	4,601	4,646

1.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Per Water Code Section 10632 (a)(2) and after the adoption of the 2020 UWMP, an Annual Water Supply and Demand Assessment (Annual Assessment) report will be submitted to DWR starting in 2022. It is an evaluation of the short-term outlook supplies and demands to determine whether the potential for a supply shortage exists and whether to trigger a WSCP shortage level.

The WSCP will include the elements required for the Annual Assessment and outlines how the City will conduct its Annual Assessment. Specific procedures will include:

- Decision-Making Process
- Data and Methodologies
 - o Evaluation Criteria
 - o Watery Supply
 - o Current Year Unconstrained Customer Demand
 - o Current Year Available Supply
 - o Infrastructure Considerations
 - o Other Factors

The Annual Assessment will reflect circumstances specific to the City per Water Code Section 10632(a).

1.2.1. DECISION-MAKING PROCESS

The decision-making process below details how the City will determine its water supply reliability in the Annual Assessment with the Public Works Director or their designee being responsible for the preparation of the Annual Assessment and submittal of the prepared report to the Department of Water Resources (DWR) by July 1 of each year. The Annual Assessment report should report the projected shortage level, the triggered shortage response actions,

compliance and enforcement actions and the resulting communication actions that will be implemented to mitigate the anticipated water shortage impacts outlined in the Annual Assessment.

Using methodology described in Section 1.2.3 the City will determine water demands and water supply to evaluate the water supply reliability for the current year and subsequent dry year.

Steps determining the decision-making process are outline in Table 2 below:

Table 2
Decision-Making Process and Activities

Step	Activity	Responsible Party
1	Muster team and develop timeline	Public Works Department
2	Outline the water supply for the current year and a subsequent dry-year. Detail significant changes that may impact supply factors. Describe the City sources of water and quantities available.	Public Works Department
3	Outline the water demands for the current year and subsequent dry-year. Detail significant changes that may impact demand factors. Describe the City type and projected quantity of City specific water end uses.	Public Works Department
4	Use methodology presented in Section 1.2.2 to evaluate the water supply, water demands, and ultimately water supply reliability for the current year and subsequent dry-year.	Public Works Department
5	Determine if water shortage emergency exists and which, if any, protocols to enact. If necessary, present determinations to City Council.	Public Works Department
6	Make determinations and recommendations based on previous analysis presented to declare a water shortage emergency and authorize a response.	City Council
7	Implement WSCP if emergency is declared and evaluate further for advancement to subsequent level or withdrawal to previous level	Public Works Department

1.2.2. KEY DATA INPUTS

Evaluation criteria will require key data inputs that reflect the water supply reliability condition for the current year and one dry-year. The criteria listed below can be used in any combination to make a determination and declare the severity of a supply shortage:

- Groundwater supply projections based on:
 - o Monthly precipitation data
 - o Monthly static and pumping groundwater elevations to the extent recorded
 - o Construction details of operating municipal wells including pump settings, and screened intervals
 - o Well specific capacity and well pumping rates
 - o Pump curves, if available for operational municipal groundwater well pumps
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Groundwater demand projections:
 - o Monthly and annual total groundwater production data
 - o Projected future pumping groundwater levels
 - o The 2020 Urban Water Management Plan, Water Conservation Effort Reports, Regional Groundwater Sustainability Plans, and other relevant reports.
- Infrastructure capabilities and constraints imposed by a crisis
 - o Production data
 - o Staff input from the Public Works Division

1.2.3. ASSESSMENT METHODOLOGY

City staff will perform the assessment methodology to complete and submit the Annual Assessment to DWR. Evaluation of the Section 1.2.2 key inputs will be used to determine the agency's water supply reliability for the current year and subsequent single-dry year. Supply and demand assessments will be used to determine the reliability of the City's water supply. If the water supply is deemed insufficient to meet the expected demand supplied by the City in the current year and/or a subsequent dry year, a determination of the water shortage level will be made, and the City will implement a prepared response outlined in this WSCP.

1.3 SIX STANDARD WATER SHORTAGE STAGES

The 2018 Water Conservation Legislation mandates that water suppliers plan for six standard water shortage levels that correspond to six ranges of up to 10%, 20%, 30%, 40%, 50%, and greater than 50% shortages from the normal reliability conditions. However, WCS 10632(a)(3)(B) allows for already existing water shortage levels to be used provided that there is a crosswalk detailing the differences between the two. Table 3 of this WSCP details existing water shortage contingency plan levels with shortage response actions that the City would take when a shortage level is triggered.

Table 3
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
1	15%	Other - Require automatic shut of hoses		Yes
1		Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
2	25%	Other - Prohibit use of potable water for washing hard surfaces	Sidewalk/Street Cleaning	Yes
2	25%	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
4	50%	Landscape - Other landscape restriction or prohibition		Yes
4	50%	Other - Prohibit use of potable water for washing hard surfaces		Yes
4	50%	Landscape - Limit landscape irrigation to specific times		Yes
4	50%	Landscape - Limit landscape irrigation to specific days		Yes
4	50%	Other	No new service connections	Yes

Table 3 (Continued)
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Reduction	Shortage Response Actions	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Levels		Other	Use prohibitions; additional water conservation enforcement; voluntary rationing, mandatory rationing; reduction of water pressure in water lines where feasible; flow restrictions; installation of water kits, plumbing fixture replacements; restriction on building permits; and installation of pool covers	YES
All Levels		Other	Expansion of leak and repair programs	YES

Figure 1 details the already existing WSCP shortage levels authorized by WCS 10632(a)(3)(B) and presents a crosswalk that translates the City's water shortage levels to those mandated by statute.

2015 UWMP Stage	Supply Condition/Shortage			2020 WSCP Level	Shortage Level
Action Stage	Percent Supply Reduction	Water Supply Condition			
1 - Minimal	15%	- Below average rainfall in the previous 12-24 months 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 15% - Extended warm weather patterns typical of summer	→	1	Up to 10%
2 - Moderate	25%	- Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 25% - Extended warm weather patterns typical of summer	→	2	Up to 20%
3 - Severe	35%	- Below average rainfall in the previous 36-48 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 35% - Extended warm weather patterns typical of summer	→	3	Up to 30%
4 - Critical	50%	- Below average rainfall in the previous 48-60 months - Prolonged periods of low water pressure 10% or more of City wells out of service due to noncompliance with drinking water standards or drop in static ground water levels - Irrigation allotments by local irrigation districts reduced by 50% - Extended warm weather patterns typical of summer	↘	4	Up to 40%
			↘	5	Up to 50%
			↘	6	>50%

Figure 1
Water Shortage Contingency Plan Levels Crosswalk

1.4 SHORTAGE RESPONSE ACTIONS

Shortage response actions in accordance with California Water Code 10632(a)(4) and 10632.5(a) are described in this section and may be implemented or considered to the water shortage level. The City's response actions are dependent on the type of event triggering the water shortage level. Other factors considered in response will be the time of year, available water sources, and the condition of the water system infrastructure. A dynamic approach will be taken that considers a combination of supply augmentation, demand reduction, and any relevant operation changes to ensure that actions taken are effective in meeting the water use goals determined by the water shortage emergency.

Both the City's production wells and customer meters are fully metered and can provide daily readings to assess the effectiveness of the City's actions. Shortage action responses are discussed in this section.

1.4.1. DEMAND REDUCTION

Reduction in end water use may be necessary during a water shortage. The plans to City will meet some of the emergency water shortage reliability challenges via demand reductions. Table 3 details these demand reductions actions and volume of reduction estimated to occur.

**Table 4 (2020 UWMP DWR Table 8-2)
Demand Reduction Actions**

Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
<i>Add additional rows as needed</i>				
1	Improve Customer Billing	5%	AWE (2015)	No
1	Expand Public Information Campaign	2%	AWE (2015)	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Unknown		No
3	Increase Water Waste Patrols	Unknown		No
3	Landscape - Restrict or prohibit runoff from landscape irrigation	Unknown		Yes
4	Other	1%	Assume no growth in water use	Yes
5	Landscape - Prohibit all landscape irrigation	14%	Landscape types include: - Turf water - Median watering - Further reduction of irrigation to parks AWE (2015)	Yes
6	Other	Unknown	Water use limited to public water use to health and safety purposes	Yes
NOTES: Demand reduction action and water restrictions as seen in § 52.34 of city code. Demand reduction estimations were taken from the compiled best available estimates of water savings in the Alliance for Water Efficiency Outdoor Water Savings Research Initiative (AWE 2015). Estimated reductions were then applied to residential end uses of water within the City of Riverbank. A drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.				

1.4.2. SUPPLY AUGMENTATION

The City's current (2020) and projected water supplies are provided in Chapter 6 of the 2020 UWMP. As mentioned previously, the City relies exclusively on groundwater for their water supply. The City does not anticipate using a wholesale supply source to meet future needs. The projected water supplies are based on the total water use defined in Chapter 4 of the 2020 UWMP.

The City has no future groundwater extraction projects planned at this time but has identified recommended phasing of capital facilities in its water supply master plan. The 2016 Supply Reliability Certification analysis and 2021 Risk Assessment Summary Report suggests that existing water supplies are more than adequate to satisfy existing system demands. Future water supplies will be brought on as necessary to satisfy specific development needs as discussed below. Therefore, Table 5 or DWR Table 8-3 detailing supply augmentation and other actions details low-probability, high-impact events for supply augmentation. A future evaluation and adoption of the WSCP may conclude that expansion of groundwater extractions may be necessary to augment supply.

**Table 5 (2020 UWMP DWR Table 8-3)
Supply Augmentation and Other Actions**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
6	Stored Emergency Supply	6	City of Riverbank has two water storage tanks totaling 2 million gallons of system storage
6	Other Actions (describe)	Unknown	Procurement of bottled water
6	Other Actions (describe)	Unknown	Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.
4-6	Other Purchases	Unknown	The City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

In a low-probability, high-impact event, the City of Riverbank has two water storage tanks totaling 2 million gallons of system storage. Each of the storage tanks is equipped with a booster pumping station with backup power. These tanks will supply water for essential needs in the case of short-term emergencies. The City has chlorination pumps at each well site that may be put into operation when needed. Seven of the City's wells have diesel engine electric generators with enough fuel to run 12 to 24 hours without refueling.

The City can contact bottled water companies in cases of emergencies. Canals containing non-portable water traverse the community. Local trucking firms can transport water along with the City's fire tanker trucks. Residents would need to boil or disinfect non-potable water.

To meet future long-term water demand beyond 2020, the City will continue working on the possibility of bringing in surface water to supplement groundwater. Recycled water opportunities will also be studied further. To offset future potential water shortages due to a drought or disaster, the City will keep communication open with adjacent communities, Modesto Irrigation District, and Oakdale Irrigation District to deliver additional water, if needed.

1.4.3. OPERATIONAL CHANGES

The City may modify its operational actions in the short-term or long-term to effectively respond to any water shortage condition. During a water shortage emergency, the city may reduce pressure in the water distribution system to minimize system losses while still maintaining adequate fire flows. In addition, the city may increase its response to the repair of system leaks and losses in the water distribution system.

1.4.4. ADDITIONAL MANDATORY RESTRICTIONS

Water Use Regulations of Chapter 52 of city water code detail elements of water use restrictions. Specifically, §52.33 and §52.34 detail prohibited acts and restricted water use provisions. For example, the washing of commercial and noncommercial privately owned automobiles, trucks, trailers, motor homes, boats, buses, and other types of vehicles is restricted to the use of a hand-held bucket and quick rinses using a hose with a quick-acting positive shut-off nozzle.

1.4.5. EMERGENCY RESPONSE PLAN

Section 1.4.2 details response actions to augment supplies in a low-probability, high impact event. A sample resolution to declare a water shortage emergency is included in Appendix J.

Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Below is an example of actions the City would undertake if a catastrophe were imminent or declared.

1. Determine extent of water shortage
2. Activate the water shortage response team

3. Monitor existing storage
4. Obtain additional water supplies
5. Develop alternative water supplies
6. Determine where immediate funding will come from
7. Contact and coordinate with other agencies
8. Put employees and contractors on-call
9. Communicate with the public

1.4.6. SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

Disasters can strike any time and cause loss of life; damage buildings and infrastructure; and have devastating consequences for a community's economic, social, and environmental well-being. Per Water Code Section 10632.5, the City has included a seismic risk assessment and mitigation plan Refer to the Stanislaus County Local Hazard Mitigation Plan (Appendix O of 2020 UWMP) Section 5 for the Seismic Risk Assessment and Section 6 for Mitigation Plan procedures.

1.5 COMMUNICATION PROTOCOLS

The City must inform their customers, the general public and interested parties, and local, regional, and state agencies. With any emergency, clear, timely, and effective communication is vital. In accordance with California Water Code 10632(a)(5), this section describes the communication protocols the City will use to inform customers, the public and other regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.

When a water shortage level is enacted or changed the public shall be notified via a notice published in the local newspaper and the City's website. If the water shortage is severe, the City may consider alternative modes of communications like local radio advertisements, door hangers, or mailed notifications among other options.

1.6 COMPLIANCE AND ENFORCEMENT

Any customer violating the regulations and restrictions on water use set forth in the City's no waste ordinance shall receive a warning for the first such violation. Upon a second violation, the customer shall receive a fine of \$35. A third violation triggers the levy of a \$50 fine. A fourth violation triggers a \$100 fine, and fifth and subsequent violations trigger a \$200 fine each.

1.7 LEGAL AUTHORITIES

Per city code §52.34, it is unlawful for any customer or person to fail to comply with any of the provisions set forth or by City Council resolution. The Enforcement Officer or designee may issue an administrative citation for failure to comply. T Enforcement Officer is defined in City code as the City Manager, Department Director, Public Safety Officer, or any designated city

personnel or other designated person that the City Manager or City Council has authorized and charged with the responsibility for the enforcement of any provision of this chapter.

At the discretion of the Enforcement Officer with the approval of the City Manager, an issued administrative citation for noncompliance of this section may be reduced to a formal written warning and the related citation fines waived or the citation may be cancelled after review of the findings. All results of a citation issued shall be entered into the record. Any further violation of the water conservation regulations provided in this section or adopted pursuant to this section shall result in the imposition of an administrative citation and its related penalties as set forth herein.

In accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies, the City shall declare a water shortage emergency when emergency conditions are met and shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

1.8 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

Water rates need to be set up to enable water suppliers to cover the costs in pumping, storing, treating, and delivering water. Revenues need to be collected to build reserves for future water system repairs, maintenance, and replacement. Water shortages increase costs to the water supplier by increasing expenses for public educational campaigns, stricter conservation efforts, and facility development. Likewise, water shortages impact the operations cash flow as water use falls. Other costs for repairs, maintenance, and replacement are fixed. Refer to the City 2015 Water Rate Study for an analysis of rates during a drought scenario. Water shortage pricing is not considered feasible due to Proposition 218 requirements.

1.9 MONITORING AND REPORTING

Monitoring and Reporting escalates with advanced stages of water shortages. During water emergency shortages, production figures would be reported to the Domestic Water Supervisor hourly, and to the Development Services Director and City Manager daily. Reports would also be provided to the City Council and the Public Safety Department. If reduction goals are not met, the City Council would be notified so that additional action may be taken (water shortage emergency).

Monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance is enhanced through the City's advanced metering infrastructure (AMI) of customer connections and metering on production wells. Per City code related to outdoor water use (§ 52.34(C)), a drought, water shortage, or waste of water may require the city to implement regulations as expeditiously as such findings occur. The City Council by resolution shall establish water conservation regulations to address such findings, which may include but are not limited to water conservation regulations that are mandated by the state or federal government.

1.10 WSCP REFINEMENT PROCEDURES

The City's WSCP is an adaptable document and subject to any needed changes to ensure that the City's water shortage response and mitigation plan are effective. A continual adaptation process is necessary to respond to hazards posed by water shortages.

If certain procedural refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the Director of Public works will consider the actions or refinements to evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

1.11 SPECIAL WATER FEATURE DISTINCTION

A distinguished special water feature would include a decorative fountain or pond, separately from pools or spas. At the time of this plan, City water use regulations make no distinction for the special water features.

1.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The WSCP will be adopted concurrently with the UWMP, by separate resolution. Before the adoption, a notice of preparation was sent to San Joaquin County and Stanislaus County. In addition, a notification of the public was completed and a public hearing took place.

Within 30 days, a copy of both the WSCP and UWMP will be available at the City office and a copy will also be provided to the San Joaquin County and Stanislaus County. An electronic copy of the WSCP will be submitted to DWR within 30 days of the adoption and made available on the City website.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 10.1

SECTION 10: NEW BUSINESS

Meeting Date:	October 26, 2021
Subject/ Title:	Redistricting Timeline Discussion
From:	Sean Scully, City Manager
Submitted by:	Tom Hallinan, City Attorney

RECOMMENDATION

Consider information from City staff regarding the redistricting process and associated timeline for adoption and implementation.

BACKGROUND / SUMMARY

The City of Riverbank (the “City”) is divided into four (4) districts and elects City Councilmembers by-district.¹ Voters within each district elect a Councilmember to represent the district on the City Council. Councilmembers must reside and be a registered voter in the district they represent.² The Mayor is elected at-large by the entire City.

The 2020 Census was recently completed. Under the Fair Maps Act (the “Act”), by April 17, 2022, the City must redistrict City Council district boundaries so that each City Council district is substantially equal in population.³ The Act also specifies criteria for City Council district boundaries.⁴ Specifically, the City Council must adjust district boundaries in accordance with the following criteria set forth in the following order of priority:

1. To the extent practicable, districts shall be geographically contiguous (each district should share a common border with the next).
2. To the extent practicable, the geographic integrity of any local neighborhood or local community of interest shall be respected.

¹ Riverbank Municipal Code (“R.M.C.”), § 30.03.

² Gov. Code, § 34882.

³ Elec. Code, §§ 21601, subd. (a), 21602, subd. (a)(3).

⁴ Elec. Code, § 21600 et seq.

3. District boundaries should be easily identifiable and understandable. To the extent practical, districts shall be bounded by natural and artificial barriers, by streets, or by boundaries of the City.
4. To the extent practicable, and where it does not conflict with the preceding criteria, districts shall be drawn to encourage geographical compactness (nearby areas of population are not bypassed in favor of more distant populations).⁵

City Council district boundaries must also comply with other applicable federal and state laws, such as the United States Constitution's Equal Protection Clause and the federal Voting Rights Act. The Equal Protection Clause prohibits the City Council from drawing districts based on race.⁶ The Voting Rights Act prohibits the City Council from drawing districts that prevent racial or language minorities from equally participating in the political process and electing representatives of their choice.⁷

At the May 25, 2021 City Council meeting, the City Council approved an agreement with National Demographics Corporation for consulting services to assist the City with redistricting City Council district boundaries.

ANALYSIS

Under the Act, the City Council must hold at least (4) four public hearings in which the public is invited to provide input regarding the adjustment of City Council districts:

- At least (1) one public hearing before the City Council draws draft map(s).
- At least (2) two public hearings after the City Council has drawn draft map(s).⁸

At least (1) one public hearing shall be held on a Saturday, on a Sunday, or after 6 p.m. on a weekday Monday through Friday. The public hearing shall begin at a fixed time regardless of its order on the agenda.

The proposed timeline for public hearings is:

- November 3, 2021 (Special Meeting).
- January 4, 2022.
- March 8, 2022.
- March 22, 2022.

⁵ Elec. Code, § 21601, subd. (c).

⁶ *Cooper v. Harris* (2017) 137 S.Ct. 1455, 1463.

⁷ 52 U.S.C. § 10301(b).

⁸ Elec. Code, §§ 21607.1, 21608

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act requires environmental review only if a public agency action constitutes a “project.” (Pub. Resources Code, § 21065.) Considering information regarding the redistricting process and associated timeline for adoption and implementation is not a “project” since it does not have the potential to cause a direct or reasonably foreseeable indirect physical change in the environment.

FINANCIAL IMPACT

None.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 10.2

SECTION 10: NEW BUSINESS

Meeting Date: October 26, 2021

Subject: Consideration of a **Resolution** Authorizing the City to Implement Teleconferenced Public Meetings Pursuant to Assembly Bill 361 Allowing the City to Continue a Hybrid Virtual Meeting Environment

From: Tom Hallinan, City Attorney

Submitted by: Tom Hallinan, City Attorney

RECOMMENDATION

Staff recommends Council adopt a Resolution authorizing the City to Implement Teleconferenced Public Meetings Pursuant to Assembly Bill 361 Allowing the City to Continue a Virtual Meeting Environment.

SUMMARY:

On September 16, 2021 Governor Newsom signed Assembly Bill ("AB") 361 which allows cities to continue to meet remotely during proclaimed states of emergency under modified Ralph M. Brown Act requirements that are similar but not identical to the rules and procedures established by the previous Executive Orders temporarily suspending provisions of the Brown Act. On September 20, 2021, Governor Newsom signed Executive Order N-15-21 to suspend AB 361 until October 1, 2021. Over the past year, City Council meetings have been held with virtual teleconference components.

AB 361, until January 1, 2024, would authorize a local agency to use teleconferencing without complying with the teleconferencing requirements imposed by the Brown Act when a local legislative body holds a meeting during a declared state of emergency by the governor and when state or local health officials have imposed or recommended measures to promote social distancing.

On June 11, 2021, Governor Newsom issued Executive Order N-08-21, which among other things rescinded his prior Executive Order N-29-20 and set a date of October 1, 2021, for public agencies to transition back to public meetings held in full compliance with the Brown Act.

As the Delta variant has surged in California, the Legislature has taken action to extend the COVID-19 exceptions to the Brown Act's teleconference requirements, subject to some additional safeguards. AB 361 allows a local agency to use teleconferencing without complying with the Brown Act provisions in any of the following circumstances:

- The local legislative body holds a meeting during a proclaimed state of emergency by the governor, and state or local officials have imposed or recommended measures to promote social distancing.
- The local legislative body holds a meeting during a proclaimed state of emergency by the governor for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.
- The local legislative body holds a meeting during a proclaimed state of emergency by the governor and has determined, by majority vote that, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

A local agency that holds a meeting under these circumstances would be required by AB 361 to do all of the following, in addition to giving notice of the meeting and posting agendas as required under the Brown act. These additional requirements are intended to protect the public's right to participate in the meetings of local agency legislative bodies.

Pursuant to AB 361 local agencies are required to do all of the following in addition to meeting notice requirements under the Brown Act:

- Allow the public to access the meeting and require that the agenda provide an opportunity for the public to directly address the legislative body pursuant to the Brown Act's other teleconferencing provisions.
- In each instance when the local agency provides notice of the teleconferenced meeting or posts its agenda, give notice for how the public can access the meeting and provide public comment.
- Identify and include in the agenda an opportunity for all persons to attend via a call-in or an internet-based service option; the legislative body need not provide a physical location for the public to attend or provide comments.
- Conduct teleconference meetings in a manner that protects the statutory and constitutional rights of the public.
- Stop the meeting until public access is restored in the event of a service disruption that either prevents the local agency from broadcasting the meeting to the public using the call-in or internet-based service option or is within the local agency's control and prevents the public from submitting public comments (any actions taken during such a service disruption can be challenged under the Brown Act's existing challenge provisions).
- Not require comments be submitted in advance (though the legislative body may provide that as an option) and provide the opportunity to comment in real time.
- Provide adequate time for public comment, either by establishing a timed public comment period or by allowing a reasonable amount of time to comment.
- If the legislative body uses a third-party website or platform to host the teleconference, and the third-party service requires users to register to participate, the legislative body must provide adequate time during the comment period for users to register and may not close the registration comment period until the comment period has elapsed.

AB 361 also provides that if a local agency conducts teleconference meetings in reliance on AB 361, the local agency must make the following findings by majority vote every 30 days to continue using the bill's exemption to the Brown Act teleconferencing rules:

- The legislative body has reconsidered the circumstances of the emergency; and
- Either of the following circumstances exist: The state of emergency continues to directly impact the ability of members to meet safely in person, or State or local officials continue to impose or recommend social distancing measures.

The goal of AB 361 is "to improve and enhance public access to local agency meetings during the COVID-19 pandemic and future applicable emergencies, by allowing broader access through teleconferencing options" consistent with Executive Order N-29-20. AB 361 contains an urgency clause which became effective upon signing with a sunset of January 1, 2024. However, shortly after signing AB 361, Governor Newsom signed Executive Order N-15-21 to suspend AB 361 until October 1, 2021.

At the October 12th City Council meeting, Council considered whether or not to continue with the hybrid meeting format. During that meeting difficulties were experienced in receiving a specific comment on an agenda item. As such, the Council chose to only extend the hybrid meeting allowance for 2 weeks to determine alternate options for accepting comments or dealing with technical issues. Staff would propose that if hybrid meetings are to continue and public comment is to continue to be accepted through the format that the phone number of the conference telephone on the dais be given out at the beginning of the meeting so that if a member of the public becomes disconnected from zoom or is unable to provide audible comment through zoom, they may call the phone number provided and provide comment through the speaker phone. Staff is currently in the process of soliciting bids for technological upgrades to the Council Chamber technology setup which will provide improved ability for hybrid and streamed meetings.

Alternatively the Council could choose to no longer allow hybrid meetings in which case Councilmembers would attend in person or would have to follow the original Brown Act requirements for a remote meeting (public posting etc). Some local communities still live stream meetings but do not allow remote public comment as an option.

If the Resolution is adopted the City Council will continue to hold in person meetings with a virtual hybrid component. The City Council will revisit the need to conduct meetings remotely within 30 days of the adoption of this Resolution, it is staff's intention to reevaluate options for hybrid meetings during that time period for future Council consideration.

FINANCIAL IMPACT:

None at this time.

ATTACHMENTS:

1. Resolution 2021-XXXX
2. Letter from Stanislaus County Public Health Officer RE: Social Distancing Recommendation

RESOLUTION NO. **XXX**_____

**A RESOLUTION OF THE CITY OF RIVERBANK CITY COUNCIL
PROCLAIMING A LOCAL EMERGENCY AND AUTHORIZING REMOTE
TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF
THE CITY OF RIVERBANK PURSUANT TO ASSEMBLY BILL 361 AND
BROWN ACT PROVISIONS**

WHEREAS, the City Council of the City of Riverbank (the “City”) is committed to preserving public access and participation in meetings of the City Council; and

WHEREAS, all meetings of the City’s legislative bodies are open and public, as required by the Ralph M. Brown Act (Gov. Code, §§ 54950 – 54963), so that any member of the public may attend, participate, and watch the City’s legislative bodies conduct their business; and

WHEREAS, on September 16, 2021, Governor Newsom signed Assembly Bill (“AB”) 361, amending Government Code section 54953, subdivision (e) to allow for remote teleconferencing participation in meetings by members of a legislative body without compliance with the requirements of Government Code section 54953, subdivision (b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition for remote teleconferencing participation in meetings by members of a legislative body is that a state of emergency is declared by the Governor, pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the City’s boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing or the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, such conditions now exist in the City, specifically, on March 4, 2020, Governor Gavin Newsom proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19; despite sustained efforts, the

virus continues to spread and is impacting nearly all sectors of California; and

[WHEREAS, the Stanislaus County Public Health Officer issued an order on September 2, 2021 regarding the highly transmissible Delta Variant and recommending face coverings indoors; and

WHEREAS, there has been a significant increase in COVID-19 cases in Stanislaus County due primarily to the Delta variant of SARS-CoV-2, the virus that causes COVID-19. Emerging evidence indicates that the Delta variant is far more transmissible than prior variants of the virus, may cause more severe illness, and can be spread by fully vaccinated individuals; and

WHEREAS, as a consequence of the declared emergency, the City Council does hereby find that the legislative body of the City shall conduct their meetings without compliance with Government Code section 54953, subdivision (b)(3), as authorized by Section 54953, subdivision (e), and that such legislative bodies shall comply with the requirements to provide the public with access to the meetings as prescribed in Section 54953, subdivision (e)(2); and

WHEREAS, pursuant to Government Code section 54953, subdivision (e)(3), in order to continue to teleconference without compliance with Government Code section 54953, subdivision (b)(3), the City Council shall, not later than 30 days after teleconferencing for the first time pursuant to this Resolution, and every 30 days thereafter, make the following findings by majority vote: The legislative body has reconsidered the circumstances of the state of emergency and any of the following conditions exist: (1) the state of emergency continues to directly impact the ability of the members to meet safely in person or (2) state or local officials continue to impose or recommend measures to promote social distancing; and

WHEREAS, the City reserves the option to hold in-person meetings, consistent with local health officer directives, or to continue a practice of remote meetings that still allow multiple options for public participation.

NOW, THEREFORE, THE CITY OF COUNCIL OF THE CITY OF RIVERBANK DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Proclamation of Local Emergency. The City Council hereby proclaims that a local emergency exists throughout the City, and that the legislative body meeting in person could present imminent risks to the health

and safety of attendees due to the prevalence of COVID-19 in Stanislaus County and the state, such that the City reserves the right to continue virtual meetings or conduct in-person meetings, consistent with local health guidance or duly issued orders.

Section 3. Remote Teleconference Meetings. The legislative body and designees of the City are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution, including conducting open and public meetings in accordance with Government Code section 54953, subdivision (e), and other applicable provisions of the Brown Act.

Section 4. Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until the earlier of (i) October 30, 2021, or (ii) such time the City Council makes a subsequent finding by majority vote in accordance with Government Code section 54953, subdivision (e)(3), to extend the time during which the legislative bodies of the City may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a meeting of said City Council held on the 12th day of October 2021, by the following vote:

AYES:

NOES:

ABSENT/ABSTAIN:

Mayor Richard D. O'Brien
City of Riverbank



HEALTH SERVICES AGENCY

Public Health Services

917 Oakdale Road, Modesto, CA 95353

Julie Vaishampayan, MD, MPH

Public Health Officer

Phone: 209.558.8804 Fax: 209.558.7286

www.hsahealth.org

September 22, 2021

To Whom It May Concern:

I recommend that physical/social distancing measures be practiced throughout our Stanislaus County communities to minimize the spread of COVID-19, including implementation of the newly enacted AB 361 to maintain social distancing by legislative bodies of our local agencies. This recommendation is made due to the continued threat of COVID-19 to the community.

I will continue to evaluate this recommendation on an ongoing basis and will communicate when there is no longer such a recommendation.

Julie Vaishampayan, MD, MPH
Public Health Officer
Stanislaus County

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 10.3

SECTION 10: NEW BUSINESS

Meeting Date:	October 26, 2021
Subject:	Resolution to Adopt the City of Riverbank's Bicycle and Pedestrian Master Plan
From:	Sean Scully, City Manager
Submitted By:	Kathleen Cleek, Development Services Admin. Manager

RECOMMENDATION

It is recommended that the City Council consider approving the Resolution to Adopt the City of Riverbank's Bicycle and Pedestrian Master Plan.

SUMMARY

On October 8, 2019, the City Council approved a contract with Alta Planning + Design for planning and engineering services to develop Riverbank's first Bicycle and Pedestrian Master Plan. The plan builds upon previously-adopted plans such as the Riverbank General Plan (2009) and the Downtown Specific Plan (2015). Specific project recommendations are a result of an analysis of existing needs and conditions and public input. Adopting a Bicycle and Pedestrian Master Plan will provide a framework of planning, roadmap and guidance on future bicycle and pedestrian improvements and better position the City to qualify for grant funding opportunities.

The development of the Bicycle and Pedestrian Master Plan involved an extensive public outreach process that included several Citizen Advisory Team meetings, a virtual presentation and workshop streamed online and on local television channels, a bilingual public-input map and website, and a previous meeting to City Council. Due to COVID-19 limitations on in-person events, all outreach for the project was conducted virtually. The project's public input website, www.walkbikeriverbank.com, garnered nearly 900-page visits, 650 users and 80 specific comments.

At the July 27, 2021 City Council Meeting, Council heard from Alta Planning + Design a progress update on the Development of the City's Bicycle and Pedestrian Master Plan. Council provided input and the final adjustments were made to the plan.

FISCAL IMPACTS

None at this time.

ATTACHMENTS

There are no attachments.

CITY OF RIVERBANK

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, TO ADOPT THE CITY OF RIVERBANK'S BICYCLE AND PEDESTRIAN MASTER PLAN

WHEREAS, the City of Riverbank, as part of the Strategic Plan, recognized the need for a Bicycle and Pedestrian Master Plan; and

WHEREAS, on October 8, 2019 the City Council approved to contract with Alta Planning + Design to develop Riverbank's first Bicycle and Pedestrian Master Plan; and

WHEREAS, adopting a Plan will provide a framework of planning, roadmap and guidance on future bicycle and pedestrian improvements and better position the City to quality for grant funding opportunities; and

WHEREAS, the development of the Plan involved an extensive public outreach process that included several Citizen Advisory Team meetings, virtual presentation and workshop; and

WHEREAS, the City Council was presented a draft of the completed document at the July 27, 2021 City Council Meeting. A progress update was presented to Council and Council input and suggestions were added to the final Bicycle and Pedestrian Master Plan; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank Approved the adoption of the City of Riverbank's Bicycle and Pedestrian Master Plan.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of October, 2021; motioned by Councilmember , seconded by Councilmember , and upon roll call was carried by the following City Council vote of :

AYES:

NAYS:

ABSENT:

ABSTAINED:

ATTEST:

Annabelle H. Aguilar, CMC
City Clerk

APPROVED:

Richard D. O'Brien
Mayor

Attachment:

PROPOSED

City of Riverbank

Active Transportation Plan

October 2021



Acknowledgments

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Laura Graybill, Project Coordinator (Development
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City of Riverbank Mayor & City Council

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Councilmember District 2, Rachel Hernandez

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Prepared By:

alta

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A photograph of a suburban street scene. In the foreground, a paved road with a white crosswalk and a bicycle lane symbol leads towards a roundabout. On the left, there are bare trees and a sidewalk. On the right, there are evergreen trees and a landscaped area with a low wall. The sky is clear and blue.

Chapter 1: Introduction & Background

1. Introduction & Background

Introduction

The City of Riverbank Active Transportation Plan (ATP) guides the development of programs and facilities to enhance bicycling and walking as practical, efficient, and safe transportation choices for Riverbank residents, workers, and visitors.

This plan provides a detailed description of project recommendations that the City can work towards developing in the near and long term. The plan's recommendations not only build upon previously adopted plans, such as the Riverbank General Plan (2009) and the Downtown Specific Plan (2015), but are also a result of extensive qualitative and quantitative analysis. Such analysis includes a robust assessment of the city's existing bicycle and pedestrian conditions and input from both the public and project stakeholders.

Project recommendations address the plan's overarching vision and goals, stemming largely from public input and the City's aspirations as they relate to active transportation.

Background

Project Setting

Riverbank, located within the San Joaquin Valley in Stanislaus County, is a small, and largely, residential community with a population of nearly 25,000 residents.¹ The city is situated along the Stanislaus River and to the east of Highway 99. It neighbors cities such as Modesto, Escalon, and Oakdale. Highway 108 runs through Riverbank and offers residents direct access to the Sierra Mountains, Modesto, and Highway 99.

Vision

Riverbank envisions an environment that supports people of all ages and abilities to comfortably and safely access jobs, schools, recreation, and shopping by foot or on bicycle as a part of daily life.

Goals

Goal 1: SAFETY AND COMFORT

Develop a transportation network inclusive of the needs of pedestrians and bicyclists that allows people of all ages and abilities to feel safe and comfortable using these modes for everyday use.

Goal 2: ACCESS TO DESTINATIONS

Build a connected network of biking and walking routes, allowing people adequate access to major destinations such as Downtown, commercial centers, schools, and parks.

Goal 3: HEALTH AND AFFORDABILITY

Foster an inclusive culture of walking and biking that celebrates these modes as healthy and affordable ways to get around.

Goal 4: VIBRANT PUBLIC SPACE

Create welcoming and attractive public spaces that encourage social interaction, stewardship, and pride in Riverbank.

¹ US Census Bureau (2019) American Community Survey 5-Year Estimates.

Land Use

Riverbank is a small, family-oriented, residential community surrounded by agricultural land. Residents enjoy access to parks, schools, and a riverfront. Small commercial centers are located near 3rd Street and Santa Fe Street in Downtown, along Patterson Road, and at the Crossroads Shopping Center.

Riverbank is expected to steadily grow in population. To accommodate that future growth, the City is planning new mixed-use developments in the West Crossroads area, the Cannery District, and the Riverbank Industrial Park. In addition to brand new developments, the City of Riverbank's Downtown Specific Plan allows for more housing Downtown.

Activity Generators

Within Riverbank, there are a number of activity generators that have the potential to create significant demand for walking and biking.

Parks and Recreation Areas

Riverbank has many neighborhoods parks throughout the city such as Zerillo Park, Silva Park, and California Avenue Park. Jacob Myers Park, just north of the city boundary along the Stanislaus River, attracts users from all across the city. The city also has a few recreation centers such as the Riverbank Sports Complex, Rainbow Fields, and the smaller Riverbank Skate Park.

Commercial Areas and Corridors

Patterson Road is one of the major commercial corridors, which also includes the Riverbank Station shopping center and Galaxy Theatres. The biggest mall and/or shopping center is the Riverbank Crossroads, located in the southwestern corner of the city. Lastly, Downtown Riverbank is another commercial area, especially along 3rd Street and Santa Fe Street.

Major Employment Areas

Also being the largest mall in the city, the Riverbank Crossroads provides a significant

amount of jobs for the areas residents. Other major employment areas include the Riverbank Industrial Park and Downtown Riverbank.

Schools

The Riverbank Unified School District includes two high schools, a middle school, two elementary schools, and a language academy. All but one, Mesa Verde Elementary school, are located within the City of Riverbank and are located throughout the city. All of the schools, except for the Riverbank Language Academy, are located in the eastern part of the city.

Crossroads Elementary School is located in the southwestern area of the city, but is part of the larger Sylvan Union School District. This school district consists mostly of schools in the City of Modesto.

Civic Buildings

The city's various civic buildings, such as the Riverbank City Hall, Library, Teen Center, and Community Center are concentrated in Downtown and the immediately surrounding area in the northeast part of the city.

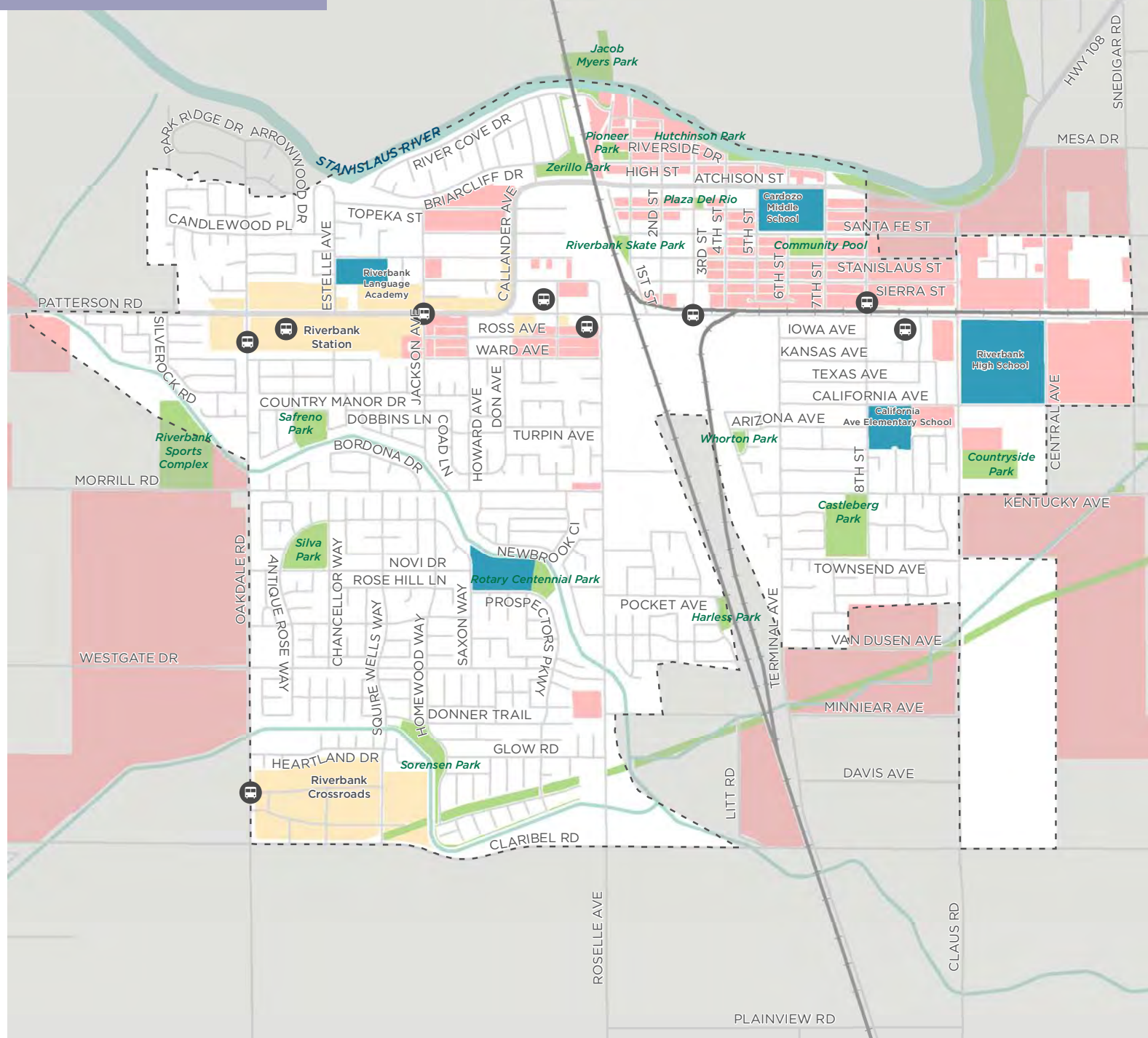
Medical Facilities

Riverbank has two medical clinics. The Riverbank Community Health Center, located off of Patterson Road and the Golden Valley Health Centers located at Riverbank High School. The nearest hospitals are in Oakdale and Modesto.

Transit

The Stanislaus Regional Transit (StaRT) Bus Route 60 connects Riverbank with Oakdale and Modesto.

Map 1: Existing Land Uses



EXISTING LAND USES

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

Destinations + Boundaries

-  Bus Stop
-  School
-  Park
-  High/Medium Density Residential
-  Commercial Area
-  City Boundary



Data Sources: City of Riverbank, Stanislaus County.



0 0.25 0.5 MILES

Demographics

Riverbank is home to 24,482 residents.¹ The Stanislaus County Council of Governments (StanCOG) estimates that by 2042, the population will increase to 33,562.² The majority of the Riverbank population is Hispanic (57%), followed by White (33%), Asian (5%), Black (2%), two or more races (2%), and Native (1%). StanCOG estimates that a majority of the county's future growth will occur within the Hispanic and Asian communities as well as within the age group of persons age 60 years and older.

Over 50% of Riverbank residents speak a language other than English. Spanish is the most commonly spoken second language in Riverbank (46%), although Asian and Pacific Island languages and other Indo-European languages together are spoken by about five percent of Riverbank residents.

The median household income in Riverbank is \$70,549.¹ This is higher than the median income of \$63,037 in Stanislaus County.³

¹ US Census Bureau (2019) American Community Survey 5-Year Estimates.

² Stanislaus County Council of Governments (2018). Regional Transportation Plan/ Sustainable Communities Strategy. Chapter 4: Future Conditions. <http://www.stancog.org/pdf/rtp2018/final/chapter-4-future-conditions.pdf>

³ US Census Bureau (2019) American Community Survey 1-Year Estimates.

29%



of Riverbank residents are
under the age of 18,

which is higher than the Modesto metropolitan area (27%) and the state of California (23%). Children and the elderly are often the most vulnerable road users.

The City of Riverbank is expected to grow

38%



by the year 2042.

With more people living in the city, more trips will be made, and thus, it will be important to provide safe and comfortable transportation options for the city's growing population.

Figure 1: Language Spoken at Home

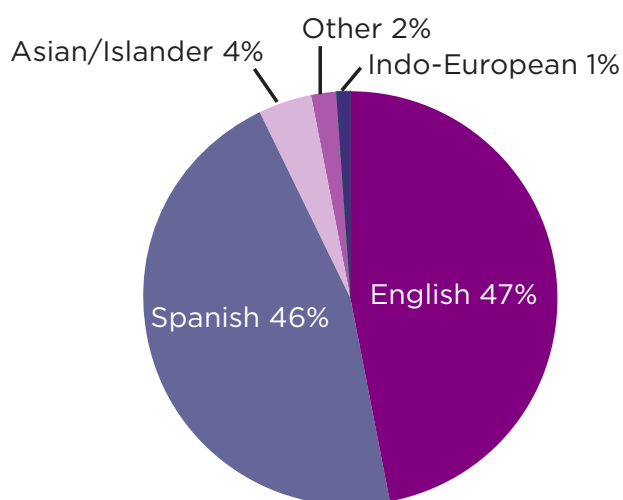
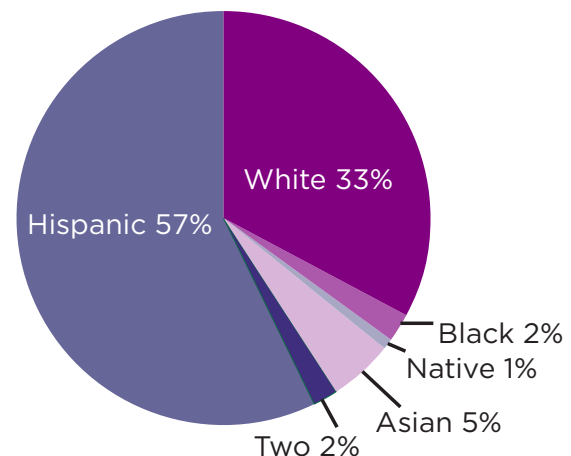


Figure 2: Race & Ethnicity



Transportation Patterns

Based on transportation data from 2019 American Community Survey 5-year Estimates, 1% of Riverbank residents walk to work and 0.3% of residents bike to work (see Table 1). This represents approximately 73 daily work-based bicycle trips and 245 daily work-based walking trips. The census data does not account for commuters using multiple modes of travel to and from work, such as a commuter that may walk to a bus stop; for this response, the trip would be counted as a transit trip.

The percentage of Riverbank residents that walk and bicycle only reflects commuting patterns and does not account for non-commuting trips. The total percentage of residents that walk and bicycle to meet their daily needs, therefore, is likely higher than what the census data shows.

The majority of Riverbank residents travel to nearby cities such as Modesto, Oakdale, and Stockton for work. A small share of Riverbank residents also travel to cities throughout the San Joaquin Valley, the San Francisco Bay Area, and Northern California. According to 2017 census data, 9,939 workers who live in Riverbank travel to work outside of the city limits (shown in Figure 3).⁴ Only 5.9% of all workers who live in Riverbank are employed in Riverbank. Opportunities for stronger regional bicycle and pedestrian connections are discussed in Chapter 3 and Chapter 4.

⁴ US Census Bureau (2017). OnTheMap Inflow/Outflow Analysis. <https://onthemap.ces.census.gov/>

Table 1: Means of Transportation to Work

Means of Travel	Riverbank	Modesto Metropolitan Area	California
Drive Alone	83.4%	81.8%	73.7%
Carpool	10.9%	10.1%	10.1%
Public Transportation	0.5%	0.8%	5.1%
Bicycle	0.3%	0.3%	1%
Walk	1%	1.2%	2.6%
Work at Home	3.3%	4.8%	5.9%

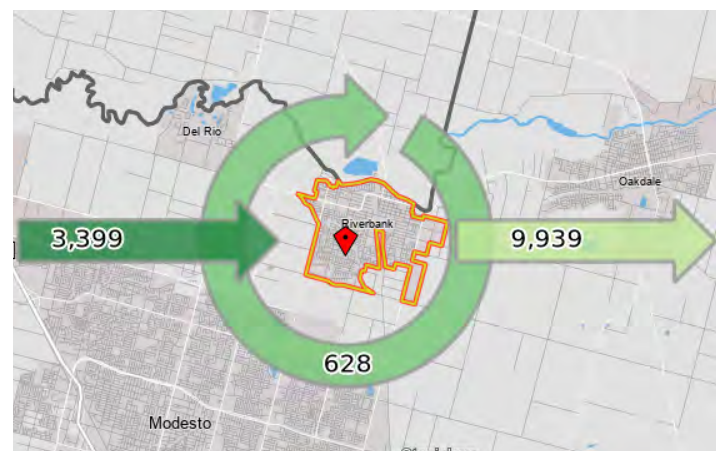
5.9%



of workers who live in Riverbank
are employed in Riverbank,

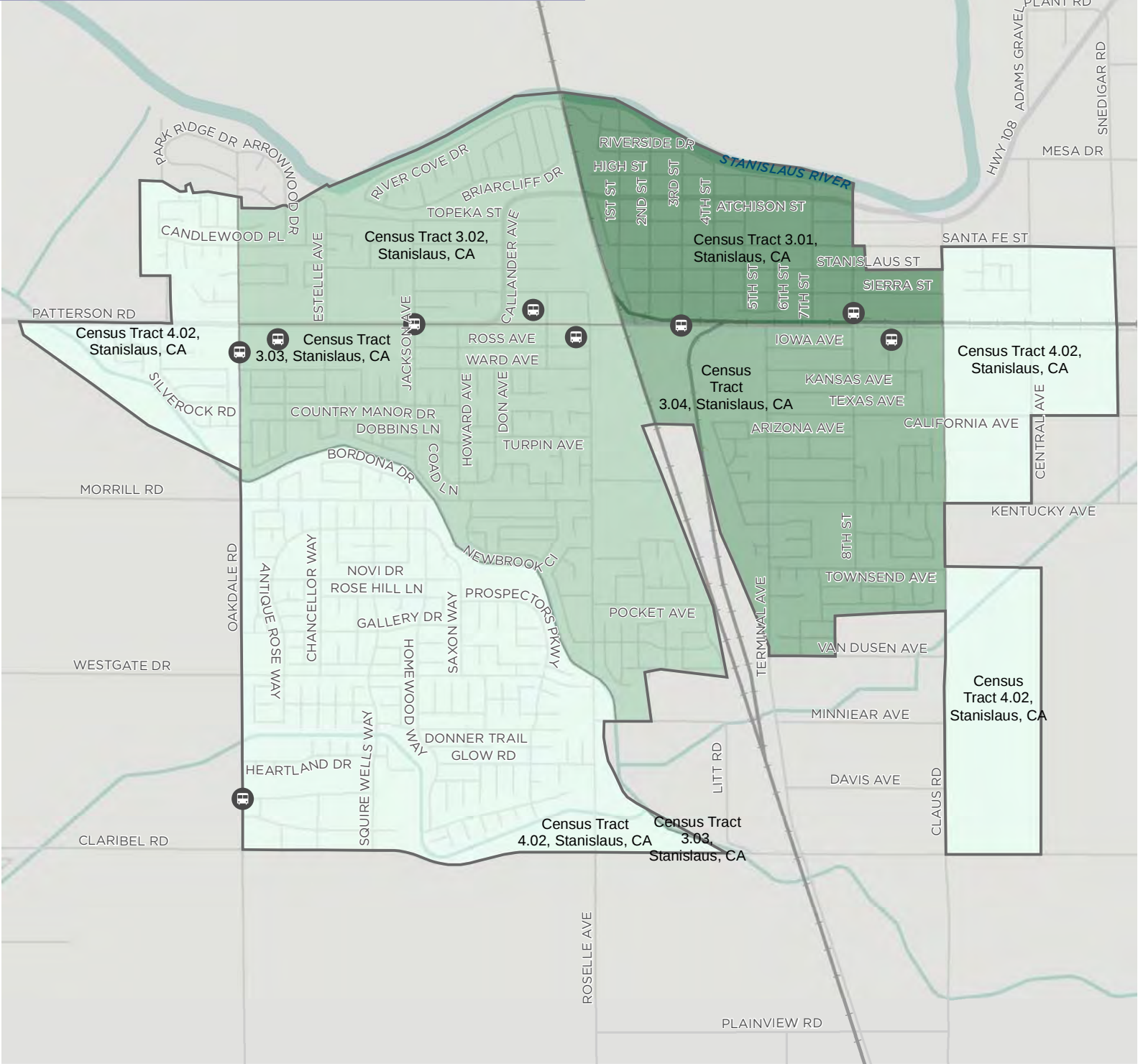
According to 2017 census data, 9,939 workers who live in Riverbank travel to work outside of the city limits, primarily to the City of Modesto.

Figure 3: Riverbank Employment Inflow/Outflow



Source: US Census Bureau (2017). OnTheMap Inflow/Outflow Analysis.

Map 2: Means of Transport to Work: Drives Alone

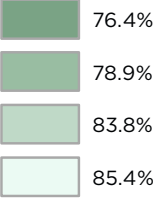


MEANS OF
TRANSPORT TO WORK:
DRIVES ALONE

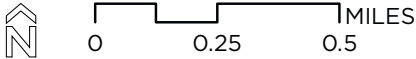
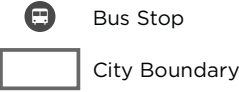
RIVERBANK CA ACTIVE
TRANSPORTATION PLAN

alta Data Sources: City of Riverbank,
Stanislaus County.

% Population
Drives Alone
Work



Destinations +
Boundaries



Disadvantaged Communities

Low-income communities tend to rely the most on low-cost forms of transportation, such as bicycling, walking, and transit. Identifying disadvantaged communities in Riverbank can lead to a deeper understanding of where some bicycle and pedestrian improvements may be needed the most. Access to safe bicycling and walking infrastructure that connects people to the places they need to go can help increase health outcomes, decrease transportation cost burdens, and improve environmental outcomes for people living in Riverbank.

As shown in Map 3 on the following page, the northeast corner of the city has the highest percentage of people living in poverty (25.8%).⁵ Figure x showed how this part of Riverbank has the lowest rates of people who drive alone to work, reflecting research in the United States that people living in poverty walk or bicycle at rates higher than the rest of the population.

The California Communities Environmental Health Screening Tool (CalEnviroScreen) identifies disadvantaged communities around the state using variables that measure pollution burden and socioeconomic disadvantage. These variables are displayed in Figure 4 below. Areas of the state that receive high scores in this index are prioritized as recipients from some state funding sources and can be more

⁵ US Census Bureau (2018) American Community Survey 1-Year Estimates.

competitive in regional funding programs.

Four of the five census tracts in Riverbank are designated as the top 25% highest scoring census tracts in California.⁶

Levels of Particulate Matter 2.5 (PM 2.5) are a major environmental concern in Riverbank. PM2.5 comes from several sources, including cars and trucking activity. As a result, it can be mitigated by reducing automobile travel.

CalEnviroScreen data also reveals that many neighborhoods in Riverbank experience high rates of cardiovascular disease.

⁶ CalEnviroScreen 3.0 Results: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

Disproportionately Disadvantaged



The northeast corner of the city has a poverty rate of 25.8%, which is significantly higher than rates in Stanislaus County (15.6%) and the state (12.8%)



People in Riverbank have higher rates of cardiovascular disease than 62% of all other communities in California.



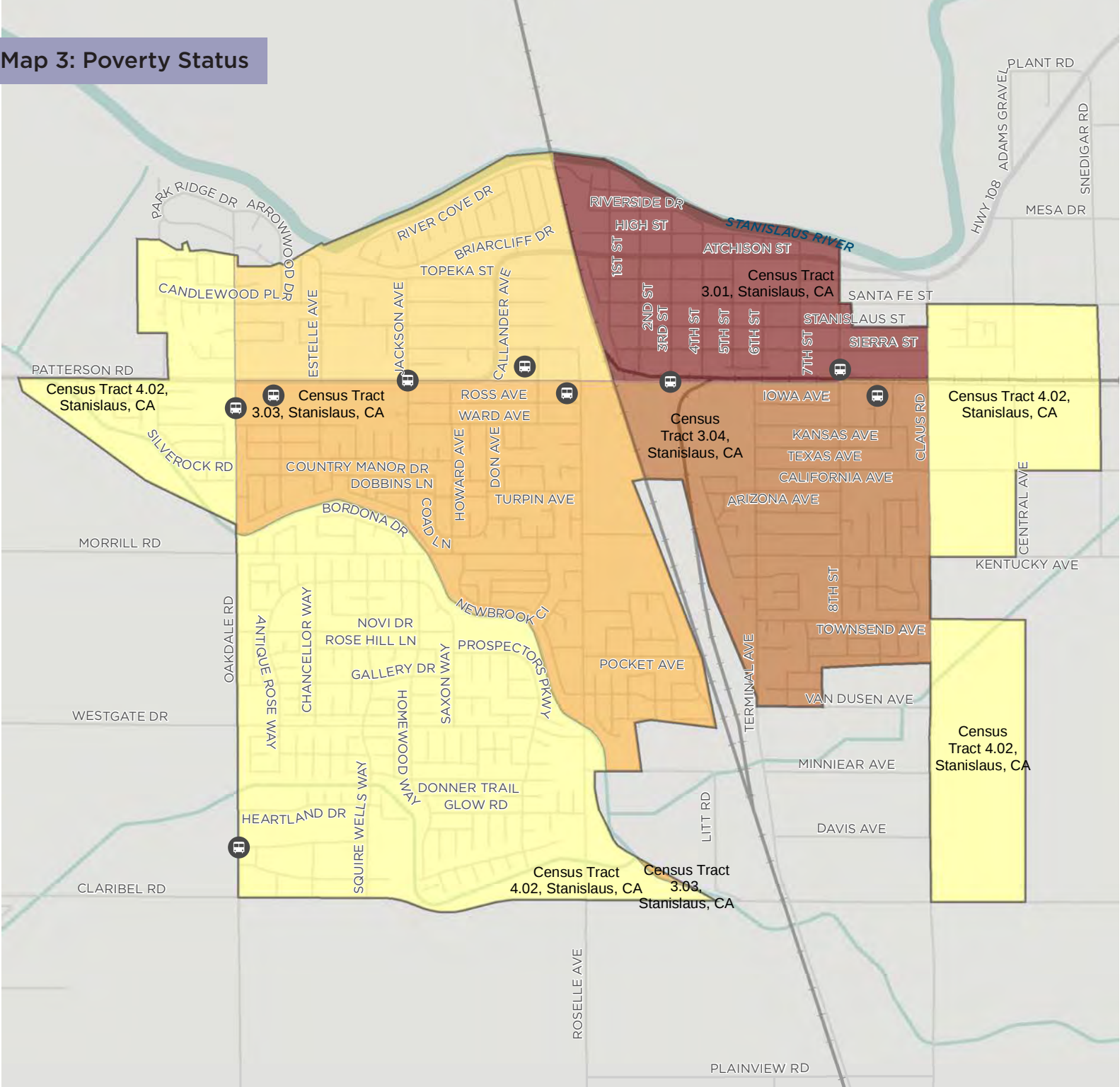
Every census tract in Riverbank has a concentration of Particulate Matter 2.5 higher than 93% of all other census tracts in the State of California.

Figure 4: CalEnviroScreen Criteria

Pollution Burden		Population Characteristics	
Exposures	Ozone Concentrations PM2.5 Concentrations Diesel PM Emissions Drinking Water Quality Pesticide Use Toxic Releases from Facilities Traffic Density	x	Sensitive Populations Cardiovascular Disease Low Birth-Weight Births Asthma Emergency Department Visits
	Environmental Effects Cleanup Sites Groundwater Threats Hazardous Waste Impaired Water Bodies Solid Waste Sites and Facilities		Socioeconomic Factors Educational Attainment Linguistic Isolation Poverty Unemployment Housing Burdened Low Income Households
= CalEnviroScreen Score			

Source: California Environmental Protection Agency (2017). Designation of Disadvantaged Communities Pursuant to Senate Bill 535. <https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf>

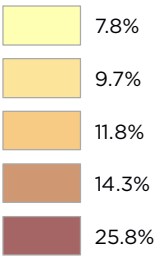
Map 3: Poverty Status



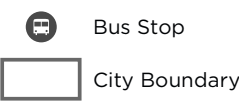
POVERTY STATUS

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

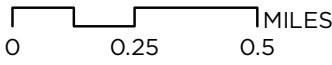
% Population Living At or Under Federal Poverty Level Per Census Tract



Destinations + Boundaries



Data Sources: City of Riverbank, Stanislaus County.



Relationship to Other Plans

The Active Transportation Plan identified existing planning documents, policies, and projects that are relevant to planning for future bicycle and pedestrian infrastructure investment in Riverbank. These documents include:

Riverbank General Plan 2005 - 2025

Policies and concepts relevant to the bicycle and pedestrian circulation system in Riverbank include:

Policy CIRC 1.7 – The City will ensure frequent street and trail connections between new residential developments and established neighborhoods, between downtown and surrounding neighborhoods, across the railroad, across the river, and between other important origin and destination points.

Policy CIRC-2.4 The City will ensure that redevelopment and revitalization efforts in the existing City are designed to accommodate and encourage pedestrian and bicycle travel, as well as public transit options, as such options become more widely available.

Fundamental Concepts for the Circulation System – Safety - The circulation system should allow people to feel safe, whether they are driving, walking, or riding a bicycle.

Fundamental Concepts for the Circulation System – Accessibility - The circulation system should be easily accessible to all users, whatever their level of income, age, or physical ability.

City of Riverbank Crossroads Specific Plan (2001)

Policies relevant to the bicycle and pedestrian circulation system in Riverbank include:

Circulation Objective 2 - Develop a hierarchy of streets which promote efficient auto travel within the Crossroads Community while encouraging pedestrian- and bicycle-oriented travel

Circulation Policy 2.2 - Provide minor and local neighborhood streets which discourage

through-traffic and high speeds

Crossroads West Specific Plan (2019)

The Crossroads West Specific Plan establishes the vision for 380 acres of new development in Riverbank. Relevant policies include:

Sustainability Element A2 – Reduce Dependency on Automobiles

Sustainability Element A3 – Open Street Network and Walkable Streets (including a continuous bicycle and walking trails or paths throughout the Crossroads West Specific Plan area)

Downtown Specific Plan (2015)

Policies established for the traffic and circulation element of the plan as well as relevant design guidelines include:

- Establish safe and attractive pedestrian linkages between the Downtown Core and Cannery District
- Establish safe and attractive pedestrian linkage between neighborhood North of Atchison and the downtown district.
- Require development in the Cannery District to build on Downtown's small-town character (The Cannery District)
- Require a network of walkable streets, blocks, and open spaces
- Connect Santa Fe Street between Callander Avenue and First Street
- Ensure that a railroad crossing of some design is safe, attractive, and supportive of walking and cycling between the Cannery District and the Downtown Core District.

Local Redevelopment Authority Specific Plan (2013)

The plan outlines a plan for bicycle circulation. Relevant recommendations in this plan include:

- Short-term and long-term bicycling provision within the RAAP site
- A study of a possible bike sharing program to improve overall mobility

Public Input

Public engagement was an integral part of the planning process; local in-depth knowledge of existing conditions and local needs informed and supplemented existing conditions analyses, creating a holistic understanding of the community's opportunities and challenges. The Riverbank Active Transportation Plan included a thorough public outreach process that included many different engagement opportunities.

The planning process occurred in three phases with public engagement occurring throughout each phase.

The phased approach focused on feedback about how people get around in the first phase, asked for input on recommended projects in the second phase, and finally asked for feedback on the draft plan in the final phase.

To inform the proposed active transportation network, people who live, work, and spend time in Riverbank provided their input through the following, as shown in Table 2:

- Virtual Citizen Advisory Team meetings
- Project website
- Online web map
- Virtual community workshop
- City Council presentations

The project website and opportunities for input were also advertised through a newsletter and social media posts. All meetings and outreach materials were provided in English and Spanish.

Table 2: Forms of Public Input

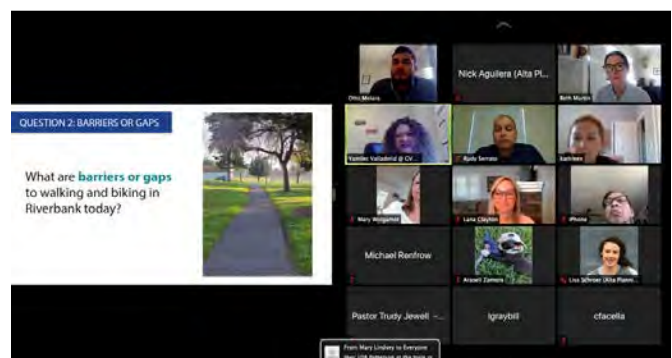
Input Type	Input Date
Community Advisory Team Meetings	May 21, 2020; October 6, 2020
Web Map (Phase 1)	April 13 - November 6, 2020
Web Map (Phase 2)	March 22 - April 27th, 2021
Virtual Community Workshop	March 25, 2021
City Council presentations	October 13, 2020; July 27, 2021; August 24, 2021* (scheduled meeting at time of Draft Plan)

COVID-19 Impacts

This plan reflects an adjusted planning process in response to the COVID-19 pandemic. Beginning with the California Governor's March 2020 Stay at Home Order, planned outreach activities and the associated scheduled were modified to comply with public health guidelines in effect throughout the remainder of 2020. This includes extended public comment periods, shift to virtual outreach activities, and extension of the overall plan timeline.

Community Advisory Team Meetings

Two virtual Community Advisory Team Meetings were held to discuss the plan with various stakeholders who live in Riverbank to help guide the planning process, provide input, and ensure that the public input process was reaching Riverbank residents through proper channels. The Community Advisory Team consisted of 10 members, representing Riverbank Unified School District, City Council, Golden Valley Health Centers, New Life Church, American Association of University Women, small business owners, and community members.



A screen capture of a virtual Citizen Advisory Team meeting with stakeholders from Riverbank.

Online Web Map

Phase 1: Existing Conditions

The City of Riverbank published a publicly accessible web map—WalkBikeRiverbank.com—open to the public from April 13 - November 6, 2020 and allowed residents to indicate the following:

- Destinations I currently or would like to access
- Bicycle or walking routes that need improvement
- Barriers to biking or walking

Phase 2: Recommendations

The City published another version of the web map—open from March 22 - April 23, 2021—that allowed residents to provide input on draft recommendations.

Web Map By the Numbers

948

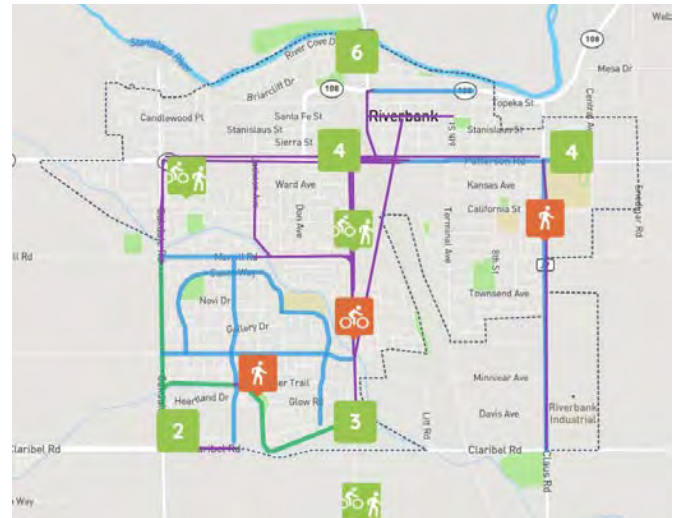
page visits to the website

706

unique webmap users

78

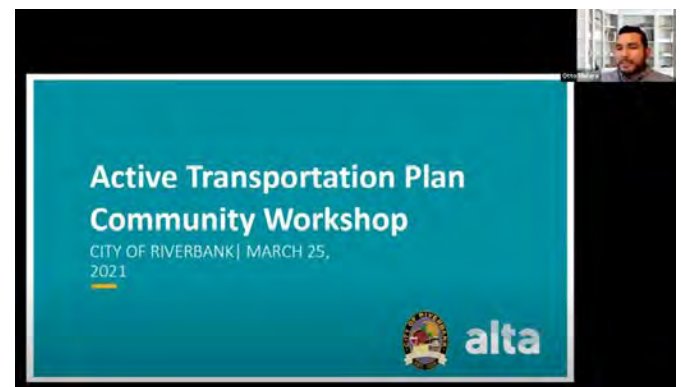
webmap votes/comments



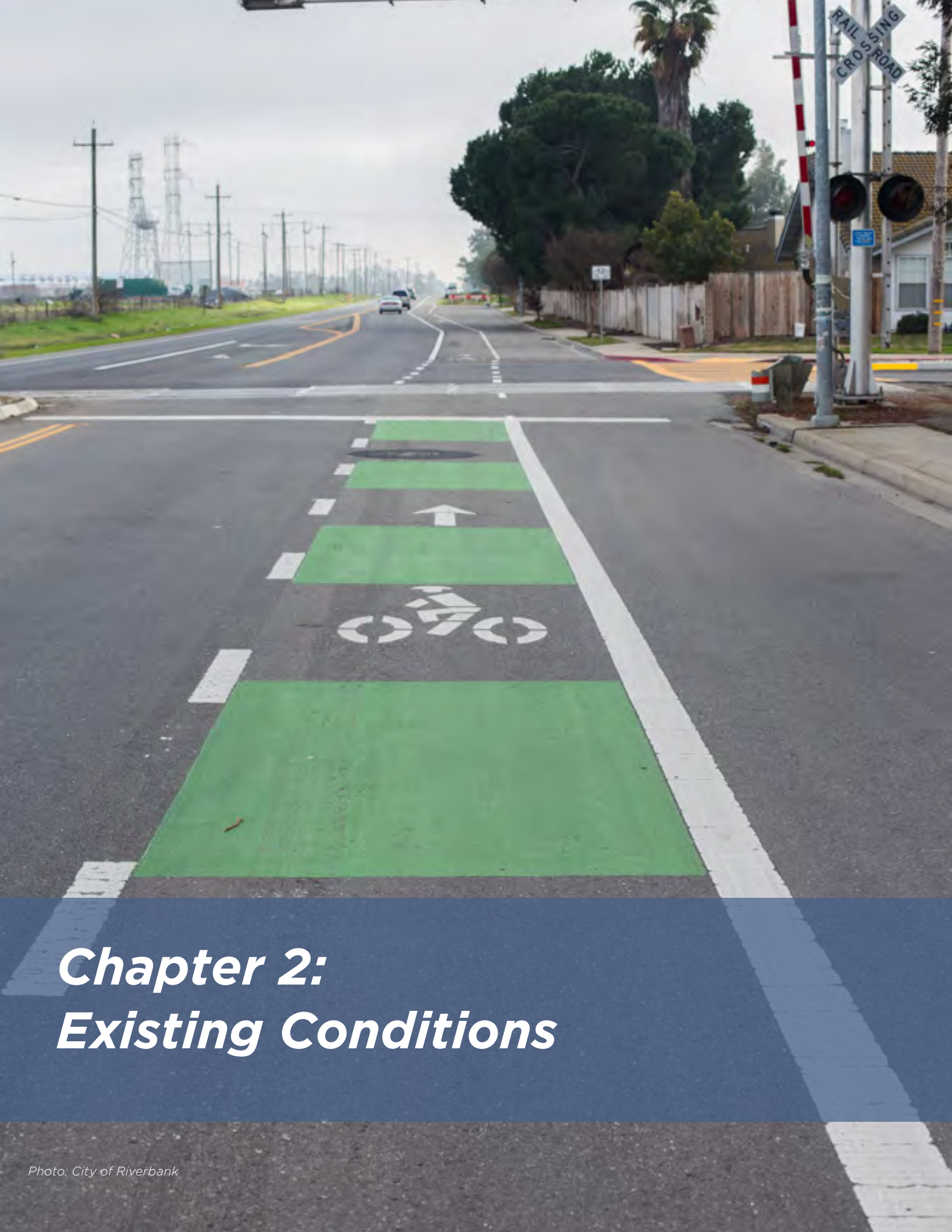
A screen capture of the public input webmap, where users provided feedback on both existing conditions and recommendations.

Virtual Community Workshop

A virtual community workshop was held on March 25, 2021 that provided a summary of the planning process, the results of the existing conditions analysis, introduced the draft recommendations, and provided opportunities to provide feedback on the draft recommendations. The workshop was streamed on Zoom, Youtube Live, Local Spectrum Channel 2, U-Verse Channel 99, and the recording was posted to the Riverbank project website.



A screen capture of the project team presenting at the virtual Community Workshop on March 25, 2021.



Chapter 2: Existing Conditions

2. Existing Conditions

Existing Pedestrian Network

A spatial analysis using aerial imagery showed common conditions for pedestrians along local/collector roadways and major arterial roadways.

Local / Collector Roadways

The local residential streets within Riverbank typically have stop signs and no crosswalks at intersections. High-visibility crosswalks exist adjacent to schools, many parks, and sometimes when local roadways cross collectors or arterial roadways.

High-visibility crossings, as well as some curb extensions, are especially frequent in the Downtown retail core along 3rd Street and Santa Fe Street and in the southwest area of the city along collector roadways such as Crawford Road and Morrill Road, which has relatively newer housing and development.

Arterial Roadways

Arterial roadways throughout the city, such as Patterson Road and Atchison Street, prioritize the movement of motor vehicle traffic with multiple lanes and limited dedicated pedestrian crossings. While signalized intersections in the city typically have pedestrian signals, they often require

long crossing distances with wide turning radii for cars. The unsignalized intersections along arterial roadways often have no signage or crosswalk, such as at Callander Avenue and Sierra Street. Lastly, arterial roadways in Riverbank often have long distances between dedicated pedestrian crossings.

Sidewalks

Local / Collector Roadways

Riverbank has a relatively complete sidewalk network throughout the city, especially within residential areas. Areas of the city with more recent residential development, such as west of Roselle Avenue, typically have a complete sidewalk network. Some local and collector streets in less developed areas, however, lack sidewalks. Examples include Stanislaus Street and Santa Fe Street between 8th Street and Claus Road.

Arterial Roadways

Map 4 on the following page shows the existing sidewalk network along arterial roadways.

Many of the major roadways lack sidewalks either on one or both sides of the street such as Callander Avenue, Patterson Road, Roselle Avenue, and Claus Road.



Callander Ave and Sierra Street shows a common condition of an unsignalized intersection at a major roadway with no way for pedestrians to cross. Photo: Google Earth



The intersection of Roselle Ave and Morrill Road shows a section of Roselle without sidewalks. Photo: Google Earth

Map 4: Sidewalk Audit



SIDEWALK AUDIT

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

Sidewalk Presence

- One-Side
- Sidewalk Has Gaps
- No Existing Sidewalk

Destinations + Boundaries

- Bus Stop
- School
- Park
- Commercial Area
- City Boundary



Data Sources: City of Riverbank, Stanislaus County.

0 0.25 0.5 MILES



Existing Bicycle Network

The California Department of Transportation (Caltrans) designates four classes of bicycle facilities: Class I shared use paths, Class II bicycle lanes, Class III bicycle routes, and Class IV separated bikeways. Riverbank has 7.29 miles of Class II bicycle lanes and a 2.28 miles of Class I shared use paths.

The northeast corner of the city has two east-west Class II bicycle lanes on segments of Patterson Road and Atchison Street. As seen in Map 5, a 1.5-mile segment of Class II bicycle lane on Claus Road runs south from Patterson Road until the city limit. There are no other north-south or east-west bicycle facility connections on the east side of Riverbank. The railroad tracks are a major barrier to east-west connections across the city.

The southwest area of Riverbank (also known as the Crossroads) has the most extensive network of bicycle facilities, even though it is mostly limited to south of Morrill Road. Class II bicycle lanes connect parts of the neighborhood along Squire Wells Way, Crawford Road, Prospectors Pkwy, Antique Rose Way, Saxon Way, and Morrill Road but do not extend north of Morrill Road. With recent construction, Class II bike lanes were added to short segments of Claribel Road Roselle Ave along the southern edge of the city. The southwest area of the city also has a Class I shared use path along the Modesto Irrigation District's (MID) Lateral Number One Canal and north-south along the eastern side of Oakdale Road.

Finally, the northwest corner of Riverbank does not have any existing bicycle facilities.

As shown on Map 5 on the following page and described above, the City of Riverbank has mostly Class II bicycle lanes and a couple Class I shared use paths. These facilities, however, are mostly concentrated in the southwest area of the city, are disconnected from each other, and are not located along most major roadways.



An existing Class II bike lane at the intersection of Claus Road and Townsend Avenue. Photo: City of Riverbank

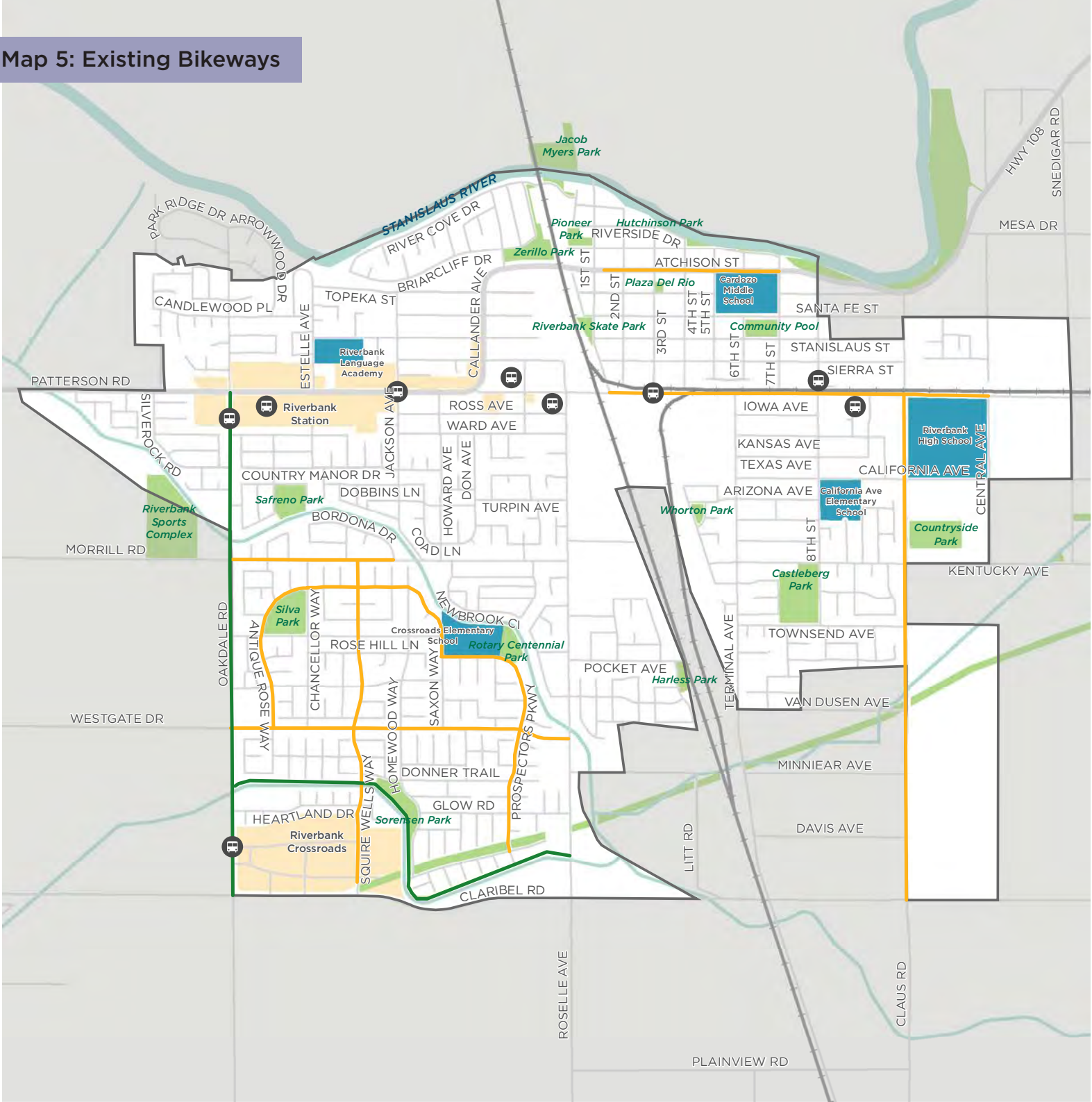


A Class I shared use path at Squire Wells Way along the Modesto Irrigation District's (MID) Lateral Number One Canal. Photo: Google Earth



Class II bike lane along Patterson Road in the eastern part of the city. Photo: Google Earth

Map 5: Existing Bikeways



**EXISTING
BIKEWAYS**

RIVERBANK CA ACTIVE
TRANSPORTATION PLAN

- Existing Bikeways**
- Class I Shared-Use Path
 - Class II Bicycle Lane

- Destinations + Boundaries**
- Bus Stop
 - School
 - Park
 - Commercial Area
 - City Boundary

alta Data Sources: City of Riverbank,
Stanislaus County.



Collision Analysis

Between 2014 and 2018⁷, there were 10 bicycle collisions and 16 pedestrian collisions in Riverbank, including 3 pedestrian fatalities, 1 pedestrian-involved serious injury, and 20 total minor injuries involving both bicyclists and pedestrians.

Major Roadways

Patterson Road has the most reported bicycle and pedestrian collisions in the city. Almost one third of all collisions in Riverbank during this five-year period occurred along Patterson Road. As displayed in Map 7, the majority of bicycle collisions in Riverbank have occurred on or approaching Patterson Road. As can be seen in Map 6, there have been three fatal collisions in Riverbank involving pedestrians and all three of them have occurred along Patterson Road.

Atchison Street, Oakdale Road, Crawford Road, and Prospector's Parkway are other corridors with two or more reported bicycle and pedestrian collisions in the last five years.

Children and Older Adults

As they either are not old enough to drive or their physical driving capabilities decline, children and older adults are typically more dependant upon biking, walking, and/or public transportation. Children and older adults are also more vulnerable to traffic crashes.

Riverbank has a higher rate of collisions involving both younger and older people than Stanislaus County at large. Between 2014 and 2018, 33% of all collisions in Riverbank involved people age 19 or younger. In comparison, 24% of all collisions in Stanislaus County during this time period involved people age 19 or younger. Almost 26% of all collisions in Riverbank involved people 60 years of age or older in comparison to 14% in the county.

⁷ This is the most recent data publicly available at the time of analysis.

26



Crashes involving people bicycling and/or walking.

3

Fatalities

All three involved pedestrians.

1

Serious Injury

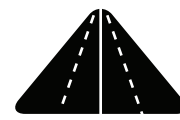
Involved a pedestrian

20

Minor Injuries

10 involved pedestrians and 10 involved bicyclists

1/3



of all collisions occurred on

Patterson Road.

including all 3 pedestrian fatalities.

1/3

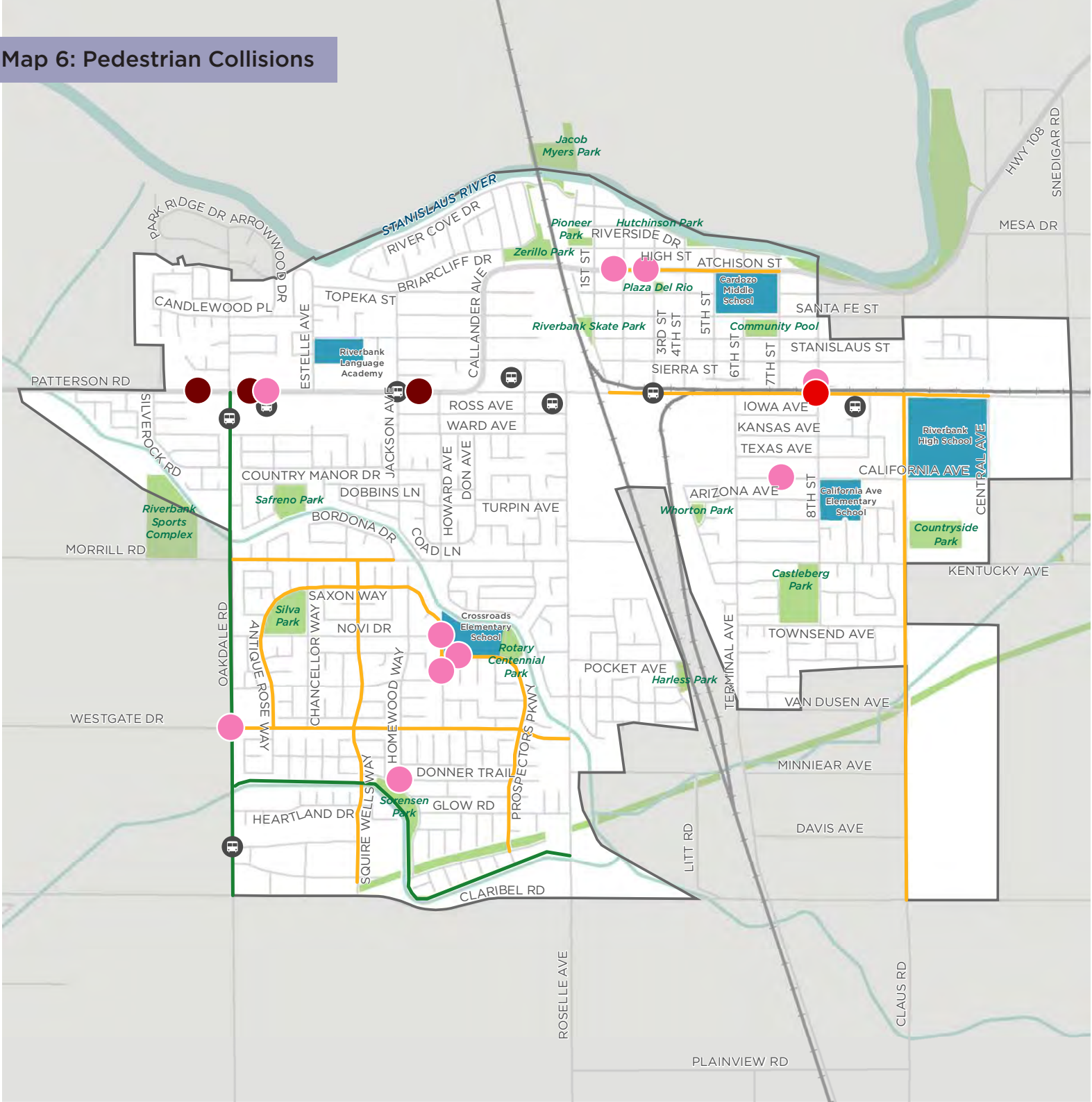


of all collisions involved

Children 19 or younger.

10% more children were involved in collisions in Riverbank compared to Stanislaus County.

Map 6: Pedestrian Collisions



PEDESTRIAN COLLISIONS (2014 - 2018)

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

Data Sources: Transportation Injury Mapping System (TIMS), City of Riverbank, Stanislaus County.

Pedestrian Collisions (by Severity)

- Fatality (3)
- Severe Injury (1)
- Minor Injury (10)

Existing Bikeways

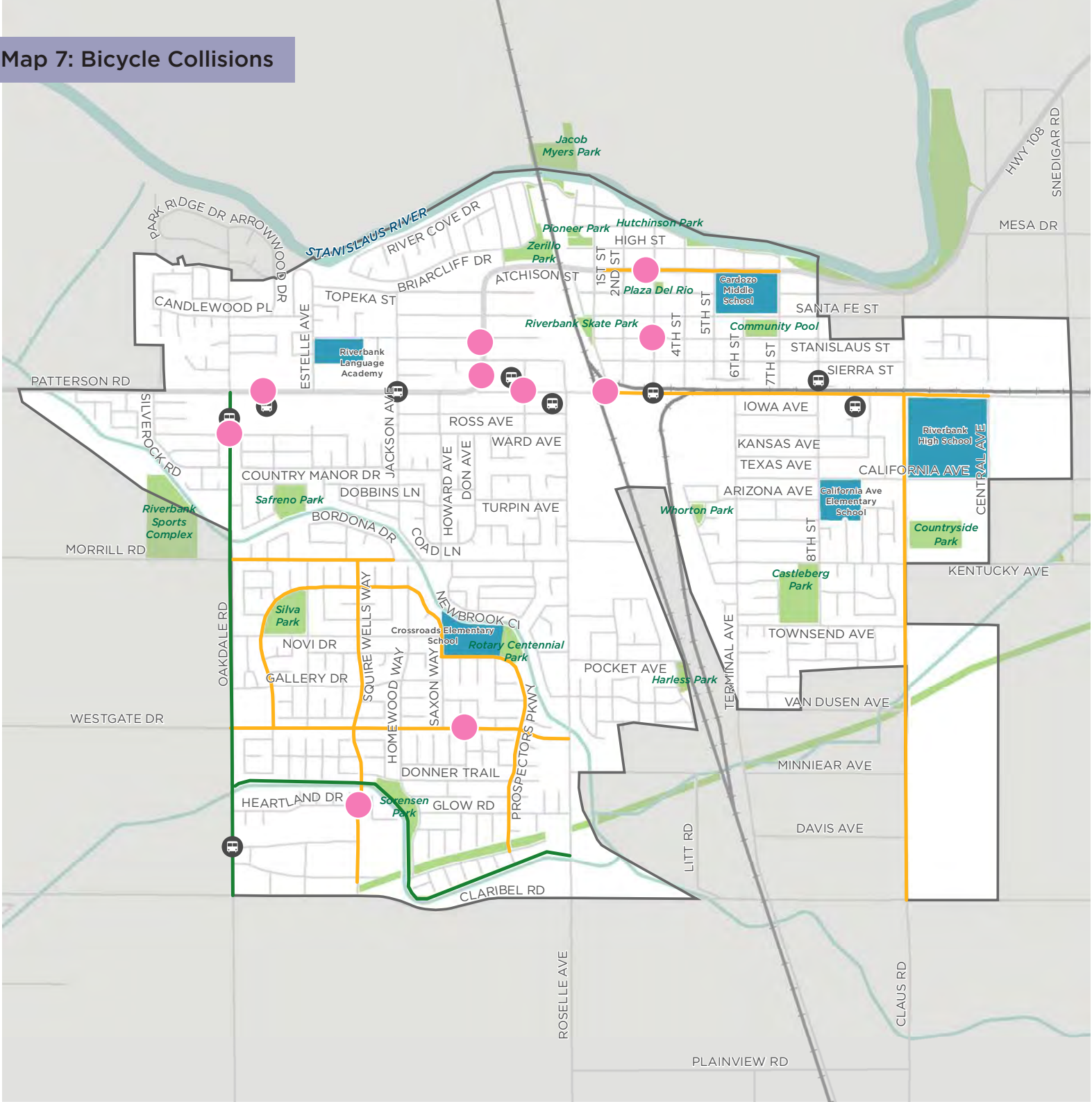
- Class I Shared-Use Path
- Class II Bicycle Lane

Destinations + Boundaries

- Bus Stop
- School
- Park
- City Boundary



Map 7: Bicycle Collisions



BICYCLE COLLISIONS (2014 - 2018)

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

Data Sources: Transportation Injury Mapping System (TIMS), City of Riverbank, Stanislaus County.

Bicycle Collisions (by Severity)

Minor Injury (10)

Existing Bikeways

Class I Shared-Use Path

Class II Bicycle Lane

Destinations + Boundaries

Bus Stop

School

Park

City Boundary

0 0.25 0.5 MILES



Summary: Key Opportunities

Public input and the existing conditions assessment resulted in the identification of four key opportunities helped to inform the recommendations described in the next chapter.



Enable Crosstown Connections

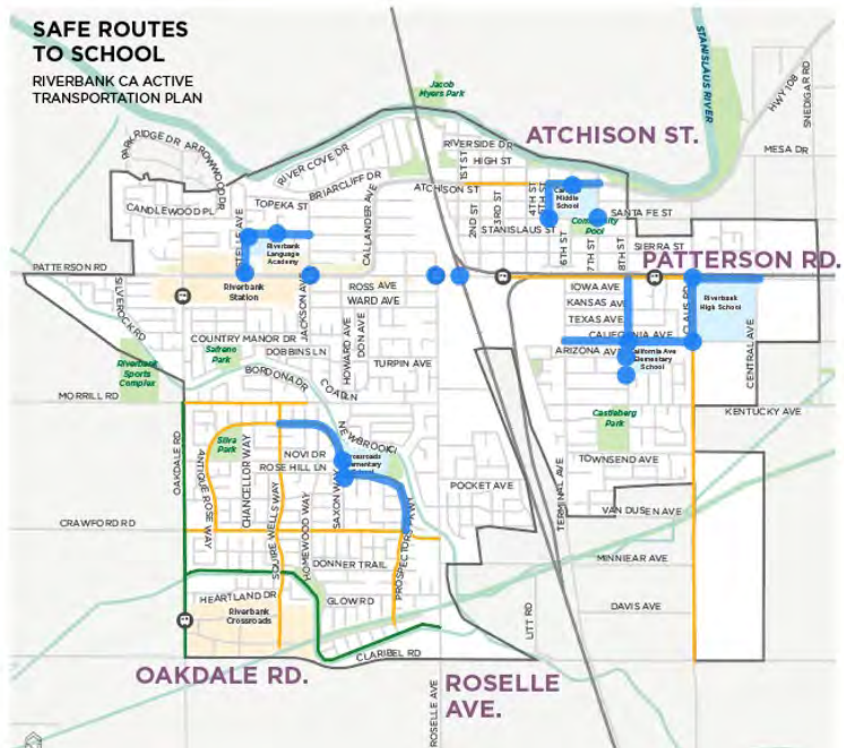
Crosstown arterials like Patterson Street, Roselle Avenue, and Oakdale lack complete biking and walking facilities. This makes intersections and railroad crossings feel dangerous and uncomfortable. Therefore, an opportunity exists to develop a low stress “spine” network of walking facilities, separated bikeways, and/or trails, with special attention to major intersections and railroad crossings.



Improve Connections to Schools

Riverbank residents worry about student safety as they walk and bike to school.

Therefore, an opportunity exists to make walking, biking, and rolling to school more safe, comfortable, and convenient. In addition to physical infrastructure, Riverbank could support events and activities to promote walking and biking to school.





Enhance the Trail Network

Residents enjoy the existing trails in Riverbank, but feel like they are currently disconnected and, therefore, not convenient to use for transportation. Therefore, an opportunity exists to enhance the trail network across the city. Waterways and canals, in particular, provide available corridors for trails. Trails can be used for recreation and to access destinations such as schools, parks, and local retail destinations.



Improve Downtown Connectivity

Barriers such as major roadways and railroad crossings prevent people from safely and comfortably accessing Downtown. Therefore, an opportunity exists to develop safe walking and biking routes that lead to Downtown. Amenities such as shade, outdoor seating, and secure locations for bike parking can also encourage people to walk and bike to Downtown.





Chapter 3: Recommendations

3. Recommendations

The proposed bicycle and pedestrian network is described in the following chapter. Recommendations include both physical infrastructure improvements as well as programs to help promote and encourage biking and walking.

The bicycle recommendations provide a connected network of dedicated bikeways through off-street trails and on neighborhood streets, collectors, and arterials.

Pedestrian recommendations include spot improvements and sidewalk improvements. Spot improvements aim to enhance conditions for pedestrians at intersections, trails, midblock, and across barriers such as railroad tracks. In addition to spot improvements, the pedestrian recommendations include filling key gaps in the sidewalk network.

Together, the bicycle and pedestrian recommendations aim to address the following **key opportunities**, which were identified through the existing conditions assessment and public input:



Enable Crosstown Connections

Recommendations improve crosstown arterials, like Patterson Street, Roselle Avenue, and Oakdale Road.



Improve Connections to Schools

Recommendations improve streets and intersections connecting to schools.



Enhance the Trail Network

Waterways and canals are utilized to increase the number of trails.



Improve Downtown Connectivity

Recommendations improve connections to, from, and within Downtown.



Class IV Cycle Track in Modesto, CA. Photo: Alta Planning + Design



Crawford Road in Riverbank. Photo: Google Earth



Class IV Cycle Track in Modesto, CA. Photo: Alta Planning + Design

Bicycle Recommendations

The proposed bicycle recommendations, when fully built out, will create a complete network of bicycle facilities that connect people to key destinations. The proposed bicycle facilities, described in more detail on page 32, include paved shared use paths (Class I), bicycle lanes (Class II), buffered bike lanes (Class IIB), bicycle routes (Class III), bike boulevards (Class IIIB), and separated bikeways (Class IV).

“Low stress” bicycle facilities include Class I paved shared use paths, Class IV separated bikeways, and Class IIIB bike boulevards. These facilities aim to provide safety and comfort for people of all ages and abilities. Low stress bikeways form the backbone of the bicycle network, providing maximum separation from motor vehicles on major roads and support comfortable travel along neighborhood roadways where bicycle travel is prioritized.

Where available right-of-way is limited or a low stress bikeway is not feasible without further study needed, Class II bike lanes and Class IIB buffered bike lanes are proposed.

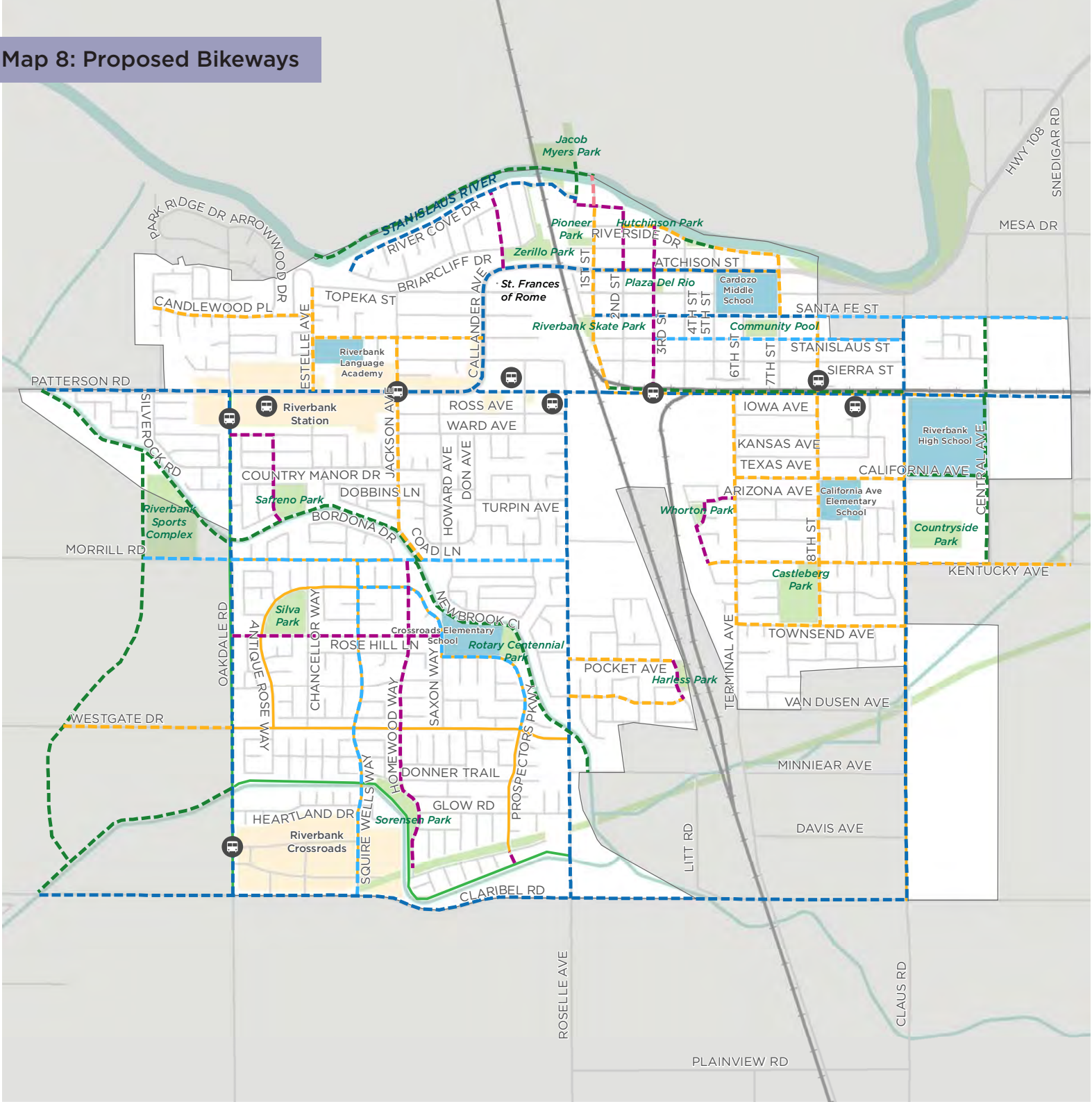
This Plan recommends 42 miles of new or upgraded bicycle facilities across Riverbank, proposing upgrades to about 7 miles of existing facilities and adding about 35 miles of new dedicated facilities. Table 3 provides a breakdown of the proposed bicycle network broken down by bikeway class. Map 8 shows the proposed bicycle network. Table 4 on pages 32 and 33 lists all of the proposed bicycle recommendations by segment and bikeway class. When fully built out, Riverbank will have over 46 miles of dedicated bicycle facilities that form a connected network.

Table 3: Bicycle Facility Miles by Classification

Bicycle Facility	Existing, (Miles)	Proposed, (Miles)	Total Network, (Miles)*
Class I: Paved Shared Use Path	2.3	7.2	8.5
Class II: Bicycle Lane	8.6	7.9	10.7
Class IIB: Buffered Bike Lane	0	5.6	5.6
Class III: Bike Route	0	0.1	0.1
Class IIIB: Bicycle Boulevard	0	3.5	3.5
Class IV: Separated Bikeway	0	17.9	17.9
TOTAL	10.9	42.2	46.3

* The total network of 46.3 miles includes existing bicycle facilities that are not getting upgraded (4.1 miles) combined with proposed bicycle facilities (42.2 miles).

Map 8: Proposed Bikeways



**PROPOSED
BIKEWAYS**

RIVERBANK CA ACTIVE
TRANSPORTATION PLAN

- Proposed Bikeways**
- Class I Shared-Use Path
 - Class II Bicycle Lane
 - Class IIB Buffered Bicycle Lane
 - Class III Bicycle Route
 - Class IIIB Bicycle Boulevard
 - Class IV Separated Bikeway

- Existing Bikeways**
- Class I Shared-Use Path
 - Class II Bicycle Lane

- Destinations + Boundaries**
- Bus Stop
 - School
 - Park
 - Commercial Area
 - City Boundary

alta Data Sources: City of Riverbank,
Stanislaus County.

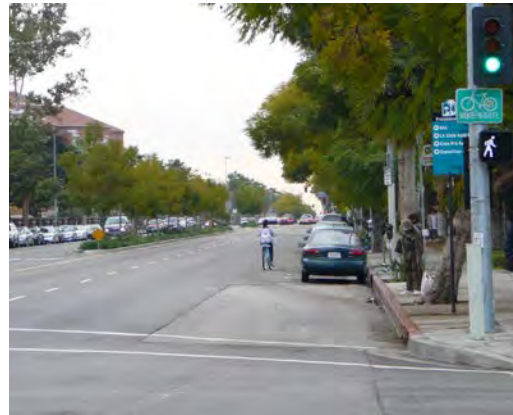


Bicycle Facility Types



Class I: Paved Shared Use Path

Paved shared use paths are completely separated from the roadway and typically shared with bicyclists and pedestrians.



Class III: Designated Bike Route

Bike routes are signed routes where people bicycling share the lane with motor vehicles. Bike routes can also include pavement markings.



Class II: Bike Lane

A bike lane is a dedicated lane for bicycle travel adjacent to traffic and separated from motor vehicles by a painted white line.



Class IIIB: Bike Boulevard

Bike boulevards are local roadways that prioritize bicycle travel through traffic calming features such as traffic diverters and speed humps.



Class IIB: Buffered Bike Lane

Buffered bike lane is a dedicated lane for bicycle travel adjacent to traffic and separated from motor vehicles by a painted buffer.



Class IV: Cycle Track

A cycle track is an on-street bikeway separated from motor vehicles by a curb, median, planters, or other physical barrier.

Example Bicycle Design Treatments

In addition to the linear bicycle improvements, a variety of design treatments can be used to support roadway crossings, provide enhanced connections, and address existing gaps or missing links in the bicycle network. The photos and descriptions shown on this page provide a few examples.



Bike Signal

Bike signals provide a dedicated crossing signal that signifies when people on bicycles can cross.



Intersection Crossing Marking

Safer bicycle networks require bicycle lane markings to continue through intersections. These improvements are relatively low-cost



Rectangular Rapid Flashing Beacon (RRFB)

RRFBs alert drivers at unsignalized intersections of people walking or biking. The flashing beacon can be activated by a push button.



Bike Box

Bike boxes provide a dedicated space for bicyclists ahead of motor vehicle traffic at signalized intersections.



Protected Intersection

Protected intersections maintain physical separation between motor vehicles and people bicycling through intersections.

Table 4: Proposed Bikeways

Street	Start	End	Recommendation	Length, (Miles)
Patterson Road	1st Street	Claus Road	Class I: Paved Shared Use Path	0.87
Canal Path	Oakdale Road (City Boundary)	Minnear Avenue (City Boundary)	Class I: Paved Shared Use Path	1.54
California Street & Central Avenue (High School Grounds)	Patterson Road	Claus Road	Class I: Paved Shared Use Path	0.47
Hutchinson Park Trail	Riverside Drive	Riverside Drive (near 5th Street)	Class I: Paved Shared Use Path	0.09
Central Avenue	Kentucky Avenue	California Avenue	Class I: Paved Shared Use Path	0.25
Stanislaus River Trail	City Boundary	City Boundary	Class I: Paved Shared Use Path	0.89
Burneyville Road Bike/Ped Bridge	Burneyville Road	Jacob Myers Park	Class I: Paved Shared Use Path	0.09
Mid Main Canal Trail	Patterson Road	Oakdale Road	Class I: Paved Shared Use Path	0.74
Central Avenue	Patterson Road	Santa Fe Street	Class I: Paved Shared Use Path	0.23
Sport Complex Trail	Mid Main Canal Trail	Morrill Road	Class I: Paved Shared Use Path	0.31
Mid Lateral 6 Canal Trail	Claribel Road	Oakdale Road	Class I: Paved Shared Use Path	0.67
Park Basin 13 Trail	Mid Lateral 6 Canal	Morrill Road	Class I: Paved Shared Use Path	1.00
8th Street	Patterson Road	Townsend Avenue	Class II: Bike Lane	0.91
1st Street	Orange Avenue	Patterson Road	Class II: Bike Lane	0.55
California Avenue	Terminal Avenue	Claus Road	Class II: Bike Lane	0.50
Stanislaus Street	Estelle Avenue	Callander Avenue	Class II: Bike Lane	0.50
Riverside Drive	2nd Street	4th Street	Class II: Bike Lane	0.19
Kentucky Avenue	Tennessee Avenue	Snedigar Road	Class II: Bike Lane	1.07
Estelle Avenue	Patterson Road	Topeka Street	Class II: Bike Lane	0.31
Terminal Avenue	Townsend Avenue	Patterson Road	Class II: Bike Lane	0.68
Riverside Drive	5th Street	7th Street	Class II: Bike Lane	0.19
7th Street	Riverside Drive	Santa Fe Street	Class II: Bike Lane	0.17
Jackson Avenue	Stanislaus Street	Morrill Road	Class II: Bike Lane	0.68
Candlewood Place	Woodhaven Place	Estelle Avenue	Class II: Bike Lane	0.47
Rose Brook Drive	Roselle Avenue	Litt Road	Class II: Bike Lane	0.34
Pocket Avenue	Roselle Avenue	Litt Road	Class II: Bike Lane	0.31
Townsend Avenue	Terminal Avenue	Claus Road	Class II: Bike Lane	0.50
Crawford Road	Proposed West Crossroads Trail	Oakdale Road	Class II: Bike Lane	0.50
Stanislaus Street	3rd Street	8th Street	Class IIB: Buffered Bike Lane	0.74
Saxon Way	Squire Wells Way	Prospectors Parkway	Class IIB: Buffered Bike Lane	0.39

Table 4: Proposed Bikeways (Continued)

Street	Start	End	Recommendation	Length, (Miles)
Morrill Road	Oakdale Road	Roselle Avenue	Class IIB: Buffered Bike Lane	0.99
Squire Wells Way	Morrill Road	Claribel Road	Class IIB: Buffered Bike Lane	1.00
Prospectors Parkway	Saxon Way	Crawford Road	Class IIB: Buffered Bike Lane	0.41
Santa Fe Street	Claus Road	Snedigar Road	Class IIB: Buffered Bike Lane	0.48
Santa Fe Street	1st Street	8th Street	Class IIB: Buffered Bike Lane	0.25
Morrill Road	Proposed West Crossroads Trail	Oakdale Road	Class IIB: Buffered Bike Lane	0.25
1st Street	Jacob Myers Park	Orange Avenue	Class III: Bicycle Route	0.09
2nd Street - Orange Avenue	River Cove Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.34
3rd Street	Atchison Street	Patterson Road	Class IIIB: Bicycle Boulevard	0.36
Homewood Way	Morrill Street	Proposed Canal Trail	Class IIIB: Bicycle Boulevard	0.93
3rd Street	Riverside Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.13
Crossroads Drive - Colony Manor Drive	Oakdale Road	New Canal Trail / Sefreno Park	Class IIIB: Bicycle Boulevard	0.39
Novi Drive - Homewood Way - Gallery Drive	Oakdale Way	Saxon Way	Class IIIB: Bicycle Boulevard	0.61
Prestwick Drive	River Cove Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.23
Prospectors Parkway	Blacksand Creek Way	Lateral Number One Trail	Class IIIB: Bicycle Boulevard	0.04
Virginia - Tennessee - Memphis - Arizona	Terminal Avenue	Terminal Avenue	Class IIIB: Bicycle Boulevard	0.29
Litt Road	Pocket Avenue	South Rose Brook Drive	Class IIIB: Bicycle Boulevard	0.12
Atchinson Street*	1st Street	7th Street	Class IV Separated Bikeway	0.54
Patterson Road	Callander Avenue	Snedigar Road	Class IV Separated Bikeway	1.77
Patterson Road*	City Boundary (West)	Jackson Avenue	Class IV Separated Bikeway	1.05
Claus Road	Minnear Avenue	Santa Fe Street	Class IV Separated Bikeway	1.35
Callander Avenue*	Patterson Road	1st Street	Class IV Separated Bikeway	0.72
Patterson Road*	Jackson Avenue	Sierra Court	Class IV Separated Bikeway	0.17
Oakdale Road	Morrill Road	Claribel Road	Class IV Separated Bikeway	1.49
Santa Fe Street	1st Street	8th Street	Class IV Separated Bikeway	0.66
Roselle Avenue	Claribel Avenue	Patterson Road	Class IV Separated Bikeway	1.37
Roselle Avenue	Claribel Avenue	Patterson Road	Class IV Separated Bikeway	0.12
Claus Road	Claribel Road	Minnear Avenue	Class IV Separated Bikeway	0.37
Claribel Road	Mid Lateral 6 Canal	Claus Road	Class IV Separated Bikeway	2.59
River Cove Drive	Briarcliff Drive	Burneyville Road	Class IV Separated Bikeway	0.76

* Caltrans Right of Way on State Highway 108

Pedestrian Recommendations

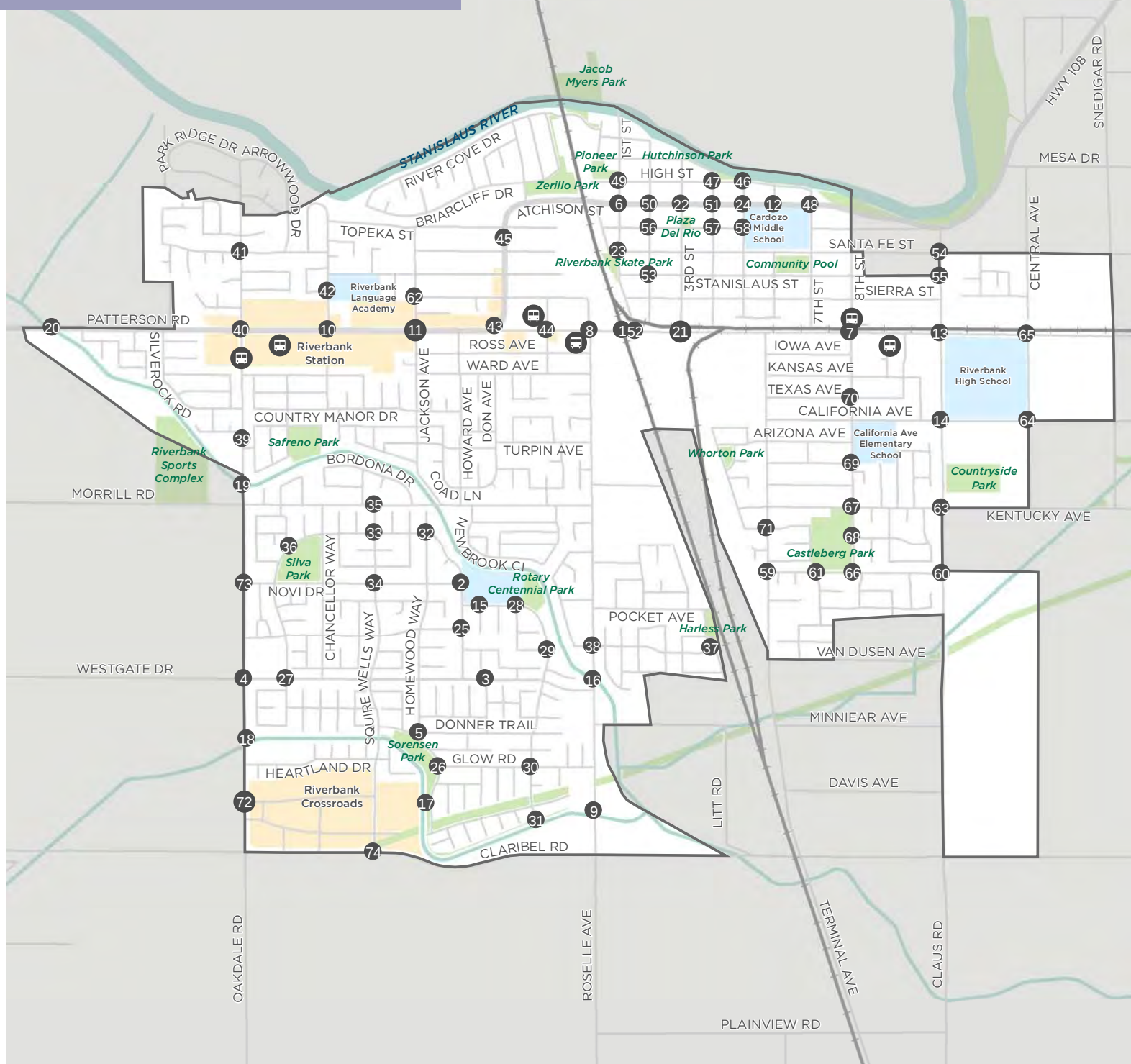
The pedestrian recommendations focus on improving safety for people walking along and across roadways in Riverbank through spot improvements and sidewalk improvements.

As mentioned in the collision analysis on page 21, pedestrians in Riverbank are disproportionately injured or killed in traffic compared to other modes. Between 2014 and 2018, of the 26 traffic crashes involving people biking and walking, there were 3 people killed and 1 serious injury—all 4 were pedestrians.

This plan recommends a total of **74 pedestrian spot improvements**, which can be seen on Map 9. Spot improvements aim to improve safety and comfort for people crossing the street and provide connections to destinations such as schools, parks, bus stops, and stores. The proposed spot improvements also consider connections to trails (Class I paved shared use paths). Examples of pedestrian spot improvements are described in more detail on page 37. A full list of proposed pedestrian spot improvements can be seen in Table 5 on pages 38 and 39.

In addition to improving safety and connectivity at intersections, sidewalk recommendations ensure that people have a dedicated and accessible space to walk. This plan recommends approximately **3.5 miles of new or upgraded sidewalks**, focusing on arterials and missing sidewalks within 500 feet of schools.

Map 9: Proposed Spot Improvements



PROPOSED SPOT IMPROVEMENTS

RIVERBANK CA ACTIVE
TRANSPORTATION PLAN



Data Sources: City of Riverbank,
Stanislaus County.

Spot Improvements

- Spot Improvement

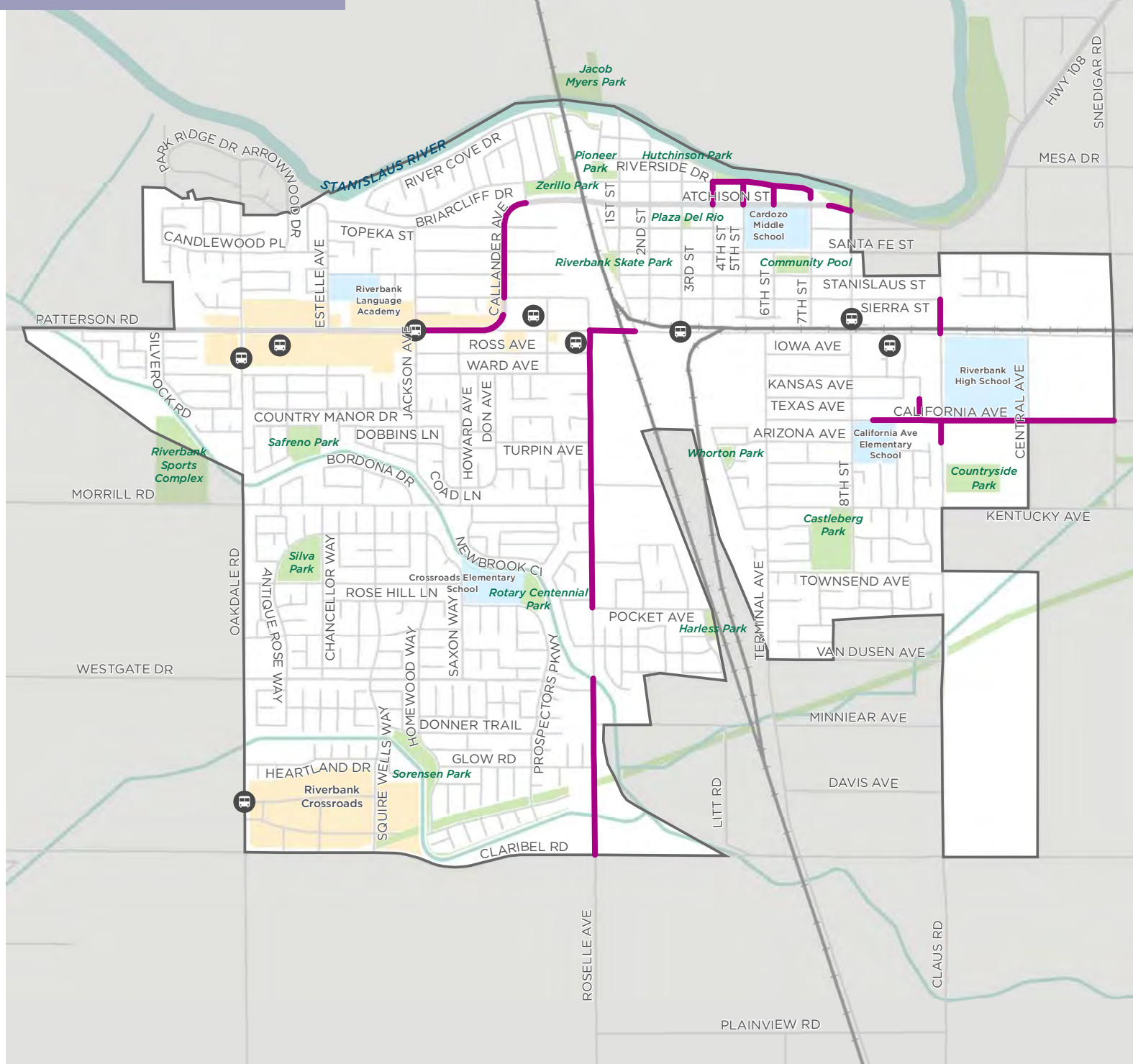
Destinations + Boundaries

- Bus Stop
- School
- Park
- Commercial Area
- City Boundary

0 0.25 0.5 MILES



Map 10: Proposed Sidewalk



PROPOSED SIDEWALK

RIVERBANK CA ACTIVE
TRANSPORTATION PLAN

**Proposed Sidewalk
Improvements
(On Arterial Roadways
or within 500ft of a
School)**

— Sidewalk Improvement

Destinations + Boundaries

- Bus Stop
- School
- Park
- Commercial Area
- City Boundary

alta Data Sources: City of Riverbank,
Stanislaus County.

0 0.25 0.5 MILES

Example Pedestrian Improvements



Rectangular Rapid Flashing Beacon (RRFB)

RRFBs alert drivers at unsignalized intersections of people walking or biking. The flashing beacon can be activated by a push button.



Median Refuge Islands

Median refuge islands shorten crossing distances by establishing a safe waiting space in the middle of a crossing.



ADA Curb Ramps / High Visibility Crosswalks

ADA curb ramps are required by the Americans with Disabilities Act to allow safe crossing conditions. High visibility crosswalks use easy-to-see traffic markings to increase yielding behavior.



Right Turn Restrictions

In areas with high pedestrian volumes, eliminating right turns on red simplifies turning movements and can increase pedestrian predictability.



Sidewalk Improvement

Sidewalk improvements can include repaving and widening to provide more space for pedestrians, landscaping, and commercial activity.



Pedestrian Countdown Signal

Pedestrian countdown signals inform pedestrians of when and how long they have to cross the street.

Table 5: Pedestrian Spot Improvements

Project ID	Cross Street 1	Cross Street 2	Recommended Options
1	Patterson Road	Railroad Tracks	Improved Railroad crossing (planned)
2	Saxon Way	Novi Drive	Curb extensions, raised crossing, advanced yield markings, rectangular rapid flashing beacon, pedestrian-scaled lighting
3	Crawford Road	Silversmythe Lane	Rectangular rapid flashing beacon
4	Crawford Road	Oakdale Road	Median refuge island, remove turn island in crosswalk, improve signal timing
5	Donner Trail	Homewood Way	High-visibility crosswalk
6*	Atchison Street	1st Street	Consider protected intersection, curb extensions, high-visibility crosswalks, no right on red, improved signal timing, left-turn hardening
7	Patterson Road	8th Street	Railroad crossing
8	Patterson Road	Roselle Avenue	Curb extensions, high-visibility crosswalks, traffic signal, remove channelized right turn, consider left-turn hardening
9	MID Lateral One Canal	Roselle Avenue	Trail access
10*	Patterson Road	Estelle Avenue	Curb extensions, median refuge island, high-visibility crosswalks (on all three sides), improved signal timing, and sidewalks
11*	Patterson Road	Jackson Avenue	Curb extensions, high-visibility crosswalks, improved signal timing, and consider diverter
12*	Atchison Street	6th Street	High-visibility crosswalks, rectangular rapid flashing beacon, and pedestrian-scaled lighting
13	Patterson Road	Claus Road	Curb extensions, high visibility crosswalks, stop bar, lead pedestrian interval, median refuge island, pedestrian scramble, pedestrian-scaled lighting
14	California Avenue	Claus Road	Median refuge island, curb extensions, upgrade to HAWK, and pedestrian-scaled lighting
15	Prospector's Parkway	Arnerich Court	High-visibility crosswalks, consider limiting driveway to right-turn only
16	MID Canal	Roselle Avenue	Trail crossing (proposed)
17	MID Lateral 5 (400' north of Hetch Hetchy)		Trail crossing
18	MID Lateral 5	Oakdale Road	Pedestrian Hybrid Beacon or Overcrossing
19	Proposed Trail	Oakdale Road	Trail Crossing (proposed)
20	Patterson Road	Proposed Trail	Trail Crossing (proposed)
21	Patterson Road	3rd Street	Railroad Crossing, HAWK, high-visibility crosswalks,
22*	Atchison Street	3rd Street	High-visibility crosswalks, curb extensions, median refuge islands, and HAWK
23	Santa Fe Street	1st Street	Rectangular rapid flashing beacon
24*	Atchison Street	5th Street	High-visibility crosswalks, curb extensions, median refuge islands, HAWK, and pedestrian-scaled lighting
25	Gallery Drive	Saxon Way	High-visibility crosswalk and signage
26	Homewood Way	Glow Road	High-visibility crosswalk
27	Crawford Road	Antique Rose Way	All way stop
28	Prospectors Parkway	Suttermill Drive	Rectangular rapid flashing beacon and pedestrian-scaled lighting
29	Prospectors Parkway	Buckskin Way	High-visibility crosswalk and curb extension

* Caltrans Right of Way on State Highway 108

Table 5: Pedestrian Spot Improvements (Continued)

Project ID	Cross Street 1	Cross Street 2	Recommended Options
30	Prospectors Parkway	Glow Road	Curb extensions and high-visibility crosswalk
31	Prospectors Parkway	Canal Trail	Trail access
32	Saxon Way	Homewood Way	Curb extensions and high-visibility crosswalks
33	Saxon Way	Squire Wells Way	High-visibility crosswalks and rectangular rapid flashing beacon
34	Squire Wells Way	Novi Drive	High-visibility crosswalks and rectangular rapid flashing beacon
35	Squire Wells Way	Morrill Road	Curb extensions and high-visibility crosswalks
36	Antique Rose Way	Jandee Way	High-visibility crosswalk
37	S Rose Brook Drive	Litt Road	High-visibility crosswalk
38	Roselle Drive	S Rose Brook Drive	Median refuge island
39	Oakdale Road	Southgate Drive & Prouty Way	rectangular rapid flashing beacon
40	Oakdale Road	Patterson Road	Curb extensions, median refuge island, high-visibility crosswalks, eliminate excessive turn lanes, improved signal timing
41	Oakdale Road	Candlewood Place	High-visibility crosswalks
42	Estelle Avenue	Rio Verde Drive	High-visibility crosswalks and pedestrian-scaled lighting
43*	Callander Avenue	Patterson Road	Curb extensions, median refuge island, close slip lane, high-visibility crosswalks (all sides), improved signal timing, no right on red
44	Patterson Road	Palmer Avenue	High-visibility crosswalks
45*	Callander Avenue	Topeka Street & Santa Fe Street	Curb extensions, rectangular rapid flashing beacon, median refuge island
46	High Street	5th Street	Sidewalk and high-visibility crosswalk
47	Riverside Drive	High Street	Curb extensions and high-visibility crosswalks
48*	Atchison Street	7th Street	Curb extensions, high-visibility crosswalk, rectangular rapid flashing beacon, and pedestrian-scaled lighting
49	High Street	1st Street	High-visibility crosswalk and rectangular rapid flashing beacon
50*	Atchison Street	2nd Street	Curb extensions and high-visibility crosswalk
51*	Atchison Street	4th Street	Curb extensions, high-visibility crosswalks, and rectangular rapid flashing beacon
52	Patterson Road	1st Street	High-visibility crosswalk (across 1st), remove slip lane, and left-turn hardening
53	Stanislaus Street	2nd Street	High-visibility crosswalk
54	Claus Road	Santa Fe Street	Improved railroad crossing (planned)
55	Claus Road	Stanislaus Street	Curb extensions, raised crossing, advanced yield markings, rectangular rapid flashing beacon, pedestrian-scaled lighting
56	Topeka Street	2nd Street	rectangular rapid flashing beacon
57	Topeka Street	4th Street	Median refuge island, remove turn island in crosswalk, improve signal timing
58	Topeka Street	5th Street	High-visibility crosswalk
59	Terminal Avenue	Townsend Avenue	Curb extensions, high-visibility crosswalks, traffic signal, remove channelized right turn, consider left-turn hardening

* Caltrans Right of Way on State Highway 108

Table 5: Pedestrian Spot Improvements (Continued)

Project ID	Cross Street 1	Cross Street 2	Recommended Options
60	Claus Road	Townsend Avenue	Trail access
61	Townsend Avenue	Sierra Vista Drive	Curb extensions, median refuge island, high-visibility crosswalks (on all three sides), improved signal timing, and sidewalks
62	Jackson Avenue	Sierra Street	Curb extensions, high-visibility crosswalks, improved signal timing, and consider diverter
63	Claus Road	Kentucky Avenue	High-visibility crosswalks, rectangular rapid flashing beacon, and pedestrian-scaled lighting
64	California Street	Central Avenue	Curb extensions, high visibility crosswalks, stop bar, lead pedestrian interval, median refuge island, pedestrian scramble, pedestrian-scaled lighting
65	Patterson Road	Central Avenue	Median refuge island, curb extensions, upgrade to HAWK, and pedestrian-scaled lighting
66	Townsend Avenue	8th Street	Rectangular rapid flashing beacon and pedestrian-scaled lighting
67	Kentucky Avenue	8th Street	High-visibility crosswalks, consider limiting driveway to right-turn only
68	8th Street	Belgian Drive	Trail Crossing (proposed)
69	8th Street	Nevada Avenue	Trail crossing (proposed)
70	8th Street	Texas Avenue	Trail crossing
71	Terminal Avenue	Virginia Avenue	Pedestrian Hybrid Beacon or Overcrossing
72	Oakdale Road	Freddi Lane	Trail Crossing (proposed)
73	Oakdale Road	Novi Drive	Trail Crossing (proposed)
74	Claribel Road	Squire Wells Way	Railroad Crossing, HAWK, high-visibility crosswalks

Table 6: Sidewalk Recommendations

Street	Start	End	Length, (Miles)
California Road	300 feet east of 8th Street	Snedigar Road	0.69
Roselle Avenue	Patterson Road	Pocket Avenue	0.79
High Street - Riverside Drive	4th Street	7th Street	0.30
Patterson Road*	Jackson Avenue	Callander Avenue	0.27
6th Street	Atchison Street	Riverside Drive	0.05
Atchison Street*	260 feet east of 7th Street	8th Street	0.06
Callander Avenue*	Sierra Street	Prestwicker Drive	0.30
5th Street	Atchison Street	Riverside Drive	0.06
Roselle Avenue	Claribel Road	Westgate Drive	0.50
Patterson Road	Railroad Avenue	1st Street	0.13
Claus Road	Patterson Road	Sierra Street	0.09
4th Street	Atchison Street	High Street	0.06
Mathew Lane	California Avenue	300 feet north of California Avenue	0.06
Claus Road	California Avenue	300 feet south of California Avenue	0.06

* Caltrans Right of Way on State Highway 108

Downtown Recommendations

Downtown Riverbank is included as part of the citywide recommendations for linear bikeways, spot improvements, and sidewalks (see maps 8-10). In addition to the recommendations outlined in this chapter, the City may explore four additional strategies to improve walking and biking in Downtown Riverbank, with a focus on beginners and children. As an alternative to removing or altering on-street parking in Downtown—while still improving conditions for walking and biking—the City recommends:

1. Installing traffic calming measures to improve bicyclist safety and comfort while sharing the road with vehicles
2. Installing wayfinding/directional signage to educate bicyclists and pedestrians
3. Studying utilizing alleyways as Class IIIB Bicycle Boulevards to allow for alternative low-stress bike routes
4. Adopt a City ordinance that allows minors to bike on the sidewalk

1. Traffic Calming

Traffic calming includes street design elements that aim to reduce motor vehicle speeds and increase the safety and comfort for people walking and biking. Streets with traffic calming in Downtown Riverbank include Santa Fe Street and 3rd Street, which include features such as rectangular rapid flashing beacons (RRFB), curb extensions, a traffic circle, wide sidewalks, a median, and marked crosswalks. Expanding traffic calming measures throughout Downtown streets could help facilitate walking and biking for people of all ages and abilities.

2. Wayfinding Program

A bicycle and pedestrian wayfinding system consists of comprehensive signing and/or pavement markings to help educate people walking and biking of preferred routing options and nearby destinations. Someone walking along 3rd Street in Downtown, for example, might not know that Cardozo Middle School is only a couple blocks away. Wayfinding can help get them to this and many other destinations as well as choose the preferred route. A Downtown wayfinding program could complement the citywide wayfinding program, described in further detail on the following page.



Curb extensions and wide sidewalks at Santa Fe Street and 3rd Street help to reduce motor vehicle traffic speeds in Downtown Riverbank. Photo: City of Riverbank



Pedestrian wayfinding example. Photo: Alta Planning + Design

3. Enhanced Alleyways

The City could study utilizing alleyways as Class IIIB Bicycle Boulevards to allow for alternative low-stress bike routes to other streets in Downtown. Riverbank has paved alleyways running through the middle of every block Downtown that could be enhanced to promote biking and walking. While the alleyways in Downtown are mostly in good condition, enhancements such as wayfinding, improved maintenance, and improved crossings will need to be considered. Midblock crossings, for example, will be essential to safely and comfortably travel along alleyways where they intersect with streets.



An alleyway behind North Hall facing 3rd Street in Downtown Riverbank. Photo: City of Riverbank

4. Sidewalk Policy

The City of Riverbank could explore altering City policy to allow for minors, defined as children under the age of 18, to ride bicycles on the sidewalk. This policy would offer children, who may not feel comfortable riding their bicycle in the street, a dedicated space separate from motor vehicle traffic. It is important to note, however, that bicyclists riding on the sidewalk must travel slowly and ensure that pedestrians still have the right-of-way.



A child riding a bike on the sidewalk. Photo: Alta Planning + Design



A midblock crossing along Santa Fe Street in Downtown Riverbank. Photo: City of Riverbank

Program Recommendations

Programs refer to non-infrastructure efforts that support walking, bicycling, and other mobility options in the city. Programs supplement infrastructure improvements by helping residents adopt active transportation modes with various incentives.



Safe Routes to School

Safe Routes to School programs cover a broad range of topics and approaches but generally focus on supporting students in getting to school in a safe and active way.

The City of Riverbank will benefit from implementing a Safe Routes to School program, in coordination with the Riverbank Unified School District and other schools operating in the City. Coordination with Stanislaus County and the San Joaquin Council of Governments can help connect the City with existing resources and funding opportunities.

Potential Safe Routes to School program offerings to schools include:

- Bicycle and pedestrian educational resources
- Bike and walk to school day events
- Bicycle rodeo
- Crossing guards
- Parent surveys
- Student walking and biking counts
- Walking school buses
- Suggested walking and biking routes to school maps
- Infrastructure improvements



Wayfinding Program

A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations. Wayfinding signs direct bicyclists along the existing bicycle network and to important community destinations such as libraries, schools, parks, shopping districts, and civic buildings. Wayfinding is important for people to be able to navigate throughout Riverbank. Signs along the bicycle network should indicate the direction of travel, the locations of major destinations, and the time/distance to these destinations along the network. Riverbank does not have a consistent wayfinding sign program implemented throughout the rest of the city's bicycle network. This program could serve both wayfinding and safety purposes including:

- Helping to familiarize users with the network
- Helping users identify the best routes to destinations
- Helping users understand travel time and distances to their destinations
- Access to banking services, and/or cell phone technology.

Lastly, most bike share systems have been incorporated electric bicycles into their systems.



Bikeshare Program

The City of Riverbank should explore partnerships to form a bike share program. Bike share is a publicly and/or privately offered service that makes bicycles available on a short-term basis. It is designed to provide a cost-effective and convenient travel option for short trips.

A bike share system consists of a fleet of user-friendly and durable bikes placed at stations or hubs in conveniently-located areas. Some bike share systems are dockless, meaning they are not connected to a particular station.

Bike share systems typically encourage shorter, spontaneous trips of 30 minutes or less. During this time, people can check out a bicycle, ride it, and lock it either at a station--or if it is a dockless system--at an acceptable parking spot not impeding the sidewalk right-of-way. Bike share systems have different pricing and membership structures. Some systems allow for unlimited, short trips and annual or monthly memberships. Others charge for each trip or each hour of use. Increasingly, bike share systems are designing payment and membership structures that are accessible to people with varying income levels.



Bicycle Parking Program

Bicycle parking and related trip end facilities complete the bicycle network. A convenient and secure location to store a bicycle while at a destination is necessary for trips made by bike, especially when connecting to transit. Bike parking can be either short-term or secure and long-term. Bike parking options should include locations that accommodate bikes of differing sizes or supporting e-bikes and charging locations, particularly within secure parking areas.

Riverbank should also review and update its development standards to encourage greater provision for bicycle parking in new developments.



Chapter 4: Implementation

4. Implementation

Implementation of the proposed bicycle and pedestrian programs and improvements described in the previous chapters of the Active Transportation Plan will require funding from local, regional, state, and federal sources and coordination with multiple agencies both within and outside the City. To facilitate implementation efforts, this chapter presents the project prioritization methodology, maps and tables of the prioritized bicycle and pedestrian projects, cost estimates, and potential funding sources. Concept plans for three priority projects will be shown at the conclusion of this section. This implementation approach is intended to establish a framework that guides implementation over time and can be adjusted to account for future changes as Riverbank continues to grow.

Prioritization

The proposed bikeway and pedestrian improvements, when fully implemented, will provide a comprehensive active transportation network for Riverbank. Recognizing that there are limited financial resources that can be devoted to these projects, it is necessary to establish a system for prioritizing the improvements that can provide the most effective use of available funds, and help direct effective grant writing in the future.

Prioritization Criteria

In order to identify high priority projects, the project team developed prioritization criteria, established through the community engagement process and existing conditions assessment (Chapters 1 and 2 of this plan). The criteria to determine high priority projects include safety, public support, and the plan's four key opportunities (reference pages 24 and 25 for more information about the key opportunities): Enable Crosstown Connections, Improve Connections to Schools, Enhance the Trail Network, and Improve Downtown Connectivity.

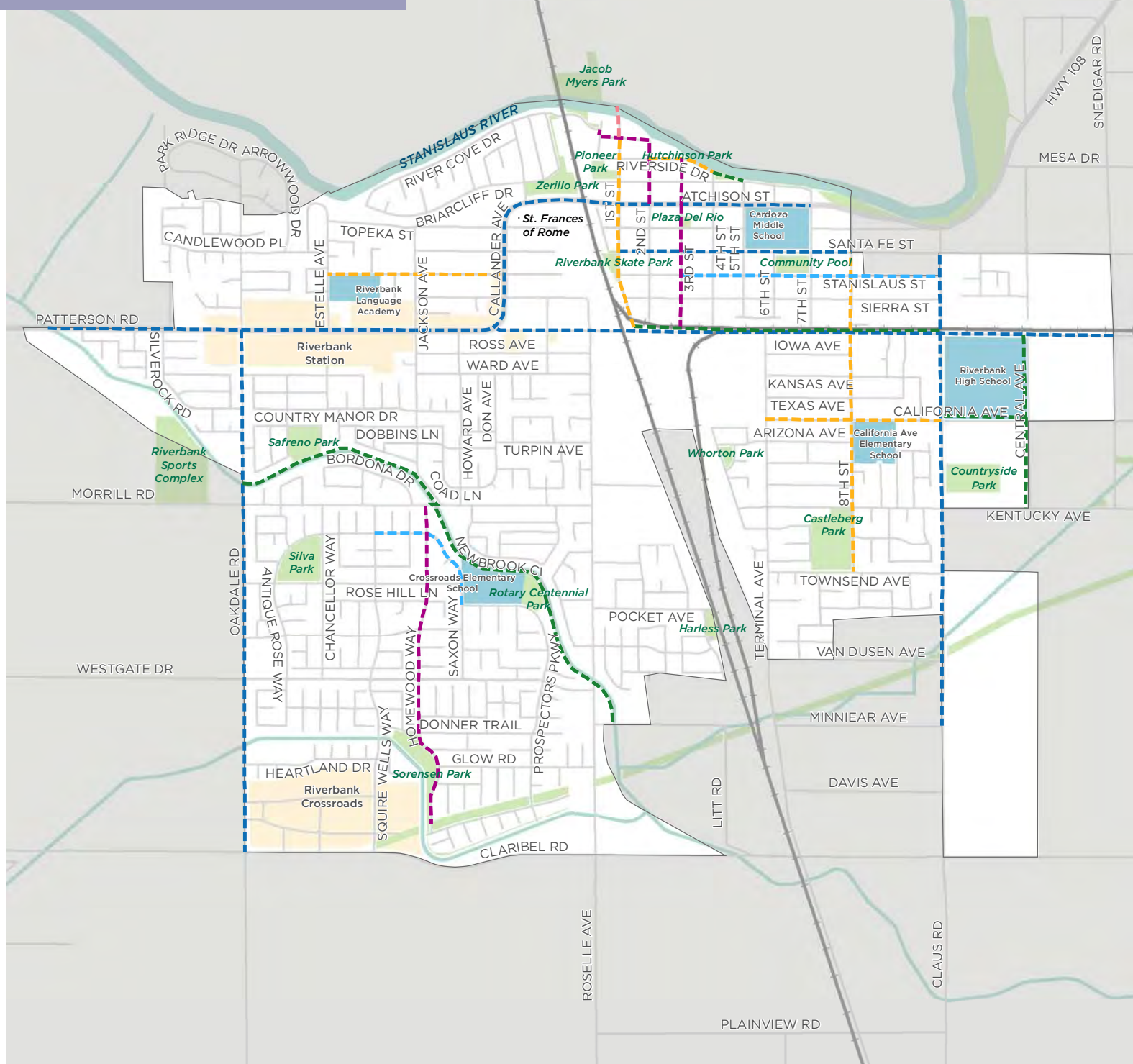
Using these criteria, shown in **Table 7**, projects were assigned a score between 0 and 6 and then sorted into **high priority projects**. Each criteria had a possibility of 1 point for a maximum possible score—the highest priority project—of 6. The priority sidewalk and bikeway recommendations include projects that scored 3 or higher. The priority pedestrian spot improvements include projects that scored a 4 or higher.

The prioritized recommendations, which include both linear bikeway improvements, pedestrian spot improvements, and sidewalk improvements are shown on the maps and tables in the following pages.

Table 7: Prioritization Criteria

Criteria	Measure	Points
Safety	Projects that are within close proximity (250 feet) of at least one bicycle-related collision	1
Public Support	Projects that received supportive comments on the online web map	1
Enable Crosstown Connections 	Projects that provide a low stress connection on cross town corridors	1
Improve Connections to Schools 	Projects that improve the safety of walking or biking routes directly to a school	1
Enhance the Trail Network 	Trail projects, or projects that connect people to a park or trail	1
Improve Downtown Connectivity 	Projects that connect people to downtown	1

Map 11: Priority Bikeway Projects



PRIORITY BIKEWAY PROJECTS

RIVERBANK CA ACTIVE
TRANSPORTATION PLAN

Proposed Improvements

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway

Destinations + Boundaries

- School
- Park
- Commercial Area
- City Boundary

alta Data Sources: City of Riverbank,
Stanislaus County.

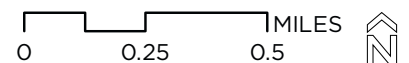
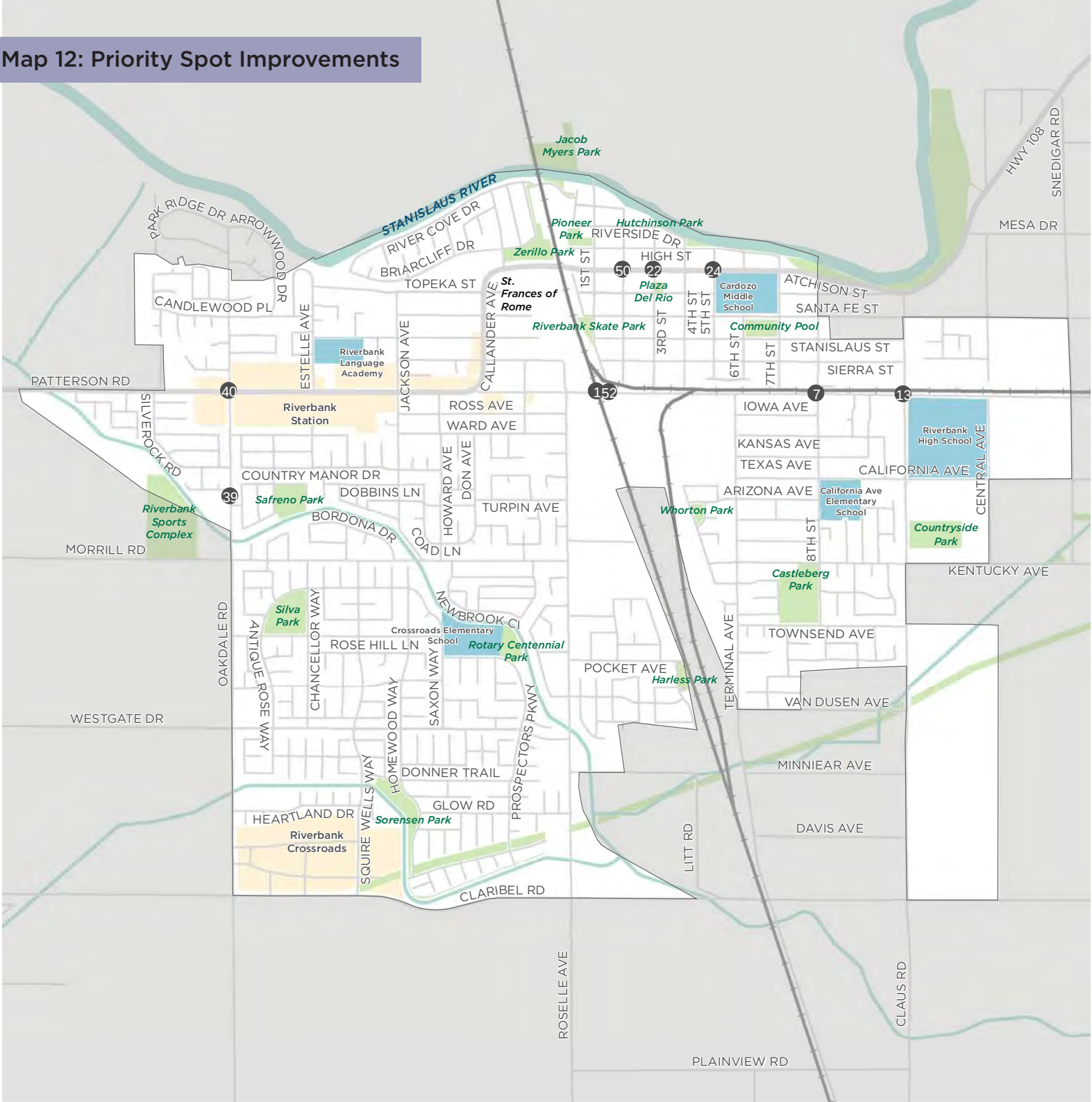


Table 8: Priority Bikeway Projects

Street	Start	End	Recommendation	Length, (Miles)
Patterson Road	1st Street	Claus Road	Class I: Paved Shared Use Path	0.87
Canal Path	Oakdale Road (City Boundary)	Minnear Avenue (City Boundary)	Class I: Paved Shared Use Path	1.54
California Street & Central Avenue (High School Grounds)	Patterson Road	Claus Road	Class I: Paved Shared Use Path	0.47
Hutchinson Park Trail	Riverside Drive	Riverside Drive (near 5th Street)	Class I: Paved Shared Use Path	0.09
Central Avenue	Kentucky Avenue	California Avenue	Class I: Paved Shared Use Path	0.25
California Avenue	Terminal Avenue	Claus Road	Class II: Bike Lane	0.50
8th Street	Patterson Road	Townsend Avenue	Class II: Bike Lane	0.91
Stanislaus Street	Estelle Avenue	Callander Avenue	Class II: Bike Lane	0.50
Riverside Drive	2nd Street	4th Street	Class II: Bike Lane	0.19
1st Street	Orange Avenue	Patterson Road	Class II: Bike Lane	0.55
Stanislaus Street	3rd Street	8th Street	Class IIB: Buffered Bike Lane	0.74
Saxon Way	Squire Wells Way	Prospectors Parkway	Class IIB: Buffered Bike Lane	0.39
1st Street	Jacob Myers Park	Orange Avenue	Class III: Bicycle Route	0.09
3rd Street	Atchison Street	Patterson Road	Class IIIB: Bicycle Boulevard	0.36
2nd Street - Orange Avenue	River Cove Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.34
Homewood Way	Morrill Street	Proposed Canal Path	Class IIIB: Bicycle Boulevard	0.93
3rd Street	Riverside Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.13
Patterson Road*	City Boundary (West)	Jackson Avenue	Class IV Separated Bikeway	1.05
Patterson Road*	Jackson Avenue	Sierra Court	Class IV Separated Bikeway	0.17
Claus Road	Minnear Avenue	Santa Fe Street	Class IV Separated Bikeway	1.35
Callander Avenue*	Patterson Road	1st Street	Class IV Separated Bikeway	0.72
Atchison Street*	1st Street	7th Street	Class IV Separated Bikeway	0.54
Oakdale Road	Morrill Road	Claribel Road	Class IV Separated Bikeway	1.49
Patterson Road	Callander Avenue	Snedigar Road	Class IV Separated Bikeway	1.77
Santa Fe Street	1st Street	8th Street	Class IV Separated Bikeway	0.66

* Caltrans Right of Way on State Highway 108

Map 12: Priority Spot Improvements



PRIORITY SPOT IMPROVEMENTS

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

Proposed Improvements

- Spot Improvement

Destinations + Boundaries

- School
- Park
- Commercial Area
- City Boundary



Data Sources: City of Riverbank, Stanislaus County.

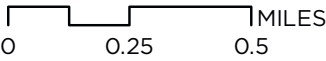


Table 9: Priority Pedestrian Spot Improvements

Project ID	Cross Street 1	Cross Street 2	Recommended Options
1	Patterson Road	Railroad Tracks	Improved Railroad crossing (planned)
7	Patterson Road	8th Street	Improved Railroad crossing
13	Patterson Road	Claus Road	Curb extensions, high visibility crosswalks, stop bar, lead pedestrian interval, median refuge island, Pedestrian scramble, pedestrian-scaled lighting
22*	Atchison Street	3rd Street	High-visibility crosswalks, curb extensions, median refuge islands, and HAWK
24*	Atchison Street	5th Street	High-visibility crosswalks, curb extensions, median refuge islands, HAWK, and pedestrian-scaled lighting
39	Oakdale Road	Southgate Drive & Prouty Way	Rectangular Rapid Flashing Beacon (RRFB)
40*	Oakdale Road	Patterson Road	Curb extensions, median refuge island, high-visibility crosswalks, eliminate excessive turn lanes, improved signal timing
50*	Atchison Street	2nd Street	Curb extensions and high-visibility crosswalk
52	Patterson Road	1st Street	High-visibility crosswalk, remove slip lane, and left-turn hardening

* Caltrans Right of Way on State Highway 108

RIVERBANK CA ACTIVE TRANSPORTATION PLAN

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— Sidewalk Improvement

 City Boundary

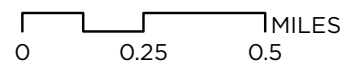


Table 10: Priority Sidewalk Projects

Street	Start	End	Length, (Miles)
Patterson Road*	Jackson Avenue	Callander Avenue	0.27
Callander Avenue*	Sierra Street	Prestwicker Drive	0.30
Roselle Avenue	Claribel Road	Westgate Drive	0.50
Patterson Road	Railroad Avenue	1st Street	0.13
Claus Road	Patterson Road	Sierra Street	0.09
Claus Road	California Avenue	300 feet south of California Avenue	0.06

* Caltrans Right of Way on State Highway 108

Cost Estimates

Table 11 provides planning-level per unit cost estimates for the recommended bikeway types, sidewalk improvements, and a range of possible pedestrian improvements. These costs do not reflect the full range of options that could be considered for implementation. Some projects may cost more due to specific site conditions and other factors not known at this time. Other projects could be implemented using various treatments, including basic methods such as with paint, and therefore cost significantly less; but would not incorporate the types of infrastructure options (pavement, curbs, or landscaping, for example) included in these cost estimates. Some projects could be installed in phases using simple treatments initially with upgrades to more permanent infrastructure later as funding becomes available.

The cost estimates are based on the design and construction costs for comparable projects in nearby jurisdictions and do not include maintenance and operations costs. The City will have to budget funding for annual maintenance costs, as well as replacement costs every 6-15 years.

Table 12 and Table 13 on the following pages provide planning-level cost estimates for each recommended bikeway segment and sidewalk segment. These costs are based upon the unit cost per mile shown in Table 11 and also includes 30% extra for contingency fees or “soft” costs. All final costs for these improvements were rounded to the nearest \$1,000.

Based on the planning level cost estimates in Table 12, the full bicycle network buildout would cost approximately \$31,145,000.

Cost estimates are not provided for the pedestrian spot improvements because the specific recommendation types are meant to be considerations. Each pedestrian spot improvement can have a range of pedestrian improvement types, such as those included in the per unit costs in Table 11.

Table 11: Per Unit Planning-Level Cost Estimates

Project Type	Cost	Unit	Notes
Class I: Paved Shared Use Path	\$1,500,000	MI (Mile)	
Class II: Bike Lane	\$132,000	MI	striping removal, striping, pavement marking, signage
Class IIB: Buffered Bike Lane	\$387,000	MI	wayfinding signs, bike loop detectors, buffered bike lane markings, green conflict striping
Class III: Bike Route	\$35,000	MI	lane marking, wayfinding signage
Class IIIB: Bike Boulevard	\$1,020,000	MI	3 traffic circles, 3 curb extensions, 2 raised crosswalks
Class IV: Cycle Track	\$2,313,000	MI	striping removal, signage, pavement marking, green conflict striping, bike signal detection, raised concrete buffer with landscape or hardscape
High Visibility Crosswalk - short (< 3 lanes)	\$2,500	EA (Each)	One Leg
High Visibility Crosswalk - medium (4-5 lanes)	\$3,750	EA	One Leg
High Visibility Crosswalk - long (6+ lanes)	\$5,000	EA	One Leg
Transverse Crosswalk	\$3,000	EA	Varies by distance
Curb Extensions/ Corner Radii	\$50,000	EA	Varies by size
Leading Pedestrian Interval	\$100,000	EA	Costs vary by type of equipment existing and required
Slip Lane Removal	\$100,000	EA	Varies by size
Pedestrian- only signal phase	\$100,000	EA	Costs vary by type of equipment existing and required
Median Refuge Island	\$50,000	EA	Varies by size
Curb Ramps	\$5,000	EA	
Signage	\$500	EA	Sign, post and foundation
Rectangular Rapid Flashing Beacon (RRFB)	\$60,000	EA	
Pavement Markings (Stop/Yield)	\$2,000	EA	
Wayfinding Signs	\$30,000	MI	10 signs per mile
Neighborhood Traffic Circle	\$150,000	EA	
Crosswalk Removal	\$500	EA	
Median - short	\$50,000	EA	Varies by size
Protected Intersection	\$500,000	EA	All 4 corners of intersection
HAWK Beacon	\$400,000	EA	
Red Curb	\$26,400	MI	
Sidewalk	\$500,000	MI	Includes sidewalk, curb and gutter, assumes 6-ft wide sidewalk (one side of roadway)

Table 12: Proposed Bikeway Cost Estimates

Street	Start	End	Recommendation	Length, (Miles)	Cost Estimate
Patterson Road	1st Street	Claus Road	Class I: Paved Shared Use Path	0.87	\$1,317,000
Canal Path	Oakdale Road (City Boundary)	Minnear Avenue (City Boundary)	Class I: Paved Shared Use Path	1.54	\$2,324,000
California Street & Central Avenue (High School Grounds)	Patterson Road	Claus Road	Class I: Paved Shared Use Path	0.47	\$709,000
Hutchinson Park Trail	Riverside Drive	Riverside Drive (near 5th Street)	Class I: Paved Shared Use Path	0.09	\$136,000
Central Avenue	Kentucky Avenue	California Avenue	Class I: Paved Shared Use Path	0.25	\$390,000
Stanislaus River Trail	City Boundary	City Boundary	Class I: Paved Shared Use Path	0.89	\$1,346,000
Burneyville Road Bike/Ped Bridge	Burneyville Road	Jacob Myers Park	Class I: Paved Shared Use Path	0.09	\$145,000
Mid Main Canal Trail	Patterson Road	Oakdale Road	Class I: Paved Shared Use Path	0.74	\$1,111,000
Central Avenue	Patterson Road	Santa Fe Street	Class I: Paved Shared Use Path	0.23	\$352,000
Sport Complex Trail	Mid Main Canal Trail	Morrill Road	Class I: Paved Shared Use Path	0.31	\$470,000
Mid Lateral 6 Canal Trail	Claribel Road	Oakdale Road	Class I: Paved Shared Use Path	0.67	\$1,016,000
Park Basin 13 Trail	Mid Lateral 6 Canal	Morrill Road	Class I: Paved Shared Use Path	1.00	\$1,514,000
8th Street	Patterson Road	Townsend Avenue	Class II: Bike Lane	0.91	\$121,000
1st Street	Orange Avenue	Patterson Road	Class II: Bike Lane	0.55	\$73,000
California Avenue	Terminal Avenue	Claus Road	Class II: Bike Lane	0.50	\$66,000
Stanislaus Street	Estelle Avenue	Callander Avenue	Class II: Bike Lane	0.50	\$67,000
Riverside Drive	2nd Street	4th Street	Class II: Bike Lane	0.19	\$25,000
Kentucky Avenue	Tennessee Avenue	Snedigar Road	Class II: Bike Lane	1.07	\$142,000
Estelle Avenue	Patterson Road	Topeka Street	Class II: Bike Lane	0.31	\$41,000
Terminal Avenue	Townsend Avenue	Patterson Road	Class II: Bike Lane	0.68	\$91,000
Riverside Drive	5th Street	7th Street	Class II: Bike Lane	0.19	\$26,000
7th Street	Riverside Drive	Santa Fe Street	Class II: Bike Lane	0.17	\$24,000
Jackson Avenue	Stanislaus Street	Morrill Road	Class II: Bike Lane	0.68	\$90,000
Candlewood Place	Woodhaven Place	Estelle Avenue	Class II: Bike Lane	0.47	\$63,000
Rose Brook Drive	Roselle Avenue	Litt Road	Class II: Bike Lane	0.34	\$46,000
Pocket Avenue	Roselle Avenue	Litt Road	Class II: Bike Lane	0.31	\$42,000
Townsend Avenue	Terminal Avenue	Claus Road	Class II: Bike Lane	0.50	\$66,000
Crawford Road	Proposed West Crossroads Trail	Oakdale Road	Class II: Bike Lane	0.50	\$66,000
Stanislaus Street	3rd Street	8th Street	Class IIB: Buffered Bike Lane	0.74	\$287,000
Saxon Way	Squire Wells Way	Prospectors Parkway	Class IIB: Buffered Bike Lane	0.39	\$153,000

Table 12: Proposed Bikeway Cost Estimates (Continued)

Street	Start	End	Recommendation	Length, (Miles)	Cost Estimate
Morrill Road	Oakdale Road	Roselle Avenue	Class IIB: Buffered Bike Lane	0.99	\$386,000
Squire Wells Way	Morrill Road	Claribel Road	Class IIB: Buffered Bike Lane	1.00	\$388,000
Prospectors Parkway	Saxon Way	Crawford Road	Class IIB: Buffered Bike Lane	0.41	\$162,000
Santa Fe Street	Claus Road	Snedigar Road	Class IIB: Buffered Bike Lane	0.48	\$189,000
Santa Fe Street	1st Street	8th Street	Class IIB: Buffered Bike Lane	0.25	\$98,000
Morrill Road	Proposed West Crossroads Trail	Oakdale Road	Class IIB: Buffered Bike Lane	0.25	\$100,000
1st Street	Jacob Myers Park	Orange Avenue	Class III: Bicycle Route	0.09	\$3,000
2nd Street - Orange Avenue	River Cove Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.34	\$354,000
3rd Street	Atchison Street	Patterson Road	Class IIIB: Bicycle Boulevard	0.36	\$373,000
Homewood Way	Morrill Street	Proposed Canal Trail	Class IIIB: Bicycle Boulevard	0.93	\$956,000
3rd Street	Riverside Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.13	\$136,000
Crossroads Drive - Colony Manor Drive	Oakdale Road	New Canal Trail / Sefreno Park	Class IIIB: Bicycle Boulevard	0.39	\$399,000
Novi Drive - Homewood Way - Gallery Drive	Oakdale Way	Saxon Way	Class IIIB: Bicycle Boulevard	0.61	\$629,000
Prestwick Drive	River Cove Drive	Atchison Street	Class IIIB: Bicycle Boulevard	0.23	\$239,000
Prospectors Parkway	Blacksand Creek Way	Lateral Number One Trail	Class IIIB: Bicycle Boulevard	0.04	\$46,000
Virginia - Tennessee - Memphis - Arizona	Terminal Avenue	Terminal Avenue	Class IIIB: Bicycle Boulevard	0.29	\$304,000
Litt Road	Pocket Avenue	South Rose Brook Drive	Class IIIB: Bicycle Boulevard	0.12	\$127,000
Atchinson Street*	1st Street	7th Street	Class IV Separated Bikeway	0.54	\$1,271,000
Patterson Road	Callander Avenue	Snedigar Road	Class IV Separated Bikeway	1.77	\$4,107,000
Patterson Road*	City Boundary (West)	Jackson Avenue	Class IV Separated Bikeway	1.05	\$2,435,000
Claus Road	Minnear Avenue	Santa Fe Street	Class IV Separated Bikeway	1.35	\$3,133,000
Callander Avenue*	Patterson Road	1st Street	Class IV Separated Bikeway	0.72	\$1,682,000
Patterson Road*	Jackson Avenue	Sierra Court	Class IV Separated Bikeway	0.17	\$401,000
Oakdale Road	Morrill Road	Claribel Road	Class IV Separated Bikeway	1.49	\$3,462,000
Santa Fe Street	1st Street	8th Street	Class IV Separated Bikeway	0.66	\$1,539,000
Roselle Avenue	Claribel Avenue	Patterson Road	Class IV Separated Bikeway	1.37	\$3,185,000
Roselle Avenue	Claribel Avenue	Patterson Road	Class IV Separated Bikeway	0.12	\$290,000
Claus Road	Claribel Road	Minnear Avenue	Class IV Separated Bikeway	0.37	\$871,000
Claribel Road	Mid Lateral 6 Canal	Claus Road	Class IV Separated Bikeway	2.59	\$5,991,000
River Cove Drive	Briarcliff Drive	Burneyville Road	Class IV Separated Bikeway	0.76	\$1,764,000

* Caltrans Right of Way on State Highway 108

Table 13: Proposed Sidewalk Cost Estimates

Street	Start	End	Length, (Miles)	Cost Estimate
California Road	300 feet east of 8th Street	Snedigar Road	0.69	\$104,000
Roselle Avenue	Patterson Road	Pocket Avenue	0.79	\$119,000
High Street - Riverside Drive	4th Street	7th Street	0.30	\$45,000
Patterson Road*	Jackson Avenue	Callander Avenue	0.27	\$41,000
6th Street	Atchison Street	Riverside Drive	0.05	\$8,000
Atchison Street*	260 feet east of 7th Street	8th Street	0.06	\$10,000
Callander Avenue*	Sierra Street	Prestwicker Drive	0.30	\$46,000
5th Street	Atchison Street	Riverside Drive	0.06	\$10,000
Roselle Avenue	Claribel Road	Westgate Drive	0.50	\$76,000
Patterson Road	Railroad Avenue	1st Street	0.13	\$20,000
Claus Road	Patterson Road	Sierra Street	0.09	\$15,000
4th Street	Atchison Street	High Street	0.06	\$10,000
Mathew Lane	California Avenue	300 feet north of California Avenue	0.06	\$9,000
Claus Road	California Avenue	300 feet south of California Avenue	0.06	\$9,000

* Caltrans Right of Way on State Highway 108

Funding Strategy

There are a variety of potential funding sources including local, regional, state, and federal. The City should also take advantage of private contributions in developing the proposed system. This could include a variety of resources such as volunteer labor during construction or monetary donations towards specific improvements. The funding sources considered appropriate for Riverbank are listed in Table 14.

Figure 5: Funding Sources

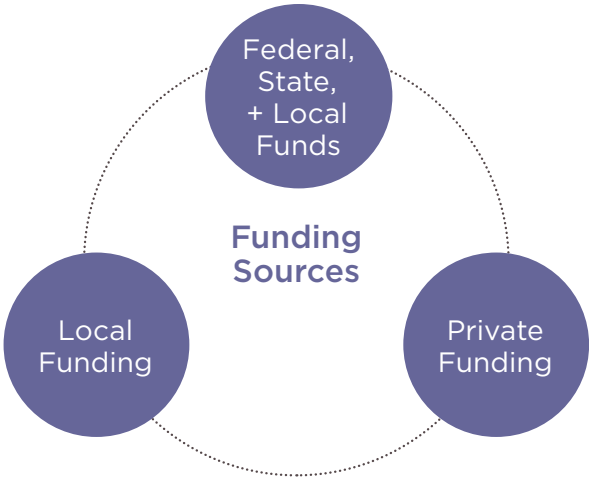


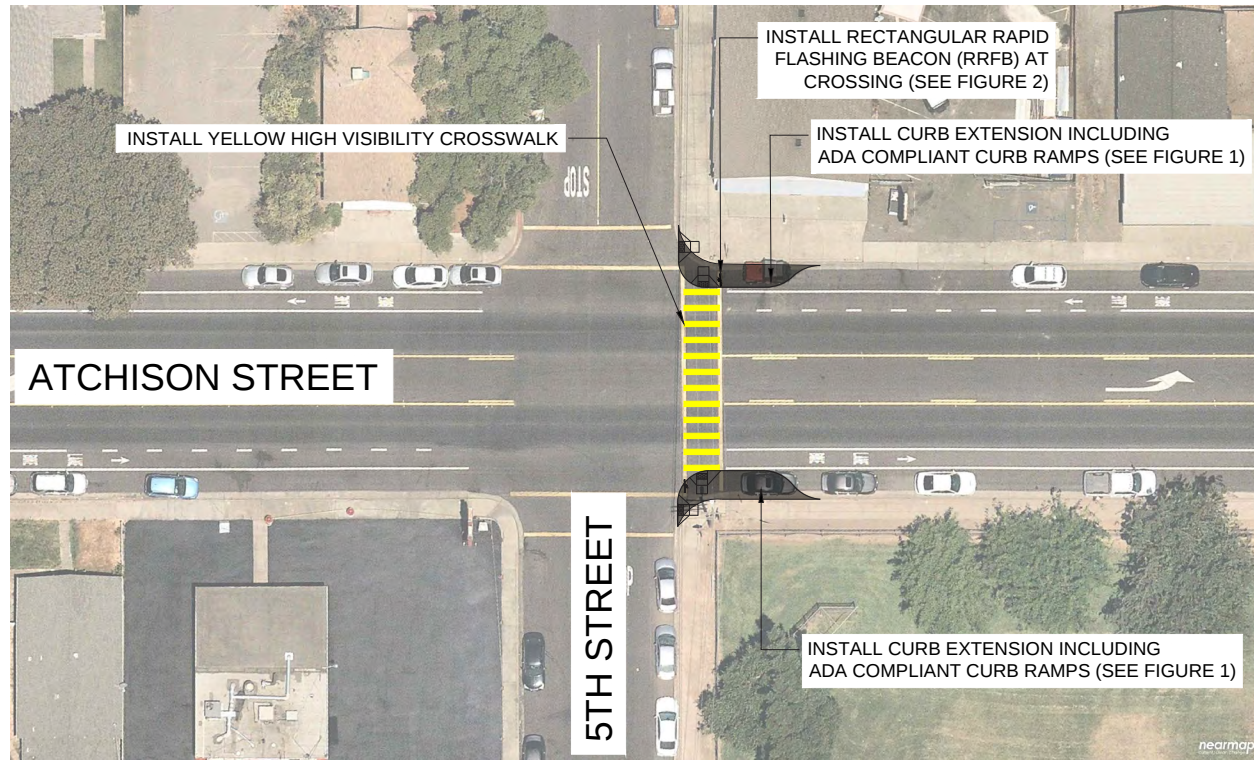
Table 14: Potential Funding Sources

Federal Funding Sources
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (formerly TIGER)
Rivers, Trails and Conservation Assistance Program (RTCA)
State Funding Sources
Active Transportation Program (ATP)
Solutions for Congested Corridors Programs
Highway Safety Improvement Program (HSIP)
Sustainable Transportation Planning Grant Program (STP)
Office of Traffic Safety: National Safety Program 405(h) Nonmotorized Safety
Recreational Trails Program
Land & Water Conservation Fund (LWCF)
Regional Funding Sources
Bicycle Facilities Grant Program
Measure L
One Bay Area Grant Program 2
Local Funding Sources
New Development or Redevelopment
Assessment Districts
Impact Fees
Open Space District
Non-Traditional and Private Funding Sources
California Conservation Corps (CCC)
Rails to Trails Conservancy (RTC)
Grant and Foundation Opportunities
Adopt-A-Trail/Path Programs
Memorial Funds
Revenue-Producing Operations

Priority Concept Plans

Concept plans have been created for 3 of the priority pedestrian spot improvements recommended on pages 50 and 51 of this plan. The concept plans will be used to increase the City of Riverbank's capacity to apply for grant funding for implementation.

Atchison Street & 5th Street

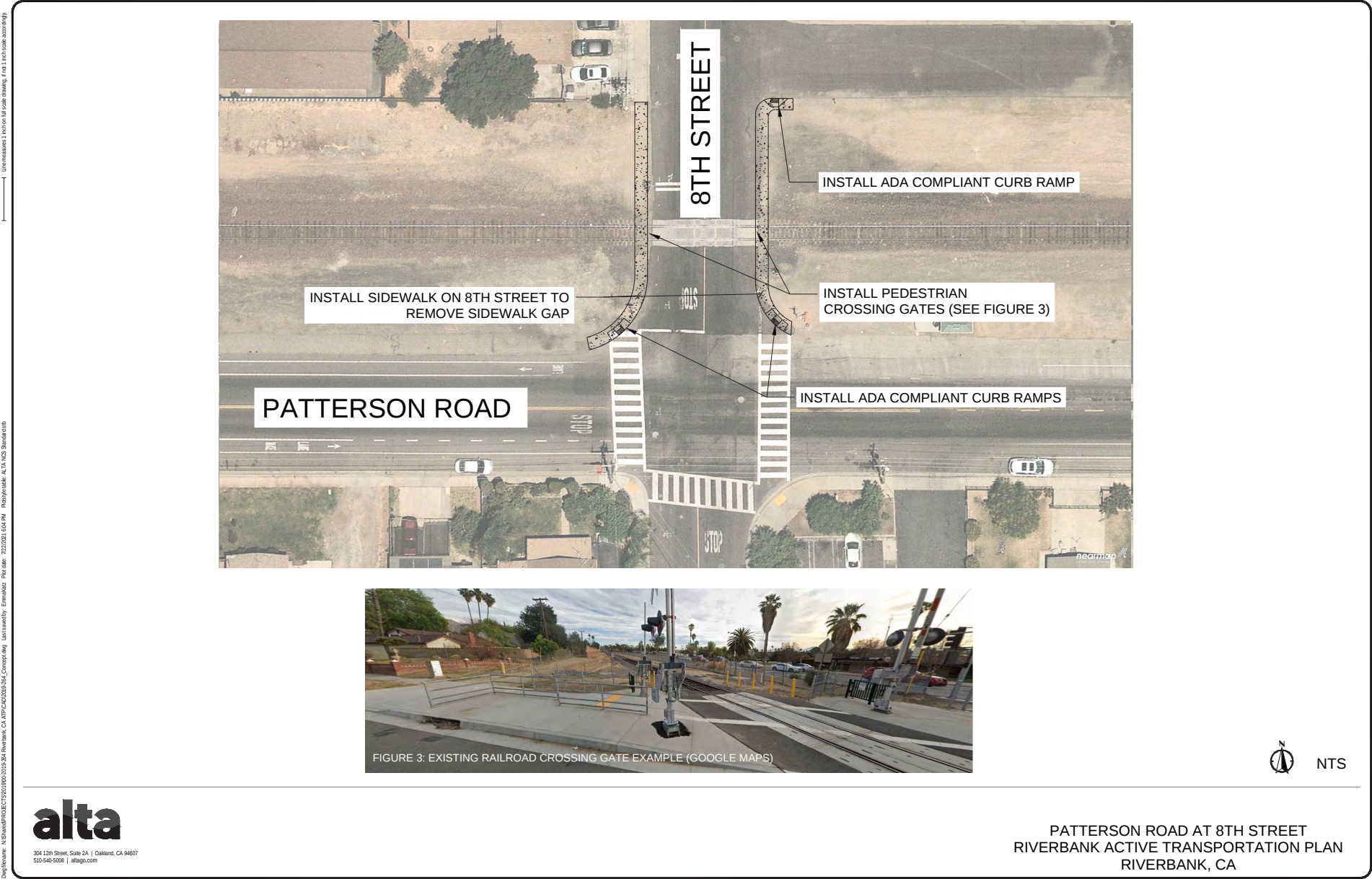


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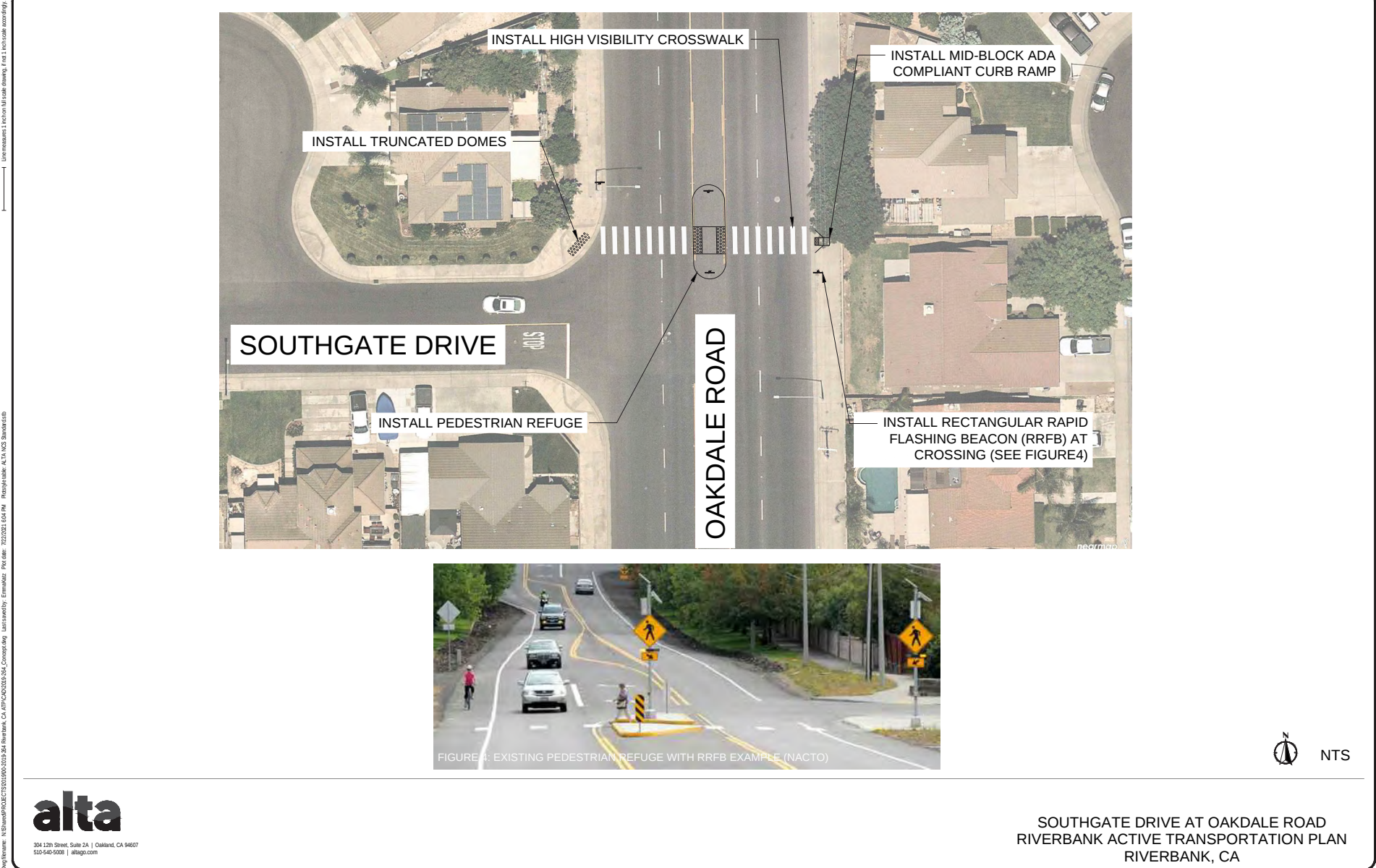
304 12th Street, Suite 2A | Oakland, CA 94607
510-540-5008 | alta.go.com

ATCHISON STREET AT 5TH STREET
RIVERBANK ACTIVE TRANSPORTATION PLAN
RIVERBANK, CA

Patterson Road & 8th Street



Southgate Drive & Oakdale Road





RIVERBANK CITY COUNCIL AGENDA ITEM NO. 10.4

SECTION 10: NEW BUSINESS

Meeting Date: October 26, 2021

Subject: A **Resolution** Approving a Memorandum of Understanding with Cambridge Academies to Provide Outreach/Engagement and Shelter Operation Services for the City of Riverbank Funded by the California Emergency Solutions Grant Round 2 and Authorizing the City Manager to Execute the Agreement

From: Sean Scully, City Manager

RECOMMENDATION

It is recommended that the City Council consider approving the proposed resolution approving the attached MOU with Cambridge Academies and Authorizing the City Manager to execute the agreement.

SUMMARY:

One of the highest strategic priorities of the City Council over the past number of years has been to create effective solutions and services for the homeless and semi homeless individuals of our community. The Riverbank homeless have very limited access to critical services and shelter which could help them exit homelessness permanently. As a consequence, chronically homelessness has increased in some areas of the community and have become more highly visible as law changes have affected where and how homeless individuals can camp within public spaces. For many years the City struggled to obtain funding in pursuit of this effort. Fortunately, earlier this year the City was successful in achieving two separate funding awards to make this effort a reality.

First, the City applied for and received a California Emergency Solutions Grant (CA ESG) in the amount of \$497,992 for an outreach/engagement program and shelter operations. The services contracted for with Cambridge Academies under this MOU are anticipated to be paid for by this funding source. The breakdown of the funding is as follows:

AWARDED CA-ESG CV2 ACTIVITIES*

Shelter Activities:	\$	232,261.00
Street Outreach:	\$	182,652.00
HMIS Activities:	\$	33,280.00
Indirect Costs:	\$	49,799.00
Total:	\$	497,992.00

The funds within this grant must be spent by June 30, 2021. The grant was written to include funds for 6 months of outreach and 6 months of shelter services both provided by Cambridge Academies. As has been discussed at public meetings in the past, in anticipation of this program the City of Riverbank City Council authorized purchase of 3344 Sierra St to serve as an initial location for this activity. The program is designed to be a fully immersive program (known as RESTART) providing services for homeless individuals including job training, transitional and permanent housing placement, addiction referral, counseling and support.

Each and every part of the program designed by Cambridge has been designed to give homeless individuals the tools to exit homelessness. A similar program has been in place within the City of Patterson for many years and has been highly successful in providing shelter while at the same time helping individuals find employment and permanent housing thereby exiting homelessness. The Riverbank City Council has long desired to have a similar type of project but with slight operational differences to more appropriately serve Riverbank's homeless population. It is for this reason that staff is recommending sole sourcing this service from Cambridge Academies as Cambridge Academies has pioneered this type of supportive service locally and is uniquely qualified to provide this service within Riverbank. Furthermore, the grant was written with the assumption that Cambridge Academies specific RESTART program would be integrated into this set of services.

The attached MOU was negotiated with Cambridge Academies by the City Attorney and City Manager. It was specifically designed to be as simple and broad as possible given that the scope of services is all inclusive (outreach, education, and operations). The MOU requires that Cambridge comply with all grant requirements as dictated by the grant agreement (which is still forthcoming from Stanislaus County). Additionally, the MOU lays out City responsibilities as well as rights to audit the financials to ensure compliance. The MOU is flexibly designed with no cause 30 days termination rights for both parties. This is critical as the funding will only remain in place through June of next year and additional funding beyond that point is not secured at this point. Finally, the City of Riverbank has worked out a preliminary agreement (still be memorialized) with St. Frances of Rome Catholic Church as an initial operational space for the outreach and engagement while the Sierra property is upgraded appropriately for its purpose. The City is still waiting to hear whether a separate grant has been approved for the renovation of 3344 Sierra St.

Cambridge has requested that the City front 2 months of start up funds (through the grant dollars) to get the project up and running when funding is available through the grant.

Staff would recommend that the Council approve the attached resolution giving the City Attorney the ability to make edits to the agreement depending on specifics within the grant agreement, as that agreement has not been received yet those details have not been reviewed at this time.

FINANCIAL IMPACT:

Generally neutral to the City funds as the services provided for under this MOU are covered through the CA ESG Grant. Some minor financial impact could be experienced as a result of small-scale administrative help to Cambridge (copier access, fax machines etc.) but these are anticipated to be minor in scale.

Attachments:

1. Resolution 2021-XXXX
2. Draft MOU

CITY OF RIVERBANK

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL APPROVING AN MOU WITH CAMBRIDGE ACADEMIES TO PROVIDE OUTREACH/ENGAGEMENT AND SHELTER OPERATION SERVICES FOR THE CITY OF RIVERBANK FUNDED BY THE CALIFORNIA EMERGENCY SOLUTIONS GRANT ROUND 2 AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT

WHEREAS, the City of Riverbank has received notice of award of a California Emergency Solutions Grant in the amount of \$497,992; and

WHEREAS, the City Council has long placed specific priority on creating shelter and services to help address homelessness within Riverbank ; and

WHEREAS, the City of Riverbank has acquired property at 3344 Sierra St to serve as a service location; and

WHEREAS, the City of Riverbank has worked on designing the grant proposal with Cambridge Academies RESTART program;

WHEREAS, Cambridge Academies is the only local provider with the qualifications to carry forward the RESTART program similar to the HOST House program in Patterson California, and therefore is an appropriate sole source candidate; and

WHEREAS, the attached MOU will serve as the base agreement for the provision of the outreach, engagement and shelter operation services; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves the attached MOU and directs the City Manager to execute the document. Additionally the City Council authorizes the City Attorney to make edits to ensure that the executed MOU is in compliance with the grant provisions as dictated by the State of California and Stanislaus County.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of October, 2021; motioned by Councilmember , seconded by Councilmember , and upon roll call was carried by the following City Council vote of :

AYES:

NAYS:

ABSENT:

ABSTAINED:

ATTEST:

Annabelle H. Aguilar, CMC
City Clerk

APPROVED:

Richard D. O'Brien
Mayor

PROPOSED

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE CITY OF RIVERBANK
AND CAMBRIDGE ACADEMIES**

1. **Parties:** This Memorandum of Understanding (hereinafter referred to as “MOU”) is made and entered into by and between the **CITY OF RIVERBANK**, whose mailing address is 6707 3rd Street, Riverbank, CA 95367 and **CAMBRIDGE ACADEMIES**, whose address is 1301 K Street, Suite B, Modesto, CA 95354.
2. **Purpose:** The purpose of this MOU is to establish the terms and conditions under which the City of Riverbank and Cambridge Academies will partner to facilitate services to the homeless and low-income communities in Riverbank.
3. **Term of MOU:** This MOU is dependent on Riverbank City receiving funds to provide services to homeless and/or low- income individuals and will be effective upon the day and date signed and executed by the duly authorized representatives of the parties to this MOU. It shall remain in full force and effect for a period of one (1) year. This MOU may be terminated, without cause, by either party upon 30-day written notice, which notice shall be delivered by hand or by certified mail to the address listed above.
4. **Responsibilities of the City of Riverbank**
 - A. Provide/Facilitate the funding necessary to serve homeless individuals in the City of Riverbank’s area of influence as per County-approved ESG-CV2 proposal.
 - B. Provide a location to facilitate the services outlined in the ESG-CV2 proposal.
 - C. Maintain partnerships with local organizations and facilitate connections to potentially place RESTART-trained individuals in jobs that they might qualify for.
 - D. Provide office space at the facility where services will be provided and access to office equipment (copier, fax machine if necessary).
 - E. Provide two months’ worth of startup cost upon verification of funding and execution of this MOU. Such expenses will be accounted for and documented in detailed invoices at the end of each month so that the city can use the invoices and supporting documentation to obtain reimbursement from the County.
5. **Responsibilities of CAMBRIDGE ACADEMIES:**
 - A. Implement and oversee all aspects of the ESG-CV2 approved proposal including street outreach/engagement and shelter operation services. **Scope of work will mirror those duties outlined within the grant proposal.**

- B. Hire, train and manage the staffing needed for the successful implementation of the first phase of the project (outreach and engagement) and hire and supervise the staff needed to operate the shelter successfully.
- C. Purchase and provide materials and supplies (including computer and communication technologies) needed to operate the shelter effectively.
- D. Provide monthly detailed invoices to the City of Riverbank.
- E. Provide attendance and performance reports to the City of Riverbank as requested.
- F. Ensure compliance with ESG-CV2 grant contract agreements as they relate to the operations and services being provided.
- G. Shall provide necessary insurance coverages as dictated by the City of Riverbank and/or the grant requirements.

6. General Provisions

- A. **Amendments**: Either party may request changes to this MOU. Any changes, modifications, revisions or amendments to this MOU which are mutually agreed upon by and between the parties to this MOU shall be incorporated by written instrument, and effective when executed and signed by all parties to this MOU.
 - B. **Entirety of Agreement**: This MOU, consisting of two (2) pages, represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations and agreements, whether written or oral.
 - C. **Audits**: The City of Riverbank reserves the right to audit the financials of the operation at its discretion to ensure compliance with the grant provisions.
7. **Signatures**: In witness whereof, the parties to this MOU through their duly authorized representatives have executed this MOU on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU as set forth herein.

The effective date of this MOU is the date of the signature last affixed to this page.

City of Riverbank

Sean Scully, City Manager

Date

Cambridge Academies

Dr. Geni Boyer, Executive Director

Date

DRAFT

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 10.5

SECTION 10: NEW BUSINESS

Meeting Date: October 26, 2021

Subject: Consideration of A **Resolution** Declaring the City Owned Parcel Located at the Northeast Corner of 3rd St and Stanislaus Street - Assessors Parcel Number 132-012-024

From: Sean Scully, City Manager

RECOMMENDATION

It is recommended that the City Council consider approving the proposed resolution declaring APN 132-012-024 surplus land under the Surplus Land Act.

SUMMARY

This Resolution declares certain parcels as surplus land and directs City staff to comply with the Surplus Land Act, as amended through AB 1486. The Surplus Land Act intends to prioritize affordable housing and open space on the surplus land of public agencies. To accomplish this goal, the Surplus Land Act requires local agencies, prior to selling surplus land, to follow certain procedures so designated entities receive first opportunity to express interest. The required procedures involve declaring available parcels as surplus land, sending a notice of availability to the designated entities, and negotiating in good faith with any entity that expresses interest. Once the agency complies with the procedures, and if no deal is reached with a designated entity, then the agency may dispose of the land freely.

The City of Riverbank has owned the parcel on the Northeast corner of 3rd St and Stanislaus Street for many years. The parcel has traditionally operated as a parking lot. The parking lot gets minimal use, periodic use by City Hall South staff and also overflow parking use during large events (Cheese and Wine Festival, Christmas Parade etc). Generally, however the parking lot see's little use during other normal times. The parking lot contains approximately off-street parking spaces and has not been slurry seals or upgraded in many years. In recent years discussions have been had about whether other locations within the downtown would be more appropriate for off street parking use.

Coincidentally, the City has been approached recently by the Stanislaus Housing Authority inquiring about the possibility of acquiring the parcel to develop a small Senior Center on the lot. The Housing Authority owns and operates numerous affordable senior housing apartments within the downtown area including a large-scale project immediately adjacent to the parcel. In fact, the administrative offices of the Riverbank portion of the Housing Authority are located right next to the parking lot. A Senior Center at this location

could provide much needed additional facilities for our Senior Citizens and the residents of Housing Authority within the downtown. Currently (other than the Community Center) no local facilities for gathering exist for the senior population.

The City has engaged with initial discussions with the Housing Authority related to this idea and it has been stated that if the project moves forward the City would also be able to make use of the center for civic and other local meetings.

Separate of any negotiation, the City must first declare this land as surplus and make specific findings in order to consider (at a future public hearing) selling property in the future. Therefore, in order to fully engage in evaluating this concept and potential sale the City must first declare the property as surplus and go through the appropriate procedures as defined by AB 1486. This requires noticing a variety of agencies and engaging in discussion within any that may be interested. Furthermore, the State of California has recently changed the guidelines which now require a compliance review by State HCD.

If Council was in general agreement with the proposal in the future staff would also provide options for the use of any proceeds which could be used for purchase and development of alternate public parking within the downtown area. This matter will be discussed at the end of the 1486 compliance process and concurrent with any proposed purchase by Stanislaus Housing Authority or any other agency.

FINANCIAL IMPACT

No direct financial impact as a result of declaring parcels as surplus land. The surplus land declaration simply keeps the City in compliance with state law IF the City chooses to sell these properties in the future. If any additional designated entities (beyond the Housing Authority) respond to the notice and are interested in exploring purchase of the properties, then those negotiations would be referred to the City Council for consideration. However AB 1486 has specific provisions that require that the City also provide opportunity for the local Housing Authority to evaluate whether or not to propose purchase.

ATTACHMENTS

1. Resolution 2021-XXXX
2. Exhibit A - Parcel Map of Property
3. Exhibit B - Written Notice of Availability

CITY OF RIVERBANK

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, DECLARING ASSESSORS PARCEL NUMBER 132-012-024 AS SURPLUS LAND UNDER THE SURPLUS LAND ACT.

WHEREAS, prior to selling surplus land owned by the City of Riverbank ("City"), the City must follow the procedures of the Surplus Land Act at Government Code section 54220 et seq. (the "Surplus Land Act"). The Surplus Land Act requires that the City provide certain designated entities with first opportunity to express interest in City-owned surplus land;

WHEREAS, the City of Riverbank owns the property located at the Northeast corner of 3rd Street and Stanislaus St. APN 132-012-024 ; and

WHEREAS, the property is currently in operation as a public parking lot within the downtown area; and

WHEREAS, the City of Riverbank is interested in exploring possible sale of this property, the proceeds of any sale could be used toward alternate and upgraded parking facilities within the downtown; and

WHEREAS, prior to the City selling parcels to any party, the City must first declare those parcels as "surplus land" or "exempt surplus land" and follow the procedures of the Surplus Land Act; and

WHEREAS, declaration of surplus land does not constitute actual sale of any of the identified parcels; and

WHEREAS, declaration of surplus land does not constitute approval of any project as may be proposed in the future; and

WHEREAS, if this declaration is approved staff will commence with the additional noticing procedures as required under the Surplus Land Act; and

WHEREAS, finding this property surplus does not bind the City to sale should the City at a later point determine to not sell the properties thereby rescinding the surplus designation; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby declares the following:

1. The City Council of the City of Riverbank hereby finds that the following parcels, as further described in the parcel map attached hereto as Exhibit A,

are not necessary for agency use and are declared surplus land pursuant to the Surplus Land Act:

i. APN – 132-012-024

2. The City Council of the City of Riverbank hereby authorizes the City Manager or his appointee to send written notices of availability, in substantially the same form attached hereto as Exhibit B, for the surplus parcel to the designated entities specified in Government Code section 54222, to negotiate the terms of a proposed sale with any designated entity that receives said notice, and to otherwise follow the procedures of the Surplus Land Act.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of October, 2021; motioned by Councilmember _____, seconded by Councilmember _____, and upon roll call was carried by the following vote of ____:

AYES:

NAYS:

ABSENT:

ABSTAIN:

ATTEST:

APPROVED:

Annabelle Aguilar, CMC
City Clerk

Richard D. O'Brien
Mayor

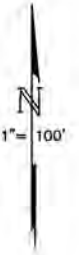
POR. NW 1/4 SEC. 25 T.2S. R.9E. M.D.B. & M.
 POR. TOWN OF RIVERBANK - BLKS. 23, 24, 27 & 28 (05M16)

006 090 132 - 012

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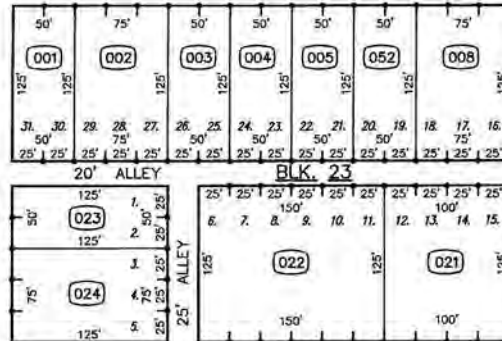
100' SANTA-FE ST.



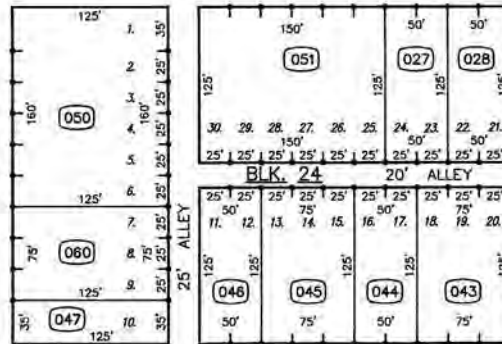
THIS MAP FOR
 ASSESSMENT PURPOSES ONLY

100' THIRD ST.

011



80' STANISLAUS ST.



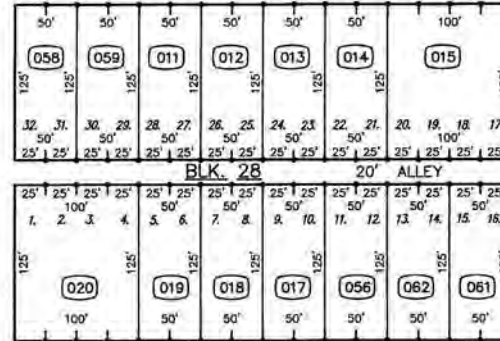
80' SIERRA ST.

017

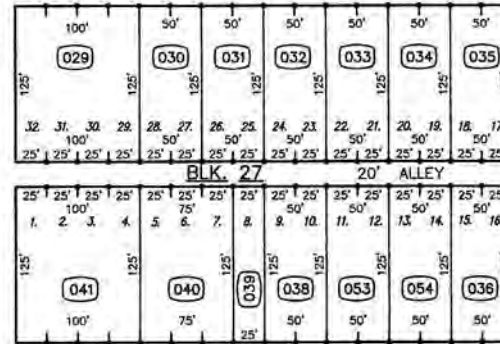
FROM 132-17, 18, 19, 20
 DRAWN 2-13-68
 REVISED 7-15-85, 8-6-98, 6-30-09 (V)DH

ST.

60' FOURTH ST.



ST.



60' FIFTH ST.

013



132 - 012

NOTICE OF AVAILABILITY FOR SURPLUS LAND

TO: All Interested Parties

DATE:

RE: Notice of Availability / Offer to Sell Surplus Property

As required by Government Code Section 54220 et seq. of the State of California, the City of Riverbank ("City") is providing notification that the City intends to sell the surplus properties listed below.

Parcel Number (APN)	Address	Size	Zoning	General Plan Designation	Current Use	Minimum Sales Price
Parcel -132-012-024	3 rd St. (No Address) NE Corner of 3 rd St. And Stanislaus St.	0.22 Acres (approximately)	C-2 (Downtown Specific Plan)	Mixed Use	Parking Lot	Fair market value.

In accordance with Government Code Section 54222, you have sixty (60) days from receipt of this notice to notify the City of your intent to make an offer to purchase or lease the property. However, this offer shall not obligate the City to sell the property to you. Instead, the City would enter negotiations with you pursuant to Government Code Section 54223. Thereafter, the City may market the property to the general public.

For information regarding the subject site, please address questions to the City's representative, Sean Scully, City Manager at the telephone number or email address listed below.

In the event your organization or agency is interested in purchasing the property, please send written notices of interest by email or regular mail to:

Sean Scully

City Manager

6707 Third St.

Riverbank, CA 95367

Phone Number – 209-863-7122

sscully@riverbank.org

Thank you for your attention to this notice.

ATTACHMENTS:

1. Parcel Map of Referenced Parcel

ATTACHMENT 1

Aerial Site Map